



# ARKANSAS

## ENERGY & ENVIRONMENT

March 31, 2023

Via email to: [german\\_heredia@baxter.com](mailto:german_heredia@baxter.com) & First Class Mail

German Heredia  
Environmental Manager  
Baxter Healthcare Corporation  
1701 Centerview Drive, Suite 109  
Mountain Home, AR 72211

Re: Notice of Final Permitting Decision; Permit No. 0544-AR-19

Dear Mr. Heredia,

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

Baxter Healthcare Corporation  
1900 Highway 201 North  
Mountain Home, AR 72653

Permit Number: 0544-AR-19

Permitting Decision: approval with permit conditions as set forth in final Permit No. 0544-AR-19

Accessing the Permitting Decision:

<https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/Air/0544-AR-19.pdf>.

Accessing the Statement of Basis:

<https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/Air/0544-AR-19-SOB.pdf>.

Rule 19.407(A) of the Arkansas Plan of Implementation for Air Pollution Control (SIP) and Rule 18.307(A) of the Arkansas Air Pollution Control Code do not require a public notice or public comment period for Administrative Amendments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dw", followed by a long horizontal flourish.

David Witherow, P.E.  
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, Natasha Oates, hereby certify that the final permit decision notice has been mailed by first class mail to Baxter Healthcare Corporation, 1701 Centerview Drive, Suite 109, Mountain Home, AR, 72211, on this 31st day of March, 2023.

*Natasha Oates*

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Natasha Oates, AA, Office of Air Quality



**DIVISION OF ENVIRONMENTAL QUALITY**

**MINOR SOURCE AIR PERMIT**

**PERMIT NUMBER: 0544-AR-19**

**IS ISSUED TO:**

Baxter Healthcare Corporation  
1900 Highway 201 North  
Mountain Home, AR 72653  
Baxter County  
**AFIN: 03-00002**

THIS PERMIT IS THE ABOVE REFERENCED PERMITTEE'S AUTHORITY TO CONSTRUCT, MODIFY, OPERATE, AND/OR MAINTAIN THE EQUIPMENT AND/OR FACILITY IN THE MANNER AS SET FORTH IN THE DIVISION OF ENVIRONMENTAL QUALITY'S MINOR SOURCE AIR PERMIT AND THE APPLICATION. THIS PERMIT IS ISSUED PURSUANT TO THE PROVISIONS OF THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT (ARK. CODE ANN. § 8-4-101 *ET SEQ.*) AND THE REGULATIONS PROMULGATED THEREUNDER, AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

**Signed:**

A handwritten signature in blue ink, appearing to read "Dw", is written over a horizontal line.

David Witherow, P.E.  
Associate Director, Office of Air Quality  
Division of Environmental Quality

March 31, 2023

Date

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#### 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
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
SO <sub>2</sub>	Sulfur Dioxide
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

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Section I: FACILITY INFORMATION

PERMITTEE: Baxter Healthcare Corporation  
AFIN: 03-00002  
PERMIT NUMBER: 0544-AR-19  
FACILITY ADDRESS: 1900 Highway 201 North  
Mountain Home, AR 72653  
MAILING ADDRESS: 1701 Centerview Drive, Suite 109  
Mountain Home, AR 72211  
COUNTY: Baxter County  
CONTACT NAME: German Heredia  
CONTACT POSITION: Environmental Manager  
TELEPHONE NUMBER: (870) 424-5353  
REVIEWING ENGINEER: Shawn Hutchings  
UTM North South (Y): Zone 15: 4023856.66 m  
UTM East West (X): Zone 15: 554981.31 m

## Section II: INTRODUCTION

### Summary of Permit Activity

Baxter Healthcare Corporation (Baxter) owns and operates a manufacturing facility located in Mountain Home, Arkansas. The facility manufactures peritoneal dialysis disposables, patient connectors, and produces plastics for the disposables manufacturing. The facility also operates a sterilization process. This deminimis modification allows the replacement of the control train on the aeration chambers (SN-116 and 117) with a LESNI system followed by drybed adsorption, added a 2,216 hp diesel-fired emergency generator (SN-126), and added two cooling towers, two diesel tanks, and four natural gas fired air heaters as insignificant activities. There will not be a change in permitted emissions as higher emitting control devices on SN-116 and 117 are required to be shut down before operation of the new control devices and new source.

### Process Description

Baxter manufactures peritoneal dialysis disposables, patient connectors and produces plastics for the disposables manufacturing. Most of the manufactured products are sterilized at the facility using ethylene oxide (EtO).

#### Ethylene Oxide Sterilization

The sterilization process involves the placement of manufactured, packaged health care items in sterilization chambers. Vacuum pumps pull a partial vacuum on the chambers to evacuate the air. When the air evacuation process is completed, the chamber is filled with ethylene oxide gas (up to a predetermined pressure) to sterilize the product. After a pre-determined time, the ethylene oxide vapors are pulled from the chamber by the vacuum pump and routed to the emissions control equipment train (SN-101). The SN-101 emissions are controlled by the LESNI emissions control system.

The LESNI is a refined combination of multiple existing control technologies aimed at ethylene oxide. The first step of the LESNI system is the ethylene oxide balancer, where water is circulated from a buffer tank over a column, to generally equalize the variation in the incoming concentration of ethylene oxide; such that when levels of incoming ethylene oxide are high, the system absorbs ethylene oxide in the water and when levels of incoming gas are low the system strips ethylene oxide out from the water.

The second step is a catalytic abatement where the equalized concentration of ethylene oxide is converted (catalytically oxidized) into CO<sub>2</sub> and H<sub>2</sub>O. The catalytic oxidizer is constructed with an efficient heat exchanger, integrated to recover energy from the exothermic reaction of the ethylene oxide destruction process enhanced by the selective low temperature catalyst.

Constant air heating is provided in the form of a natural gas-fired heater to control set temperature before the catalytic bed to ensure appropriate conversion of the ethylene oxide over



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the catalyst. The extract fan installed after the catalytic oxidizer provides the necessary suction for extracting the process air through the system and keeping the complete plant operation under negative pressure.

The Baxter control train consists of three LESNI units operating in parallel and exhausting to a single combined exhaust stack.

The sterilization chambers subsequently undergo a number of air washes to reduce ethylene oxide concentrations. The vapors from the air washes are also routed to the emissions control equipment.

Ethylene oxide emissions from several indoor areas are collected and ducted to the LESNI for control. These areas include the ethylene oxide drum rooms, the vacuum pump room, and part of the hallways/aisles (Work Aisle Zone 1) leading between the sterilization chambers and aeration rooms. These indoor areas are held under negative pressure and introduced to the LESNI.

After the initial ethylene oxide vapor removal and subsequent air washes in the sterilization chambers (#1-#7), the packaged product is ready to be transported to aeration rooms. During the unloading process, air is continuously exhausted from the rear of the sterilization chambers for personnel safety purposes (rear chamber exhaust). These rear chamber exhaust streams for Sterilization Chambers #1 - #7 are also routed to the LESNI for removal of ethylene oxide.

The final step of the sterilization process involves placing the sterilized packaged product into aeration rooms, where ethylene oxide vapors continue to off gas for a period of time. These aeration rooms will be exhausted to four (4) in series LESNI systems followed by two (2) in series drybed adsorption systems. Emission sources 116 and 117 are exhausts from the drybeds which can consist of emissions from any of the aeration rooms through any of the LESNI systems. The existing system consists of two separate emissions control trains consisting of catalytic oxidizers followed by temporary thermal oxidizers (SN-116 and SN-117) for control of ethylene oxide emissions. The remaining areas between the sterilization chambers and aeration rooms (Work Aisle Zone 2 and part of Zone 1) in addition to the shipping/storage area are captured and controlled by negative pressure and introduced to the control devices for SN-116 and SN-117.

The following table summarizes the ethylene oxide sources of emissions:

SN	Description
101	Sterilization Chambers - Main Vent (#1-#7) and Rear Chamber Exhaust (#1-#7) with LESNI control system
116 Existing	Aeration Rooms (#401 & #402) – South Unit with Catalytic Oxidizer (3.0 MMBtu/hr) followed by Thermal Oxidizer (43.47 MMBtu/hr) includes emissions from the shipping/storage area and areas between the sterilization chambers and aeration rooms (Work Aisle Zone 2 and part of Zone 1)
117 Existing	Aeration Rooms (#501 & #502) – North Unit with Catalytic Oxidizer (3.0 MMBtu/hr) followed by Thermal Oxidizer (43.47 MMBtu/hr) includes fugitive

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SN	Description
	emissions from the shipping/storage area and areas between the sterilization chambers and aeration rooms (Work Aisle Zone 2 and part of Zone 1)
116 117 New system	Aeration Rooms (#401, #402, #501 & #502) – with LESNI and Dry Beds includes emissions from the shipping/storage area and areas between the sterilization chambers and aeration rooms (Work Aisle Zone 2 and part of Zone 1)

The de-gassed packages are then removed from the aeration rooms and sent to distribution warehouses.

Plastics Manufacturing and Cleaning

Miscellaneous evaporative solvents are contained in materials used at the plant and are grouped together as SN-97 Plastics Manufacturing and Cleaning. This source also includes the previously permitted source SN-09 Filter Integrity Test Station Exhaust. Such solvents include isopropyl alcohol (IPA), cyclohexanone, methyl ethyl ketone (MEK) and ethyl acetate. This category does not include VOC and HAP emissions from the dissimilar ethylene oxide sterilization process, which are accounted for in the sterilization sources.

Miscellaneous Operations

Boilers at the facility are SN-17 Temp (temporary 13.4 MMBtu/hr Superior Boiler), SN-18 (20.4 MMBtu/hr Cleaver-Brooks), and SN-125 (29.0 MMBtu/hr Cleaver-Brooks). All of these boilers normally combust natural gas but may combust fuel oil during periods of natural gas curtailment, gas supply interruption, startups or for periodic testing, maintenance, or operator training on liquid fuel.

The facility has three emergency engines: SN-112, Diesel Emergency Generator (237 HP); SN-124, LESNI Diesel Emergency Generator (2,218 HP); and SN-126, LESNI Diesel Emergency Generator (2,218 HP).

The facility has two emergency fire pump engines: SN-121 Fire Pump Engine (218 HP) and SN-122 Fire Pump Engine (350 HP).

Rules and Regulations

The following table contains the rules and regulations applicable to this permit.

Rules and Regulations
Arkansas Air Pollution Control Code, Rule 18, effective March 14, 2016
Rules of the Arkansas Plan of Implementation for Air Pollution Control, Rule 19, effective May 6, 2022

Rules and Regulations
40 C.F.R. Part 63, Subpart O: <i>Ethylene Oxide Emission Standards for Sterilization Facilities</i>
40 C.F.R. Part 63, Subpart A: <i>National Emission Standards for Hazardous Air Pollutants for Source Categories—General Provisions</i>
40 C.F.R. Part 60, Subpart Dc: <i>Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</i>
40 C.F.R. Part 63, Subpart ZZZZ: <i>National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines</i>
40 C.F.R. Part 60, Subpart IIII: <i>Standards of Performance for Stationary Compression Ignition Internal Combustion Engines</i>
40 C.F.R. Part 63, Subpart JJJJJ: <i>National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources</i>

Total Allowable Emissions

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

TOTAL ALLOWABLE EMISSIONS		
Pollutant	Emission Rates	
	lb/hr	tpy
PM	3.5	4.8
PM <sub>10</sub>	3.2	6.2
PM <sub>2.5</sub>	See Note*	
SO <sub>2</sub>	33.8	15.3
VOC	11.5	35.4
CO	28.8	97.0
NO <sub>x</sub>	93.2	97.0
Ethylene Oxide (EtO)**	1.53	0.76
Formaldehyde**	0.16	0.20
Single HAP	-	9.50
Total HAP***	-	24.28

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

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\*\* HAPs included in the VOC or PM totals. Other HAPs are not included in any other totals unless specifically stated.

\*\*\* Total HAP includes any species listed. Total HAP is the sum total of all reported HAP and is not the sum total of species specifically listed.

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### Section III: PERMIT HISTORY

Travenol Laboratories, Inc. was issued its first air permit, Permit #530-A, in 1978. Travenol was permitted to install two grinders (SN-41) and three boilers (SN-16, SN-17, and SN-18). The boilers were permitted to use fuel oil #2 as a secondary fuel. Natural gas was used as a primary fuel.

In 1978, Travenol Laboratories was permitted to construct three sterilization chambers (Permit #544-A). Ethylene oxide was permitted to be used as a sterilization agent (SN-11, SN-12, and SN-13).

In 1979, the permit #544-A was modified. A degreasing unit (SN-19) was permitted to be installed.

In 1980, Permit #530-A was modified. Fuel oil #5 was permitted to be burned in the boilers as a backup fuel.

In 1982, Permit #544-A was modified again. Travenol Laboratories had proposed to begin manufacturing the CF Dialyzers (SN-07).

In 1986, the first consolidated Permit #544-AR-3 was issued for the facility. All previous permits were voided. Many existing sources previously not permitted were included in the permit. A total of 45 sources were included in the consolidated permit. The second function of the permit was to allow Travenol Laboratories, Inc. to install and operate a ten-place ethylene oxide (EtO) sterilizer. By that time, four chambers were operated at the facility and one more chamber was permitted (SN-11 through SN-15).

In 1988, the facility's name was changed to Baxter Healthcare Corporation (Baxter). Permit #544-AR-4 allowed the facility to install equipment to manufacture Marathon Filters (SN-46). The facility was required to test Freon 113 emissions from SN-46 and install, calibrate, and maintain a device to continuously monitor the hydrocarbons emissions from SN-46.

In 1988 (Permit #544-AR-5), Baxter was permitted to install a second Capillary Flow (CF) Dialyzer manufacturing line (SN-47 through SN-56). The permittee was required to measure the Freon TF emissions from the phase V Freon system (SN-53).

In 1990 (Permit #544-AR-6), Baxter was allowed to construct a scrubber (SN-58) as a part of the ethylene oxide sterilization system. The facility was required to route ethylene oxide from sterilization chambers to the scrubber. The following sources had been removed from service: Boiler #3 (SN-18), Degreasing unit (SN-19), Ultrasonic Degreaser (SN-20), and Incinerator (SN-28). Some other minor changes were included in the permit.

In 1994 (Permit #544-AR-7), Baxter was allowed to install a high intensity plastics blend system (SN-59 through SN-66). The following sources had been removed from service: SN-08, SN-10, SN-29, SN-42, SN-43, SN-45, SN-47, SN-48, SN-52, SN-53, SN-55, SN-56. The permit also

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included some other minor changes. All processes at the facility were permitted to be operated 24 hours per day, 7 days per week, and 52 weeks per year (8760 hours per year) unless otherwise specified.

In 1995, Baxter was issued a minor permit modification (Permit #544-AR-8). The facility was allowed to upgrade the pressure relief protection of the chillers in the boiler room complex to comply with ASHRAE Standard 15 (SN-67, SN-68, and SN-69). Other changes in the minor permit modification included the removal from service SN-49, SN-50, SN-51, and SN-54. The facility was identified as subject to requirements of Ethylene Oxide Emissions Standards for Sterilization Facilities (40 C.F.R. Part 63, Subpart O). The facility was also identified as subject to requirements of the Title V air permitting (40 C.F.R. Part 70).

Permit # 544-AR-R9 was issued September 18, 1996. The minor permit modification added source SN-91 (Pallet Treatment Process). Permitted emissions were increased by 0.1 tpy PM, 0.1 tpy SO<sub>2</sub>, 0.1 tpy VOC, 0.1 tpy CO, and 0.1 tpy NO<sub>x</sub>.

In 1999, Permit # 544-AOP-R0 was the first Title V permit for the facility. The following changes, new sources and sources previously not permitted were included in that permit:

- SN-01 was removed from service;
- A new boiler, SN-18, was installed;
- The Needles Process (SN-45) that was not previously permitted;
- SN-73, a second needles grinder;
- Aeration rooms (SN-74 through SN-77) that were not previously permitted;
- Sterilization chamber rear exhausts (SN-78 through SN-83) that were not previously permitted;
- Marathon Filters (SN-46 and SN-84) were removed from service as of July, 1997;
- Two Bis(2-ethylhexyl)phthalate (DEHP) storage tanks (SN-89, SN-90) that were not previously permitted;
- The DiaPES Dialyzer to be manufactured at the facility (SN-92);
- A pallet treatment oven (kiln) (SN-92);
- The pallet treatment ovens (SN-93 and SN-99) that were not previously permitted;
- The catalytic oxidizer (SN-94) constructed in order to comply with 40 C.F.R. Part 63, Subpart O;
- The uncontrolled emissions (SN-95 through SN-97);
- Fuel oil tank (SN-100) that was not previously permitted; and
- The addition of an acid-water scrubber (SN-101).

In 2002, Permit # 544-AOP-R1 was issued. This permit was a minor modification that included the following changes:

- Production rate of dialyzers increased to a maximum of 5.5 MM units per year;
- The throughput of Dynasolve CU-6 increased to 2000 lb/yr;

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- Specific Condition #126 was changed to require monthly preventive maintenance of SN-45;
- All references to SN-86, chloride shed, were removed;
- Specific Condition #163 was changed to increase the throughput of Methyl Ethyl Ketone (MEK);
- Emissions of MEK were increased to 2.5 tons per year for SN-97;
- Added SN-102, Methylene chloride etching;
- New source, SN-104, for the production of Syntra dialyzers was added;
- SN-18, SN-73, SN-91, and SN-92 were removed from the permit;
- SN-103, E-Beam Ionizing Radiation was added as an insignificant activity; and
- All conditions and emissions rates that were superseded by MACT Subpart O on December 6, 1999 were removed.

Permit # 544-AOP-R2 was a modification issued on November 26, 2002. The modification encompassed the following changes:

- Addition of an oil mist separator to SN-03, Vacuum Dryers, in order to minimize the oil mist emitted from the vacuum dryers;
- Installation of SN-105, Vacuum Dryers Oil Mist Stack, in order to operate the oil mist separator at its optimum level;
- SN-04, Orbital Centrifuge, production rate of dialyzers increased from 5.5 MM units per year to a maximum of 6.0 MM units per year;
- The facility discontinued use of Methylene chloride to clean parts (Alternative Scenario #1) as of January 1999; therefore, conditions and emission rates associated with Alternative Scenario #1 (use of Methylene chloride) were removed from the permit;
- SN-04, Alternate Scenario #3 included in the permit to allow the facility to use Dynasolve 180 (VOC emission);
- The VOC emissions from SN-04 increased to 1.0 lb/hr and 0.8 tpy;
- SN-106, Laser Sealing of Syntra Dialyzer, added to the list of Insignificant Activities under Group A.13;
- SN-58, Ethylene Oxide Absorber Tower, removed from service December 1999; therefore, related emissions were removed from the permit; and
- The section of the permit containing sources related to the sterilization process (11-15, 57, 76-83, 88, 94, 101) was updated to match the current operations at the facility, thus removing Alternative Operating Scenario #1 and related conditions.

Permit # 544-AOP-R3 was a minor modification issued on November 12, 2003 to allow Baxter an alternative evacuation process for the EtO Sterilization Chambers. This alternative evacuation method allowed Baxter the option of using vacuum pumps or steam ejectors to evacuate the chambers during the initial evacuation and the after gassing portion of the EtO Sterilization cycle. This modification did not change any permitted emission limits.



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Permit # 544-AOP-R4 was the first Title V Renewal issued on January 5, 2005. With this renewal the Syntra plus Dialyzer sources (SN-104 and related insignificant activities), the CF repair station (SN-07), the Paint Booth (SN-44), and the pallet treatment process (SN-93 and SN-99) were removed from the permit because the facility has removed these sources from service. In addition several emission limits and conditions were updated based on current emission factors, equipment capacity limitations, historical usage records, and to fit the Department's currently accepted permitting format. Overall annual permitted emissions increased 0.46 tons Methylene chloride and less than 0.01 tons for each of the following hazardous air pollutants: cumene, dibutyl phthalate, chromium compounds, nickel compounds and xylene. All other permitted annual emissions decreased with this renewal.

Permit # 544-AOP-R5 was issued 5/12/2006. This significant modification included the following changes:

- Annual and short-term plant-wide VOC and HAP emissions caps replaced source-specific VOC and HAP emission rate requirements and related production and throughput limits. The rolling twelve-month VOC cap was set at 95 tons per year (tpy); the HAP cap was set at 23.75 tpy (for aggregated HAPs) and 9.5 tpy (for individual HAPs).
- The permittee was authorized to move existing equipment to different locations within the facility, modify existing equipment, add new equipment, or change raw materials (including solvents) provided that these changes are made in compliance with the HAP screening matrix limits, plant-wide HAP and VOC limits, and other applicable requirements.
- The permittee was authorized to install, move, and modify other equipment or processes not listed in the Equipment List Appendix of the permit, provided that the installation, move, or modification does not trigger any new applicable federal or state regulatory requirements that are not already addressed in the permit and provided that the installation, move, or modification passes the HAP screening matrix review and that the plant is able to maintain emissions below the plant-wide VOC and HAP limits.
- Installation of new equipment including boilers, ethylene oxide sterilizers, and a plastics grinder.
- Various scenarios were approved regarding new ethylene oxide sterilization units.
- Movement of needles grinding to insignificant activities.
- Removal of sources from the permit which are no longer in service at the facility.

Overall annual permitted emissions decreased 12.7 tons of VOC and increased 2.6 tons of PM, 15.2 tons SO<sub>2</sub>, 3 tons of CO, 11 tons of NO<sub>x</sub>, and 15.7 tons total combined HAPs.

Permit # 0544-AR-R10 was issued August 30, 2010. The facility no longer met the criteria of Title V. This permitting action is necessary to:

- Issue a Minor Source Permit.
- Remove the following sources from the permit:



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- The Needles Grinding Operation (SN-21 through SN-28, SN-45, and SN-98) because the equipment has been removed
- Methylene Chloride Etching (SN-102) and E-Beam ionizing Radiation (SN-103) because the equipment is no longer in service
- The Lasker Boiler (SN-16) because it has been replaced with a new boiler
- Plastics Grinder #2 (SN-73) because it was not installed
- Sterilization Chambers 110 and 111 because they were not installed
- Install a new Cleaver Brooks Boiler (SN-18) per the terms of 0544-AOP-R5 as a replacement for SN-16.
- Remove as Source Numbers, the following Insignificant Activities:
  - Resin Storage Silos (former SN-59 through SN-66)
  - Water Chillers (former SN-67 through SN-69)
  - Print Shop (former SN-85)
  - Molding Process (former SN-96)
  - Coextruded Non-PVC Plastics (former SN-107)
  - Pump Housing and Sets Assembly (former SN-108)
- Remove the following insignificant activities: (1) nitric acid tanks; (2) citric acid tanks; (3) sodium hydroxide tanks; (4) needles silicone; (5) needles cleaning/electroplating; (6) needles neutralization tank; (7) Isolex 300 Sets (former SN-87).

Permitted annual emissions change as follows from this activity: CO increases by 3.6 tpy; PM, and PM<sub>10</sub> decrease by 4.5 tpy each; SO<sub>2</sub>, VOC, and NO<sub>x</sub> decrease by 12.7 tpy, 0.6 tpy, and 18.9 tpy, respectively.

Permit # 0544-AR-11 was issued March 14, 2013. This permitting action was necessary to:

- The removal of the emergency generator currently listed as an insignificant activity;
- The addition of a Diesel Emergency Generator as Source #112;
- The addition of a Diesel Sub-base Storage tank as Source #113; and
- The addition of a transfer tank as an insignificant activity.

Permitted annual emissions increases from this modification were by 0.1 tpy PM/ PM<sub>10</sub>, 0.2 tpy SO<sub>2</sub>, 0.2 tpy CO, and 0.4 tpy NO<sub>x</sub>.

Permit #0544-AR-12 was issued March 9, 2015. This permitting action was necessary to:

- Install an additional 24-pallet vessel of sterilization;
- Install a new 1,000 kw Diesel Emergency Generator and to restart an Existing Emergency Gas-Fired Generator;
- Install the following as Insignificant Activities:
  - PVC Pellet Blending,
  - Tubing Lines,
  - New Blown Film Extrusion Operation,
  - Automated Assembly Lines and
  - Presses for Plastic Molding

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- Increase utilization of existing boilers (SN-17 and SN-18) increasing emissions.

Permitted annual emission changes from this modification are + 0.8 tpy of PM, -0.3 tpy of PM<sub>10</sub>, -29.8 tpy of SO<sub>2</sub>, +13.6 tpy of CO, and +16.2 tpy of NO<sub>x</sub>.

Permit #0544-AR-13 was issued October 6, 2016. This permitting action was necessary to remove SN-76, SN-77, and SN-94. Permitted annual emission changes from this administrative amendment were as follows: decrease of 0.1 tpy of PM/PM<sub>10</sub>, decrease of 0.1 tpy SO<sub>2</sub>, decrease of 0.4 tpy VOC, decrease of 0.5 tpy CO, decrease of 1.1 tpy NO<sub>x</sub>, and decrease of 0.3 tpy ethylene oxide.

Permit 0544-AR-14 was issued June 28, 2018. This administrative amendment was necessary to remove SN-115 and the associated subpart ZZZZ conditions. Also included was the addition of a natural gas hot water heater and third tubing line with a vacuum pump (along with a filtration unit) and chiller as insignificant activities. Permitted annual emission rate decreases were as follows: 0.1 tpy PM/PM<sub>10</sub>, 0.1 tpy SO<sub>2</sub>, 0.1 tpy VOC, 0.1 tpy CO and 0.1 tpy NO<sub>x</sub>.

Permit 0544-AR-15 was issued December 21, 2018. This administrative amendment was necessary to add the following sources to the list of Insignificant Activities (A-13) because these sources are now vented outside: Tubing Vacuum Pump 1, Tubing Vacuum Pump 2, Tubing Vacuum Pump 3, Blender 50 Drop Scale Vacuum Pump (1), Blender 50 Drop Scale Vacuum Pump (2), Blender 51 Drop Scale Vacuum Pump, Blender 52 Drop Scale Vacuum Pump, Blender 53 Drop Scale Vacuum Pump, Regrind Silo Penthouse Heat Removal Blower, Blender 50 Resin Vacuum Pump, Blender 50 Regrind Vacuum Pump, Silo 1 Blend Convey to Hopper, Regrind Vacuum Convey from C Grinder, Regrind Vacuum Convey from Inspection Pass 2, Pelletizer 46 Pellet Convey Receiver 1, Pelletizer 46 Pellet Convey Receiver 2, Pelletizer 46 Pellet Convey Receiver 3, Pelletizer 46 Pellet Convey Receiver 4, Pelletizer 46 Pellet Convey Receiver 5, Blend Transfer from Silo 3 to Silo 5, Blend Convey Vacuum Pump (1), Blend Convey Vacuum Pump (2), Central Vacuum System Blower, Blender 60 Resin Vacuum Pump, Bender 60 Regrind Vacuum Pump. The following A-13 sources were added in Permit 0544-AR-12 (March 9, 2015) but were not added to the Insignificant Activity list. This is a clerical correction. Tubing Lines, New Blown Film Extrusion Operation, Automated Assembly Lines (PVC Film Extrusion, Titan, DaVinci). There were no changes in permitted emissions.

Permit 0544-AR-16 was issued May 8, 2019. This administrative amendment was necessary for the following: corrected PVC File Extrusion to PVC Film Extrusion and corrected Specific Condition 37 to reference General Condition 10. These were clerical corrections only and there were no changes in permitted emissions.

Permit 0544-AR-17 was issued December 20, 2021. Multiple modifications were submitted resulting in the following changes:

- Removed SN-17 Boiler – 42 MMBtu/hr and added SN-17 Temp Natural Gas Boiler (42 MMBtu/hr Maximum Heat Input); removed SN-17 Temp and replaced with SN-125 Cleaver – Brooks Boiler – 29.0 MMBtu/hr;

- Added Appendix G: Subpart JJJJJ—*National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*;
- Added Subpart JJJJJ conditions for SN-18 and SN-125;
- Added additional control for ethylene oxide emissions:
  - SN-116 & SN-117 added (14) Resin Dry Beds each,
  - SN-101 – added Thermal Oxidizer downstream of wet scrubber,
  - SN-119 – Added (2) Resin Dry Beds,
  - SN-88 Tank Head Space Vapors were routed to SN-101,
  - Updated conditions for Subpart O;
- Added SN-123 Ethylene Oxide Miscellaneous controlled by a Regenerative Thermal Oxidizer (RTO);
- Replaced SN-116 and SN-117 Resin Dry Beds (28 total) with SN-116 South Thermal Oxidizer and SN-117 North Thermal Oxidizer.

Total emission increases were 1.5 tpy PM, 2.8 tpy PM<sub>10</sub>, 6.7 tpy SO<sub>2</sub>, 50.5 tpy CO, 39.8 tpy NO<sub>x</sub>, 0.07 tpy beryllium, 0.07 tpy cadmium, 0.39 tpy ethylene glycol, 0.27 tpy Total HAP and 0.5 tpy sulfuric acid. Total emission decreases were 0.7 tpy VOC and 0.47 tpy ethylene oxide.

Permit 544-AR-18 was issued on January 30, 2023. An application for permit modification was submitted on August 4, 2021. This revision included the following changes as a modification:

- A LESNI Abatement System was added to control emissions from the sterilization process. The LESNI system consists of three (3) catalytic abatement plants each with a water balancer and catalytic oxidizer. This system replaced the wet scrubber and thermal oxidizer at the Sterilization Chambers (SN-101) and two (2) resin dry beds at the Sterilization Chamber #7 Rear Chamber Exhaust (SN-119). The source description for SN-101 was revised to include the Sterilization Chamber #7 Rear Chamber Exhaust and SN-119 was removed from the permit. The regenerative thermal oxidizer (RTO) designated as Ethylene Oxide Miscellaneous (SN-123) has been removed from the permit. The RTO was mobilized to the site and installed; however, the RTO never operated as designed.
- A 2,218 HP LESNI Diesel Emergency Generator (SN-124) has been added. SN-124 is subject to 40 C.F.R. Part 63, Subpart ZZZZ and 40 C.F.R. Part 60, Subpart IIII.
- Emission limits (PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, CO, and NO<sub>x</sub>) for the Cleaver Brook Boiler (SN-18) have been revised based on revised calculations, and emission limits for HAPs which were previously omitted have been added. Specific Condition #9 (Permit # 0544-AR-17) has been revised to correct the fuel oil throughput limit for this source. The limit was revised from 725,000 gallons to 127,700 gallons per rolling twelve (12) month period.
- Emission limits (CO and NO<sub>x</sub>) for the Diesel Emergency Generator (SN-112) have been revised based on revised calculations, and emission limits for HAPs which were previously omitted have been added.
- Plastics manufacturing and cleaning emissions (SN-97) have been revised and include the Filter Integrity Test Station Exhaust (previously permitted as SN-09), and the HAP emissions (previously permitted as SN-109). SN-09 and SN-109 have been removed.

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- Specific Conditions #31 and 32 (Permit # 0544-AR-17) have been removed from the permit. The permittee is not authorized to add, modify, or move any equipment, or change any raw material that requires permit modification without obtaining prior approval if it is required.
- Insignificant Activities have been updated to align with current facility operation. The following sources have been moved to the Insignificant Activities:
  - Plastics Grinding Process (SN-41);
  - Jet Cleaner (SN-72);
  - DEHP Storage Tank (SN-89);
  - DEHP Storage Tank (SN-90);
  - Fuel #2 Storage Tank (SN-100);
  - Diesel Sub-base Storage tank (SN-113).

In addition, this revision included the following changes to address an application submitted March 17, 2022.

- A 13.4 MMBtu/hr Temporary Boiler (SN-17 Temp) has been added. This boiler was previously removed as a permitted source; however, it has been added to allow operation until installation and commissioning of the 29.0 MMBtu/hr Cleaver-Brooks Boiler (SN-125) is complete. SN-17 Temp is permitted to use natural gas or fuel oil as a source of fuel. SN-17 Temp is subject to 40 C.F.R. Part 60, Subpart Dc, and will be subject to 40 C.F.R. Part 63, Subpart JJJJJ following the use of fuel oil (except during periods of gas curtailment).
- Two (2) Emergency Fire Pump Engines (SN-121 and SN-122) have been added. SN-121 and SN-122 are subject to 40 C.F.R. Part 63, Subpart ZZZZ. These are existing engines; however, installation and operation of these sources was not permitted prior to issuance of this permit.
- Specific Conditions 117 through 119 have been added to include plantwide emission limits of 97 tpy for CO and NO<sub>x</sub>. Specific Conditions #61 and 62 (Permit # 0544-AR-17), which limited operation of the Aeration Room (SN-116 and 117) thermal oxidizers to no more than six (6) months, are no longer necessary and have been removed.
- A maximum outlet concentration of 0.25 ppm for ethylene oxide at SN-116 and SN-117 has been established as an alternative to the previous requirement to achieve a destruction efficiency of 99.9%. Specific Conditions #6, 60, 63, 64, and 67 of Permit # 0544-AR-17 have been revised to require SN-116 and SN-117 to either reduce emissions by 99.9% or maintain an outlet concentration of 0.25 ppm, whichever is less restrictive. Emission limits for ethylene oxide have been revised based on a maximum outlet concentration of 0.25 ppm. At this time, federal regulations (40 C.F.R. Part 63, Subpart O) require these sources to reduce emissions by 99% or maintain an outlet concentration below 1 ppm.
- The minimum operating temperatures for SN-116 and SN-117 (Specific Condition # 67 in Permit # 0544-AR-17) have been revised to 1,250 °F and 1,300 °F, respectively. These operating temperatures are consistent with testing performed to establish limits for CO and NO<sub>x</sub>.
- Emission limits (PM, SO<sub>2</sub>, VOC, CO, NO<sub>x</sub>, and HAPs) for SN-116 and SN-117 have been revised based on revised calculations.

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This revision also incorporates an Administrative Amendment, submitted October 6, 2022, to remove SN-119 and SN-123 from the permit and include additional updates to the Insignificant Activities.

Permitted emissions decreased 0.4 tpy PM and 58.4 tpy VOC including 4.27 tpy of ethylene oxide. Permitted emissions increased 0.8 tpy PM<sub>10</sub>; 7.9 tpy SO<sub>2</sub>; 20.2 tpy CO; 25.7 tpy NO<sub>x</sub>, and 0.26 tpy Total HAPs.

Section IV: EMISSION UNIT INFORMATION

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. [Rule 19.501 *et seq.* 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
17 Temp	Temporary Superior Boiler (13.4 MMBtu/hr)	PM <sub>10</sub>	0.2	0.5
		SO <sub>2</sub>	6.7	3.0
		VOC	0.1	0.4
		CO	1.2	5.0
		NO <sub>x</sub>	1.9	6.2
18	Cleaver Brook Boiler (20.412 MMBtu/hr)	PM <sub>10</sub>	0.2	0.7
		SO <sub>2</sub>	10.4	4.6
		VOC	0.2	0.5
		CO	1.7	7.4
		NO <sub>x</sub>	3.0	9.2
97	Plastics Manufacturing & Cleaning	VOC	6.9	30.0
101	Sterilization Chambers – Main Vent (#1-#7) and Rear Chamber Exhaust (#1-#7) (LESNI Abatement System)	PM <sub>10</sub>	0.1	0.3
		SO <sub>2</sub>	0.1	0.1
		VOC	1.5	0.5
		CO*	0.6	2.4
		NO <sub>x</sub>	0.8	3.2
112	Diesel Emergency Generator (237 HP)	PM <sub>10</sub>	0.1	0.1
		SO <sub>2</sub>	0.5	0.2
		VOC	0.1	0.1
		CO	0.3	0.1
		NO <sub>x</sub>	2.0	0.5
116 (Existing)	Aeration Rooms (#401 & #402) – South Unit with Catalytic Oxidizer (3.0 MMBtu/hr) followed by Thermal Oxidizer (43.47 MMBtu/hr)	PM <sub>10</sub>	0.4	1.5
		SO <sub>2</sub>	0.1	0.2
		VOC	0.4	1.4
		CO	8.7	**
		NO <sub>x</sub>	7.1	**

SN	Description	Pollutant	lb/hr	tpy
117 (Existing)	Aeration Rooms (#501 & #502) – North Unit with Catalytic Oxidizer (3.0 MMBtu/hr) followed by Thermal Oxidizer (43.47 MMBtu/hr)	PM <sub>10</sub>	0.4	1.5
		SO <sub>2</sub>	0.1	0.2
		VOC	0.4	1.4
		CO	8.7	**
		NO <sub>x</sub>	11.6	**
116 117 (New Configuration)	Aeration Rooms (#401, #402, #501 & #502) – with Dry Beds and LESNI	PM <sub>10</sub>	0.1	0.3
		SO <sub>2</sub>	0.1	0.1
		VOC	0.2	0.8
		CO	0.8	3.1
		NO <sub>x</sub>	1.7	7.8
121	Fire Pump Engine (218 HP)	PM <sub>10</sub>	0.5	0.2
		SO <sub>2</sub>	0.5	0.2
		VOC	0.6	0.2
		CO	1.5	0.4
		NO <sub>x</sub>	6.8	1.7
122	Fire Pump Engine (350 HP)	PM <sub>10</sub>	0.8	0.3
		SO <sub>2</sub>	0.8	0.2
		VOC	0.9	0.3
		CO	2.4	0.6
		NO <sub>x</sub>	10.9	2.8
124	LESNI Diesel Emergency Generator (2,218 HP)	PM <sub>10</sub>	0.2	0.1
		SO <sub>2</sub>	0.1	0.1
		VOC	0.2	0.1
		CO	2.2	0.6
		NO <sub>x</sub>	43.8	11.0
125	29.0 MMBtu/hr Cleaver-Brooks Boiler	PM <sub>10</sub>	0.3	1.0
		SO <sub>2</sub>	14.5	6.5
		VOC	0.1	0.5
		CO	1.1	2.6
		NO <sub>x</sub>	4.1	9.7
126	LESNI Diesel Emergency Generator (2,218 HP)	PM <sub>10</sub>	0.2	0.1
		SO <sub>2</sub>	0.1	0.1
		VOC	0.2	0.1
		CO	2.2	0.6
		NO <sub>x</sub>	43.8	11.0

\* Emission limits were determined based on natural gas combustion. Emission rates are not anticipated to exceed the limits in this table and they are not permitted to. Initial performance testing requirements were included to verify these limits.

\*\* Annual CO and NO<sub>x</sub> emissions are limited to 97 tpy plantwide for each pollutant.

- The permittee shall not exceed the emission rates set forth in the following table. [Rule 18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]



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SN	Description	Pollutant	lb/hr	tpy
17 Temp	Temporary Superior Boiler (13.4 MMBtu/hr)	PM	0.2	0.2
		Formaldehyde	0.01	0.01
		Total HAP	0.03	0.12
18	Cleaver Brook Boiler (20.412 MMBtu/hr)	PM	0.3	0.3
		Formaldehyde	0.01	0.01
		Total HAP	0.05	0.17
97	Plastics Manufacturing & Cleaning	Single HAP	2.17	9.50
		Total HAP	5.02	22.00
101	Sterilization Chambers – Main Vent (#1-#7) and Rear Chamber Exhaust (#1-#7) (LESNI Abatement System)	PM	0.1	0.3
		Ethylene Oxide	1.41	0.30
		Formaldehyde*	0.01	0.01
		Total HAP	1.42	0.36
112	Diesel Emergency Generator (237 HP)	PM	0.1	0.1
		Formaldehyde	0.01	0.01
		Total HAP	0.01	0.01
116 Existing	Aeration Rooms (#401 & #402) – South Unit with Catalytic Oxidizer (3.0 MMBtu/hr) followed by Thermal Oxidizer (43.47 MMBtu/hr)	PM	0.4	1.5
		Ethylene Oxide	0.06	0.23
		Formaldehyde*	0.03	0.10
		Total HAP	0.16	0.67
117 Existing	Aeration Rooms (#501 & #502) – North Unit with Catalytic Oxidizer (3.0 MMBtu/hr) followed by Thermal Oxidizer (43.47 MMBtu/hr)	PM	0.4	1.5
		Ethylene Oxide	0.06	0.23
		Formaldehyde	0.03	0.10
		Total HAP	0.16	0.67
116 117 (New Configuration)	Aeration Rooms (#401, #402, #501 & #502) –with Dry Beds and LESNI	PM	0.1	0.3
		Ethylene Oxide	0.14	0.59
		Other HAPs	0.02	0.07
121	Fire Pump Engine (218 HP)	PM	0.5	0.2
		Formaldehyde	0.01	0.01
		Total HAP	0.01	0.01
122	Fire Pump Engine (350 HP)	PM	0.8	0.2
		Formaldehyde	0.01	0.01
		Total HAP	0.01	0.01
124	LESNI Diesel Emergency Generator (2,218 HP)	PM	0.2	0.1
		Formaldehyde	0.01	0.01
		Total HAP	0.07	0.02
125	29.0 MMBtu/hr Cleaver-Brooks Boiler	PM	0.5	0.4
		Formaldehyde	0.02	0.01
		Total HAP	0.06	0.24



SN	Description	Pollutant	lb/hr	tpy
126	LESNI Diesel Emergency Generator (2,218 HP)	PM	0.2	0.1
		Formaldehyde	0.01	0.01
		Total HAPs	0.07	0.02

\* Emission limits were determined based on natural gas combustion. Emission rates are not anticipated to exceed the limits in this table and they are not permitted to. Initial performance testing requirements were included to verify these limits.

- Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Limit	Regulatory Citation
17 Temp, 18, 101, 116, 117, 125 (Natural Gas Fuel)	5%	Rule 18.501 and Ark. Code Ann.
17 Temp, 18, 112, 121, 122, 124, 125, 126 (Fuel Oil Fuel)	20%	Rule 19.503 and Ark. Code Ann.

- The permittee shall not cause or permit the emission of air contaminants, including odors or water vapor and including an air contaminant whose emission is not otherwise prohibited by Rule 18, if the emission of the air contaminant constitutes air pollution within the meaning of Ark. Code Ann. § 8-4-303. [Rule 18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- The permittee shall not conduct operations in such a manner as to unnecessarily cause air contaminants and other pollutants to become airborne. [Rule 18.901 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- All areas subject to the requirement to comply with Method 204 Criteria for verification of a Permanent or Temporary Total Enclosure shall be maintained under negative pressure as specified in Specific Conditions #41 and 58. No source of Eto emissions is permitted outside of these areas. [Rule 18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- On or before December 9, 2022, the permittee shall install and maintain a Continuous Emission Monitoring Systems (CEMS) with StarBoost™ FTIR (Fourier Transformed Infrared) at the control outlet of SN-101. On or before December 4, 2023 or the operation of the LESNI control system whichever is earlier, the permittee shall install and maintain a Continuous Emission Monitoring Systems (CEMS) with StarBoost™ FTIR (Fourier Transformed Infrared) at the control outlet of SN-116 and SN-117. The CEMS shall be

used to demonstrate compliance with the hourly and annual EtO emission limits in Specific Condition #2. The CEMS shall also be used to demonstrate compliance with a destruction efficiency of at least 99.9% for SN-101 by comparing the control train outlet CEMS data with the control train inlet concentration based on the annual test data or another method approved by DEQ for each source. For SN-116 and SN-117, compliance shall be demonstrated by a destruction efficiency of at least 99.9% or by maintaining an outlet concentration less than or equal to 0.25 ppm, whichever is less stringent. These CEMS shall comply with the Division of Environmental Quality “Continuous Emission Monitoring Systems Conditions” (Appendix F). Outlet CEMS data shall be used to calculate three consecutive 1-hour outlet EtO concentrations in accordance with Appendix F, and the average of those concentrations must be compared to the inlet performance test result to demonstrate destruction efficiency. [Rule 19.703, 40 C.F.R. § 52 Subpart E, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311 and Appendix F]

#### **SN-17 Temp, SN-18, and SN-125 Conditions**

8. The permittee shall use only No. 2 fuel oil that contains 0.5% or less sulfur by weight or ultra low sulfur diesel (ULSD) as a back-up fuel in the boilers (SN-17 Temp, SN-18, and SN-125). [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
9. The permittee shall maintain documentation from the fuel supplier that demonstrates compliance with the limits set in Specific Condition #8 and may be used by the Division of Environmental Quality for enforcement purposes. Fuel supplier certification for No. 2 oil fuel shall include the name of the oil supplier, a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c of 40 C.F.R. § 60, and the sulfur content or maximum sulfur content of the oil. The certifications shall be kept on site, and shall be provided to Division of Environmental Quality personnel upon request. [Rule 18.1004 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
10. The permittee shall not exceed a fuel oil throughput (No. 2 and ULSD combined) for SN-17 Temp of 82,610 gallons for any rolling twelve (12) month period. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
11. The permittee shall not exceed a fuel oil throughput (No. 2 and ULSD combined) for SN-18 of 127,721 gallons for any rolling twelve (12) month period. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
12. The permittee shall not exceed a fuel oil throughput (No. 2 and ULSD combined) for SN-125 of 178,800 gallons for any rolling twelve (12) month period. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

13. The permittee shall maintain records that demonstrate compliance with the limits set in Specific Conditions #10, #11, and #12. The records may be used by the Division of Environmental Quality for enforcement purposes. The records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Division of Environmental Quality personnel upon request. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

**NSPS 40 C.F.R. Part 60, Subpart Dc Conditions**

14. SN-17 Temp, SN-18, and SN-125 are subject to and shall comply with all applicable provisions of 40 C.F.R. Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*. [Rule 19.304 and 40 C.F.R. § 60.40c(a)]
15. The permittee shall record and maintain monthly records of the amount of fuel combusted at SN-17 Temp, SN-18, and SN-125. The records shall be updated by the fifteenth day of the month following the month to which the records pertain. These records shall be maintained on-site and made available to Division of Environmental Quality personnel upon request. [Rule 19.304 and 40 C.F.R. § 60.48c(g)(2)]
16. The records required by Specific Condition #15 shall be maintained by the permittee for a period of two years following the date of such record. However, in accordance with General Condition 5, records will be maintained for a period of five years. [Rule 19.304 and 40 C.F.R. § 60.48c(i)]

**NESHAP 40 C.F.R. Part 63, Subpart JJJJJJ Conditions**

17. SN-17 Temp, SN-18, and SN-125 are not subject to 40 C.F.R. Part 63, Subpart JJJJJJ—*National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* as long as the boilers use natural gas as fuel. SN-17 Temp, SN-18, and SN-125 become subject to Subpart JJJJJJ after the source uses fuel oil except during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. The requirements of Subpart JJJJJJ include, but are not limited to, Specific Conditions #18 through #27. These requirements do not apply until after the facility becomes subject to Subpart JJJJJJ. [40 C.F.R. § 63.11193, § 63.11194, and § 63.11195 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
18. The permittee shall minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, the permittee shall follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. [40 C.F.R. § 63.11201(b) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

19. If the permittee combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under Subpart JJJJJ and that do not use a post-combustion technology (except a wet scrubber) to reduce particulate matter (PM) or sulfur dioxide emissions, the permittee is not subject to the PM emission standard of Subpart JJJJJ providing the permittee monitors and records on a monthly basis the type of fuel combusted. If the permittee intend to burn a new type of fuel or fuel mixture that does not meet this requirement, the permittee shall conduct a performance test within 60 days of burning the new fuel. This standard applies at all times SN -18 and SN-125 are operating, except during periods of startup and shutdown as defined in 40 C.F.R. § 63.11237, during which time the permittee shall comply only with Specific Condition #18. [40 C.F.R. § 63.11201(a), and § 63.11210(e) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
20. At all times the permittee shall operate and maintain SN-17 Temp, SN-18, and SN-125, 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 permittee 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 Division 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. § 63.11205(a) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
21. The permittee shall conduct a performance tune-up according to Specific Condition #22 and submit a signed statement in the Notification of Compliance Status report that indicates that the permittee conducted a tune-up of the boiler. The permittee shall complete the applicable biennial tune-up as specified in Specific Condition #22 no later than 25 months after the initial startup of SN-17 Temp, SN-18, and SN-125. [40 C.F.R. § 63.11214(b) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
22. The permittee shall conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. The first biennial tune-up must be no later than 25 months after the initial startup of SN-17 Temp, SN-18, and SN-125. The permittee shall conduct the performance tune-up according to the following section: [40 C.F.R. § 63.11223 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

- a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.
  - 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, not to exceed 36 months from the previous inspection). 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 nitrogen oxide 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.
  - f) Maintain on-site and submit, if requested by the Division, a report containing the following information:
    - 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.
    - ii. A description of any corrective actions taken as a part of the tune-up of the boiler.
    - iii. The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, 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 use by each unit.
  - g) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.
23. The permittee shall submit the following notifications to the Division: [40 C.F.R. § 63.11225 (a) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

- a) The permittee shall submit all of the notifications in 40 C.F.R. §§ 63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to the facility by the dates specified in those sections.
  - b) An Initial Notification must be submitted within 120 days after the source becomes subject to the standard.
  - c) If the permittee is required to conduct a performance stack test the permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.
  - d) The permittee shall submit the Notification of Compliance Status no later than 120 days after SN-17 Temp, SN-18, and SN-125 become subject to 40 C.F.R. Part 63, Subpart JJJJJ. If the permittee must conduct a performance stack test, the permittee shall submit the Notification of Compliance Status within 60 days of completing the performance stack test. The permittee shall submit the Notification of Compliance Status in accordance with the following section. The Notification of Compliance Status must include the information and certification(s) of compliance in the following section, as applicable, and signed by a responsible official.
    - i. You must submit the information required in § 63.9(h)(2), except the information listed in § 63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in § 63.13.
    - ii. “This facility complies with the requirements in § 63.11214 to conduct an initial tune-up of the boiler.”
    - iii. The notification must be submitted electronically using 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 Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in § 63.13.
  - e) If the permittee is using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, the permittee shall include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.
24. The permittee shall prepare, by March 1 of each year, and submit to the Division upon request, an annual compliance certification report for the previous calendar year containing the following information: [40 C.F.R. § 63.11225(b) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]



- a) Company name and address.
  - b) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. The notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:
    - i. "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler."
    - ii. For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."
    - iii. "This facility complies with the requirement in 40 C.F.R. §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."
25. The permittee shall maintain the following records. These records shall be in a form suitable and readily available for expeditious review. The permittee shall keep each record for 5 years following the date of each recorded action. The permittee shall keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. The permittee may keep the records off site for the remaining 3 years. [40 C.F.R. § 63.11225(c), and § 63.11225(d) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- a) The permittee shall keep a copy of each notification and report that were submitted to comply with 40 C.F.R. Part 63, Subpart JJJJJ and all documentation supporting any Initial Notification or Notification of Compliance Status that were submitted.
  - b) The permittee shall keep records that identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned to document conformance with the tune-ups required by Specific Conditions #21 and #22.
  - c) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.
  - d) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in Specific Condition #20, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

- e) The permittee shall keep the following records for each required inspection or monitoring:
    - i. The date, place, and time of the monitoring event.
    - ii. Person conducting the monitoring.
    - iii. Technique or method used.
    - iv. Operating conditions during the activity.
    - v. Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.
    - vi. Maintenance or corrective action taken (if applicable).
26. The permittee shall submit, within 60 days after the date of completing each performance test (defined in 40 C.F.R. § 63.2) as required by Subpart JJJJJ, the results of the performance tests, including any associated fuel analyses, required by Subpart JJJJJ to EPA's WebFIRE database by using CEDRI that is accessed through EPA's CDX ([www.epa.gov/cdx](http://www.epa.gov/cdx)). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including CBI, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator at the appropriate address listed in 40 C.F.R. § 63.13. [40 C.F.R. § 63.11225(c), and § 63.11225(e) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
27. If the permittee have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within Subpart JJJJJ, in the boiler becoming subject to Subpart JJJJJ, or in the boiler switching out of Subpart JJJJJ due to a change to 100 percent natural gas, or the permittee have taken a permit limit that resulted in the facility being subject to Subpart JJJJJ, the permittee shall provide notice of the date upon which the permittee switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify: [40 C.F.R. § 63.11225(g) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]



- a) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.
- b) The date upon which the fuel switch, physical change, or permit limit occurred.

**SN-97 Conditions**

28. The permittee shall not exceed the following 12-month rolling total limits for VOCs and HAPs emitted from the evaporative solvents utilized in the plastics manufacturing and cleaning processes. These do not include ethylene oxide emissions from the sterilization or aeration processes nor emissions from insignificant activities nor do they allow ethylene oxide emissions outside those processes. The permittee shall demonstrate compliance with this condition by Specific Condition #29. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

Pollutant	Emission Rate (lb/hr)	Emission Rate (tpy)
VOC	6.9	30.0
Individual HAP	2.17	9.50
Total Combined HAPs	5.02	22.00*

\*Facility-wide emissions shall not exceed 24.28 tpy HAPs.

29. The permittee shall maintain records that demonstrate compliance with the limits set in Specific Condition #28 which may be used by the Division of Environmental Quality for enforcement purposes. The permittee may take emissions credits for VOC and HAP waste-containing materials not emitted and shipped offsite. The emissions shall be calculated according to the following formula:

$$\text{emissions} = \text{usage} - \text{waste collected}$$

The records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Division of Environmental Quality personnel upon request. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

30. The permittee shall maintain safety data sheets (SDS) of all VOC and HAP containing material used at the facility. The records shall be kept on site and shall be provided to Division of Environmental Quality personnel upon request. [Rule 18.1004 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

**SN-101 Conditions**

31. The permittee shall not exceed a usage of 600,000 pounds of ethylene oxide at the sterilization chambers for any rolling twelve (12) month period. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
32. The permittee shall maintain records that demonstrate compliance with the limit set in Specific Condition #31 which may be used by the Division of Environmental Quality for enforcement purposes. The records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Division of Environmental Quality personnel upon request. [Rule 18.1004 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
33. The permittee shall, within 180 days of the issuance of Permit # 0544-AR-18, test SN-101 for CO and formaldehyde. EPA Reference Method 10 shall be used to test for CO. EPA Reference Method 320 and 323 of 40 C.F.R. Part 63, Appendix A, or ASTM D6348-03, provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), or an alternative method as approved by the Division of Environmental Quality prior to testing shall be used to test for formaldehyde. These tests shall take place in accordance with General Condition #7. Testing shall be conducted with the source operating at least at 90% of its permitted capacity (the permitted capacity includes sources vented to the control equipment and the heat input rate of the control equipment). Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. If at any time the facility fails a test, then the facility must retest within 60 days. [Rule 19.702, Rule 18.1002, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
34. The permittee shall annually test the SN-101 control equipment (LESNI System) for ethylene oxide using EPA Method 320 with StarBoost<sup>TM</sup> FTIR (Fourier Transformed Infrared). The permittee must demonstrate that the emissions comply with a destruction efficiency of at least 99.9%. The permittee shall use the concentrations of total ethylene oxide at the inlet and outlet of the SN-101 LESNI to calculate the destruction efficiency. Inlet concentration can be based on the annual test or another method approved by DEQ and outlet concentration can be based on the annual test or CEMS data. This test shall take place in accordance with General Condition #7. Testing shall be conducted with the source operating at least at 90% of its permitted capacity (the permitted capacity includes sources vented to the control equipment and the heat input rate of the control equipment). Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. If outlet CEMS data are used to demonstrate compliance with the destruction efficiency limit, the CEMS data shall be used to calculate three consecutive 1-hour outlet EtO concentrations in accordance with Appendix F, and the average of those concentrations must be compared to the inlet performance test result. If at any time the facility fails a test, then the facility must retest within 180 days. [Rule 19.702, Rule 18.1002, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

35. The minimum catalyst bed inlet temperature of the LESNI System shall not be less than 302 °F (150 °C) while operating. The temperature may be adjusted based upon the test data which demonstrates an alternative temperature is sufficient to achieve 99.9% destruction efficiency and after Division of Environmental Quality approval. [Rule 18.1004, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
36. The permittee shall install and maintain a device to continuously measure and record the catalyst bed inlet temperature of the LESNI system in order to demonstrate compliance with Specific Condition #35. [Rule 18.1003, 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]
37. The temperature monitoring system which monitors the LESNI system shall be installed, calibrated and operated according to the manufacturer's specifications. The accuracy must be verified twice per calendar year. The permittee shall maintain the verification records, keep the records on site, and provide the records to Division of Environmental Quality personnel upon request. [Rule 18.1104 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
38. The permittee shall maintain records to demonstrate compliance with Specific Conditions #35 and #36. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on-site and made available to Division of Environmental Quality personnel upon request. [Rule 19.705 and 40 C.F.R. § 52 Subpart E]
39. The permittee shall follow a routine inspection and maintenance program. Maintenance and repair of the SN-101 LESNI system shall be performed per the manufacturer's specifications. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
40. The permittee shall maintain a copy of the inspection and maintenance program to demonstrate compliance with Specific Condition #39. The inspection and maintenance program shall be maintained on-site and made available to Division of Environmental Quality personnel upon request. [Rule 19.705 and 40 C.F.R. § 52 Subpart E]
41. Temporary partitions and permanent walls that capture emissions from the drum rooms, the vacuum pump room, and part of the hallways and aisles (Work Aisle Zone 1) leading between the sterilization chambers and aeration rooms shall comply with Method 204 Criteria for verification of a Permanent or Temporary Total Enclosure for 100% capture. These emissions shall be controlled by the SN-101 LESNI Catalytic Abatement Plant. The permittee shall install and operate a pressure gauge which verifies the pressure differential across the enclosure. A pressure differential of -0.007 inches water column during normal operations shall be maintained to demonstrate

compliance. [Rule 19.303 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

42. The observed pressure differential stated in Specific Condition 41 shall be recorded once each day that the sterilization/aeration process is in operation. These records shall be maintained on site and shall be provided to Division of Environmental Quality personnel upon request. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

#### **SN-112, SN-124, and 126 Conditions**

43. The permittee shall not operate the emergency generators SN-112, SN-124, and 126 in excess of 500 total hours each (emergency and non-emergency) per rolling 12-month period in order to demonstrate compliance with the annual emission rate limits. Emergency operation in excess of these hours may be allowable but shall be reported and will be evaluated in accordance with Rule 19.602 and other applicable regulations. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
44. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #43. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The twelve month rolling totals and each individual month's data shall be maintained on-site and made available to Division of Environmental Quality personnel upon request. [Rule 19.705 and A.C.A. § 8-4-203 as referenced by § 8-4-304 and § 8-4-311]
45. The permittee shall not operate SN-126 until the LESNI system on SN-116 and 117 is operational and the operation of the catalytic and thermal oxidizers on those sources have ceased. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### **NSPS 40 C.F.R. Part 60, Subpart IIII Conditions**

46. Emergency Generators SN-112, SN-124, and 126 are subject to the provisions of 40 C.F.R. § 63, Subpart ZZZZ—*National Emissions Standards for Stationary Reciprocating Internal Combustion Engines*. Compliance with subpart ZZZZ shall be demonstrated through compliance with requirements of 40 C.F.R. § 60 Subpart IIII. [40 C.F.R. §§ 63.6585, 63.6590(c)(1) and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
47. Emergency Generators SN-112, SN-124, and 126 are subject to the provisions of 40 C.F.R. Part 60, Subpart IIII—*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. The permittee shall comply with all applicable requirements of 40 C.F.R. Part 60, Subpart IIII which include but are not limited to those in Specific Conditions #48 through 57. [Rule 19.304 and 40 C.F.R. § 60.4200 (a)(2)]

48. The permittee 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. [Rule 19.304 and 40 C.F.R. § 60.4205(b)]
49. The permittee 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. [Rule 19.304 and 40 C.F.R. § 60.4206]
50. The permittee is 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. § 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. [Rule 19.304 and 40 C.F.R. § 60.4207(b)]
51. The permittee shall install a non-resettable hour meter for the Emergency Generator prior to startup of the engine. [Rule 19.304 and 40 C.F.R. § 60.4209]
52. The permittee shall only purchase diesel fuel that meets the requirements of 40 C.F.R. § 1090.305 for nonroad diesel fuel. Records of purchased fuel specifications are to be maintained on-site and made available to Division of Environmental Quality personnel upon request. [Rule 19.304 and 40 C.F.R. § 60.4207]
53. The permittee must comply with the emission standards specified Subpart § 60.4211 and the permittee must do all of the following, except as permitted under paragraph (g) of Subpart § 60.4211
  - a) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;
  - b) Change only those emission-related settings that are permitted by the manufacturer; and
  - c) Meet the requirements of 40 C.F.R. parts 89, 94 and/or 1068, as they apply to you.[Rule 19.304 and 40 C.F.R. § 60.4211(a)]
54. The permittee 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 § 60.4211. [Rule 19.304 and 40 C.F.R. § 60.4211(c)]
55. The permittee must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of Subpart § 60.4211. In order for the engine to be

considered an emergency stationary ICE under this Subpart § 60.4211, 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 Subpart § 60.4211, is prohibited. If the permittee does not operate the engine according to the requirements in paragraphs (f)(1) through (3) of Subpart § 60.4211, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

- a) There is no time limit on the use of emergency stationary ICE in emergency situations.
- b) 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.
- c) 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:
  - 1) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
  - 2) 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.
  - 3) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
  - 4) The power is provided only to the facility itself or to support the local transmission and distribution system.
  - 5) 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.

[Rule 19.304 and 40 C.F.R. § 60.4211(f)]

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

[Rule 19.304 and 40 C.F.R. § 60.4211(g)(3)]

57. The permittee shall maintain records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. [Rule 19.304 and 40 C.F.R. § 60.4214(b)]

#### **SN-116 and SN-117 Conditions**

58. Temporary partitions and permanent walls that capture emissions from the shipping/storage area and areas between the sterilization chambers and aeration rooms shall comply with Method 204 Criteria for verification of a Permanent or Temporary Total Enclosure for 100% capture. These emissions shall be controlled by the SN-116 and SN-117 Catalytic Oxidizers and the Thermal Oxidizers or the LESNI and Dry beds. The permittee shall install and operate a pressure gauge which verifies the pressure differential across the enclosure. A pressure differential of -0.007 inches water column during normal operations shall be maintained to demonstrate compliance. [Rule 19.303 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
59. The observed pressure differential stated in Specific Condition 58 shall be recorded once each day that the sterilization/aeration process is in operation. These records shall be maintained on site and shall be provided to Division of Environmental Quality personnel upon request. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
60. The permittee shall not operate the catalytic oxidizer and thermal oxidizer systems on SN-116 and 117 after the LESNI/Drybed system for that source is commissioned. Specific Conditions 61 through 59 apply to SN-116 and 117 with the catalytic oxidizer and thermal oxidizer. Specific Conditions 78 through 84 apply to SN-116 and 117 with the LESNI and Dry beds. [Rule 19.703, 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]

#### **SN-116 and SN-117 Catalytic Oxidizer and Thermal Oxidizer Conditions**

61. The permittee shall, within 180 days of the issuance of Permit # 0544-AR-18, test SN-116 and SN-117 for formaldehyde. EPA Reference Method 320 and 323 of 40 C.F.R. Part 63, Appendix A, or ASTM D6348-03, provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), or an alternative method as approved by the Division of Environmental Quality prior to testing shall be used to test for formaldehyde. These tests shall take place in accordance with General Condition #7. Testing shall be conducted with the source operating at least at 90% of its permitted capacity (the permitted capacity includes sources vented to the control equipment and the heat input rate of the control equipment). Emission testing results shall be extrapolated to correlate with 100% of the



- permitted capacity to demonstrate compliance. If at any time the facility fails a test, then the facility must retest within 60 days. [Rule 18.1002, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
62. The permittee shall operate and maintain the catalytic oxidizers and thermal oxidizers for SN-116 and SN-117 to ensure an ethylene oxide destruction efficiency of at least 99.9% or a maximum outlet concentration of 0.25 ppm, whichever is less stringent. [Rule 19.703, 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]
63. The permittee shall annually test the SN-116 and SN-117 control equipment for ethylene oxide using Method 320 with StarBoost™ FTIR (Fourier Transformed Infrared). The permittee must demonstrate that the Aeration Rooms (#401, #402, #501, #502) emissions comply with a destruction efficiency of at least 99.9% or a maximum outlet concentration of 0.25 ppm, whichever is less stringent. The permittee shall use the concentrations of total EtO for the inlet of the Catalytic Oxidizers and the outlet of the Thermal Oxidizers to calculate the destruction efficiency. Inlet concentration can be based on the annual test or another method approved by DEQ and outlet concentration can be based on the annual test or CEMS data, once installed. This test shall take place in accordance with General Condition #7. Testing shall be conducted with the source operating at least at 90% of its permitted capacity (the permitted capacity includes sources vented to the control equipment and the heat input rate of the control equipment). Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. If at any time the facility fails a test, then the facility must retest within 180 days. [Rule 19.702 and/or Rule 18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
64. During the test required by Specific Condition #63, the permittee shall verify that the minimum temperature required for the catalytic oxidizers and the thermal oxidizers is sufficient to maintain the destruction efficiency of 99.9% or an outlet concentration of 0.25 ppm whichever is less stringent. The minimum catalyst bed outlet temperature shall not be less than 360 °F for SN-116 and 350 °F for SN-117 while operating. This temperature may be adjusted based upon the test data which demonstrates an alternative temperature is sufficient to achieve 99.9% destruction efficiency or an outlet concentration of 0.25 ppm and after Division of Environmental Quality approval. This temperature need not be maintained while SN-116 or SN-117 is not in operation. [Rule 18.1004, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
65. The permittee shall install and maintain a device to continuously measure and record the catalyst bed outlet temperatures in order to demonstrate compliance with Specific Condition #64. The temperature monitoring system shall be installed, calibrated and operated according to the manufacturer's specifications [Rule 18.1003, Rule 18.1104, 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]

66. The permittee shall maintain records to demonstrate compliance with Specific Condition #65. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on-site and made available to Division of Environmental Quality personnel upon request. [Rule 18.1004 and 40 C.F.R. § 52 Subpart E]
67. The minimum outlet temperature of the SN-116 and SN-117 Thermal Oxidizers shall not be less than 1,250 °F (for SN-116) or 1,300 °F (for SN-117) at any time while emissions are vented to the control device. This temperature may be adjusted based upon the test data which demonstrates an alternative temperature is sufficient to achieve at least a 99.9% destruction efficiency or a maximum outlet concentration of 0.25 ppm and after Division of Environmental Quality approval. This temperature need not be maintained while the aeration rooms are not exhausting gas to the Thermal Oxidizers. [Rule 18.1004, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
68. The permittee shall install and maintain a device to continuously measure and record the outlet temperature of the SN-116 and SN-117 Thermal Oxidizers in order to demonstrate compliance with Specific Condition #67. [Rule 18.1003, 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]
69. The permittee shall maintain records to demonstrate compliance with Specific Conditions #67 and #68 at all times of operation. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on-site and made available to Division of Environmental Quality personnel upon request. [Rule 18.1004 and 40 C.F.R. § 52 Subpart E]
70. The temperature monitoring system which monitors the Thermal Oxidizer system shall be installed, calibrated and operated according to the manufacturer's specifications. The accuracy must be verified twice per calendar year. The permittee shall maintain the verification records, keep the records on site, and provide the records to Division of Environmental Quality personnel upon request. [Rule 18.1003, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
71. The permittee shall maintain records to demonstrate compliance with Specific Condition #70. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on-site and made available to Division of Environmental Quality personnel upon request. [Rule 18.1004, and 40 C.F.R. § 52 Subpart E]
72. The permittee shall follow a routine inspection and maintenance program. Maintenance and repair of the SN-116 and SN-117 Catalytic Oxidizers and the Thermal

Oxidizers shall be performed per the manufacturer's specifications. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

73. The permittee shall maintain a copy of the inspection and maintenance program to demonstrate compliance with Specific Condition #72. The inspection and maintenance program shall be maintained on-site and made available to Division of Environmental Quality personnel upon request. [40 C.F.R. § 52 Subpart E]
74. The permittee shall submit monthly monitoring reports for the parameters specified below for sources SN-116 and SN-117. The permittee may cease submittal of the monthly monitoring reports when a Continuous Emissions Monitoring System for EtO is installed and operational.

- a) SN-116 and SN-117 thermal oxidizer outlet temperature.

[Rule 19.705 and 40 C.F.R. § 52 Subpart E]

75. The permittee shall conduct a performance test using the procedures listed in § 63.7 according to the applicability in Table 1 of 40 C.F.R. § 63.360, the procedures listed in Subpart 40 C.F.R. § 63.362, and the test methods listed in 40 C.F.R. § 63.365. If this performance test was performed previously (prior to issuance of this permit) and there have been no process or equipment changes since the test, the permittee is not required to test again in order to satisfy this condition; however, this test shall be conducted no later than 30 calendar days after Permit # 0544-AR-18 is issued.
- a) The permittee is subject to the following emissions standards - reduce ethylene oxide emissions by at least 99.9% or a maximum outlet concentration of 0.25 ppm (whichever is less stringent) from each aeration room vent in SN-116 and SN-117.
- b) The permittee shall not exceed the hourly emission rate for ethylene oxide of 0.06 lb/hr for each thermal oxidizer based on a three hour average while all the aeration rooms are loaded and operational.

[Rule 18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

#### **SN-116 and 117 with LESNI and dry beds conditions**

76. The permittee shall operate and maintain the control devices on SN-116 and SN-117 to ensure an ethylene oxide destruction efficiency of at least 99.9% or a maximum outlet concentration of 0.25 ppm, whichever is less stringent. [Rule 19.703, 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]

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77. The minimum catalyst bed inlet temperature of SN-116 and 117, the LESNI System, shall not be less than 302 °F (150 °C) while operating. The temperature may be adjusted based upon the test data which demonstrates an alternative temperature is sufficient to achieve 99.9% destruction efficiency or a maximum outlet concentration of 0.25 ppm, whichever is less stringent and after Division of Environmental Quality approval. [Rule 18.1004, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
78. The permittee shall install and maintain a device to continuously measure and record the catalyst bed inlet temperature of SN-116 and 117, the LESNI System, in order to demonstrate compliance with Specific Condition #79. [Rule 18.1003, 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]
79. The temperature monitoring system which monitors SN-116 and 117, the LESNI System, shall be installed, calibrated and operated according to the manufacturer's specifications. The accuracy must be verified twice per calendar year. The permittee shall maintain the verification records, keep the records on site, and provide the records to Division of Environmental Quality personnel upon request. [Rule 18.1104 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
80. The permittee shall maintain records to demonstrate compliance with Specific Conditions #80 and #81. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on-site and made available to Division of Environmental Quality personnel upon request. [Rule 19.705 and 40 C.F.R. § 52 Subpart E]
81. The permittee shall follow a routine inspection and maintenance program. Maintenance and repair of the SN-116 and 117 LESNI System, shall be performed per the manufacturer's specifications. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
82. The permittee shall maintain a copy of the inspection and maintenance program to demonstrate compliance with Specific Condition #83. The inspection and maintenance program shall be maintained on-site and made available to Division of Environmental Quality personnel upon request. [Rule 19.705 and 40 C.F.R. § 52 Subpart E]
83. The permittee shall maintain the pressure drop across the dry beds on SN-116 and 117 according to manufacturing specifications. The permittee shall perform all manufacturer specified maintenance on the dry beds as outlined by the manufacturer. [Rule 18.1004, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

84. The permittee shall maintain daily records of the pressure drop across the dry beds on SN-116 and 117. The permittee shall maintain records of all maintenance performed on the drybeds on SN-116 and 117. [Rule 18.1004 and 40 C.F.R. § 52 Subpart E]

**SN-121 and SN-122 Conditions**

85. The permittee shall not operate the emergency fire pump engines SN-121 or SN-122 in excess of 500 total hours for each engine (emergency and non-emergency) per rolling 12-month period in order to demonstrate compliance with the annual emission rate limits. Emergency operation in excess of these hours may be allowable but shall be reported and will be evaluated in accordance with Rule 19.602 and other applicable regulations. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
86. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #85. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The twelve month rolling totals and each individual month’s data shall be maintained on-site and made available to Division of Environmental Quality personnel upon request. [Rule 19.705 and A.C.A. § 8-4-203 as referenced by §8-4-304 and §8-4-311]

**NESHAP 40 C.F.R. Part 63, Subpart ZZZZ Conditions**

87. Emergency Fire Pumps SN-121 and SN-122 are subject to 40 C.F.R. § 63 Subpart ZZZZ. The permittee shall comply with all applicable provisions of 40 C.F.R. § 63 Subpart ZZZZ which includes, but is not limited to, Specific Conditions #88 through #107. [40 C.F.R. § 63 Subpart ZZZZ and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
88. The permittee shall comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. [40 C.F.R. § 63.6595(a)(1) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
89. The permittee shall comply with the requirements in Table 2d to 40 C.F.R. § 63 Subpart ZZZZ and the operating limitations in Table 2b to 40 C.F.R. § 63 Subpart ZZZZ that apply to you. [40 C.F.R. § 63.6603(a), and Table 2d of 40 C.F.R. § 63 Subpart ZZZZ and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

<b>For each . . .</b>	<b>You must meet the following requirement, except during periods of startup . . .</b>	<b>During periods of startup you must . . .</b>
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For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
Emergency stationary CI RICE and black start stationary CI RICE. <sup>2</sup>	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>1</sup> b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	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>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 2d of 40 C.F.R. § 63 Subpart ZZZZ.

<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 40 C.F.R. § 63 Subpart ZZZZ, 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.

90. The permittee, if operating 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 that operates for the purpose specified in § 63.6640(f)(4)(ii), must use diesel fuel that meets the requirements in 40 C.F.R. § 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. [40 C.F.R. § 63.6604(b) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
91. The permittee shall be in compliance with the applicable emission limitations, operating limitations, and other requirements in 40 C.F.R. § 63 Subpart ZZZZ at all times. [40 C.F.R. § 63.6605(a) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
92. At all times the permittee shall 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. [40 C.F.R.

§ 63.6605(b) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

93. The permittee shall 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)(3) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
94. The permittee shall install a non-resettable hour meter if one is not already installed. [40 C.F.R. § 63.6625(f) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
95. The permittee shall 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 Table 2d to 40 C.F.R. § 63 Subpart ZZZZ apply. [40 C.F.R. § 63.6625(h) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
96. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2d to 40 C.F.R. § 63 Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2d to 40 C.F.R. § 63 Subpart ZZZZ. 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. [40 C.F.R. § 63.6625(i) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]



97. The permittee shall demonstrate continuous compliance with each emission limitation, operating limitation, and other requirement in Table 2d to 40 C.F.R. § 63 Subpart ZZZZ and that apply to you according to methods specified in Table 6 to 40 C.F.R. § 63 Subpart ZZZZ. [40 C.F.R. § 63.6640(a) and Table 6 of 40 C.F.R. § 63 Subpart ZZZZ and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
Existing emergency and black start stationary RICE located at an area source of HAP	Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer’s emission-related operation and maintenance instructions; or 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.

98. The permittee shall report each instance in which the permittee did not meet each applicable emission limitation or operating limitation in Table 2d to 40 C.F.R. § 63 Subpart ZZZZ. These instances are deviations from the emission and operating limitations in 40 C.F.R. § 63 Subpart ZZZZ. These deviations must be reported according to the requirements in § 63.6650. If the permittee changes the catalyst, the permittee shall reestablish the values of the operating parameters measured during the initial performance test. When the permittee reestablishes the values of the operating parameters, the permittee shall also conduct a performance test to demonstrate that the permittee is meeting the required emission limitation applicable to the engine. [40 C.F.R. § 63.6640(b) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
99. The permittee shall also report each instance in which they did not meet the applicable requirements in Table 8 to 40 C.F.R. § 63 Subpart ZZZZ. [40 C.F.R. § 63.6640(e) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
100. The permittee shall operate an emergency stationary RICE according to the requirements in § 63.6640(f) (1) through (4). In order for the engine to be considered an emergency stationary RICE under 40 C.F.R. § 63 Subpart ZZZZ, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in § 63.6640(f)(1) through (4), is prohibited. If you do not operate the engine according to the requirements in § 63.6640(f)(1) through

(4), the engine will not be considered an emergency engine under 40 C.F.R. § 63 Subpart ZZZZ and must meet all requirements for non-emergency engines. [40 C.F.R. § 63.6640(f) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

- a) There is no time limit on the use of emergency stationary RICE in emergency situations. [40 C.F.R. § 63.6640(f)(1) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- b) The permittee may operate an emergency stationary RICE for any combination of the purposes specified in § 63.6640(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by § 63.6640(f)(3) and (4) counts as part of the 100 hours per calendar year allowed by § 63.6640(f)(2). [40 C.F.R. § 63.6640(f)(2) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - 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. [40 C.F.R. § 63.6640(f)(2)(i) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- c) The permittee may operate an emergency stationary RICE located at area sources of HAP 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 provided in § 63.6640(f)(2). Except as provided in § 63.6640(f)(4)(i) and (ii), 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. [40 C.F.R. § 63.6640(f)(4) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - 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: [40 C.F.R. § 63.6640(f)(4)(ii) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
    1. The engine is dispatched by the local balancing authority or local transmission and distribution system operator. [40 C.F.R.

- § 63.6640(f)(4)(ii)(A) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
2. 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. [40 C.F.R. § 63.6640(f)(4)(ii)(B) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  3. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. [40 C.F.R. § 63.6640(f)(4)(ii)(C) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  4. The power is provided only to the facility itself or to support the local transmission and distribution system. [40 C.F.R. § 63.6640(f)(4)(ii)(D) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  5. 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. [40 C.F.R. § 63.6640(f)(4)(ii)(E) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
101. If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates for the purpose specified in § 63.6640(f)(4)(ii), you must submit an annual report according to the requirements in § 63.6650(h)(1) through (3). [40 C.F.R. § 63.6650(h) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- a) The report must contain the following information: [40 C.F.R. § 63.6650(h)(1) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
    - i. Company name and address where the engine is located. [40 C.F.R. § 63.6650(h)(1)(i) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
    - ii. Date of the report and beginning and ending dates of the reporting period. [40 C.F.R. § 63.6650(h)(1)(ii) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
    - iii. Engine site rating and model year. [40 C.F.R. § 63.6650(h)(1)(iii) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

- iv. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. [40 C.F.R. § 63.6650(h)(1)(iv) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - v. 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. [40 C.F.R. § 63.6650(h)(1)(vii) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - vi. 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. [40 C.F.R. § 63.6650(h)(1)(viii) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - vii. 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. [40 C.F.R. § 63.6650(h)(1)(ix) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- b) 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. [40 C.F.R. § 63.6650(h)(2) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - c) 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 40 C.F.R. § 63 Subpart ZZZZ 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. [40 C.F.R. § 63.6650(h)(3) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
102. If the permittee must comply with the emission and operating limitations, they must keep the records described in § 63.6655(a)(1) through (a)(5), (b)(1) through (b)(3) and (c). [40 C.F.R. § 63.6655(a) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- a) A copy of each notification and report that you submitted to comply with 40 C.F.R. § 63 Subpart ZZZZ, 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). [40 C.F.R. § 63.6655(a)(1) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

- b) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. [40 C.F.R. § 63.6655(a)(2) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - c) Records of performance tests and performance evaluations as required in § 63.10(b)(2)(viii). [40 C.F.R. § 63.6655(a)(3) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - d) Records of all required maintenance performed on the air pollution control and monitoring equipment. [40 C.F.R. § 63.6655(a)(4) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - e) 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. [40 C.F.R. § 63.6655(a)(5) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
103. The permittee must keep the records required in Table 6 of 40 C.F.R. § 63 Subpart ZZZZ to show continuous compliance with each emission or operating limitation that applies to you. [40 C.F.R. § 63.6655(d) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
104. The permittee shall 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) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
- a) An existing stationary emergency RICE. [40 C.F.R. § 63.6655(e)(2) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - b) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to 40 C.F.R. § 63 Subpart ZZZZ. [40 C.F.R. § 63.6655(e)(3) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
105. The permittee shall 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)(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. [40 C.F.R. § 63.6655(f) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
106. Records must be in a form suitable and readily available for expeditious review according to § 63.10(b)(1). As specified in § 63.10(b)(1), the permittee shall keep each record for 5



years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee shall 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(a), (b), and (c) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

107. Table 8 to 40 C.F.R. § 63 Subpart ZZZZ shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you, except per § 63.6645(a)(5), the following do not apply: §§ 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9 (b) through (e), (g) and (h). [40 C.F.R. § 63.6665 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

### **NESHAP 40 C.F.R. Part 63, Subpart O Conditions**

108. The facility is subject to NESHAP 40 C.F.R. Part 63, Subpart O and shall comply with, but not be limited to the following conditions. [40 C.F.R. Part 63, Subpart O and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
109. The permittee shall comply with the requirements of 40 C.F.R. § 63, Subpart A, General Provisions according to the applicability of Subpart A to such sources in Table 1 of section § 63.360. [40 C.F.R. § 63.360(a) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
110. The permittee shall comply with the provisions of Subpart § 63.362 as follows:
- a) All sterilization chamber vents subject to the emissions standards in § 63.362 with an initial startup date before December 6, 1998, no later than December 6, 1998.
  - b) All sterilization chamber vents subject to the emissions standards in § 63.362 with an initial startup date on or after December 6, 1998, immediately upon initial startup of the source.
  - c) All aeration room vents subject to the emissions standards in § 63.362 with an initial startup date before December 6, 2000, no later than December 6, 2000.
  - d) All aeration room vents subject to the emissions standards in § 63.362 with an initial startup date on or after December 6, 2000, immediately upon initial startup of the source.
  - e) All aeration room vents at sources using less than 10 tons that increase their ethylene oxide usage after December 6, 2000, such that the aeration room vents become subject to the emissions standards in § 63.362, immediately upon becoming subject to the emission standards.

[40 C.F.R. § 63.360(g) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

111. The permittee is subject to the provisions of Subpart § 63.362 and shall comply with these requirements on and after the compliance date specified in § 63.360(g). The standards of this section are summarized in Table 1 of Subpart §63.362. [40 C.F.R. § 63.362(a) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
112. The permittee shall reduce ethylene oxide emissions to the atmosphere by at least 99 percent from each sterilization chamber vent. [40 C.F.R. § 63.362(c) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
113. The permittee shall reduce ethylene oxide emissions to the atmosphere from each aeration room vent to a maximum concentration of 1 ppmv or by at least 99 percent, whichever is less stringent, from each aeration room vent. [40 C.F.R. § 63.362(d) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
114. The permittee is subject to emissions standards in § 63.362 shall conduct an initial performance test using the procedures listed in § 63.7 according to the applicability in Table 1 of § 63.360, the procedures listed in Subpart § 63.362, and the test methods listed in § 63.365.
  - a) The permittee is subject to these emissions standards and shall complete the performance test within 180 days after the compliance date for the specific source as determined in § 63.360(g).  
  
[40 C.F.R. § 63.363(a)(1)(2) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
115. The procedures in paragraphs (b)(1) through (3) of Subpart § 63.363 shall be used to determine initial compliance with the emission limits under § 63.362(c), the sterilization chamber vent standard and to establish operating limits for the control devices:
  - a) The permittee shall determine the efficiency of control devices used to comply with § 63.362(c) using the test methods and procedures in § 63.365(b).
  - b) For facilities with acid-water scrubbers, the owner or operator shall establish as an operating limit either:
    - i. The maximum ethylene glycol concentration using the procedures described in § 63.365(e)(1); or
    - ii. The maximum liquor tank level using the procedures described in § 63.365(e)(2).
  - c) For facilities with catalytic oxidizers or thermal oxidizers, the operating limit consists of the recommended minimum oxidation temperature provided by the oxidation unit manufacturer for an operating limit.



- d) Facilities with catalytic oxidizers shall comply with one of the following work practices:
- i. Once per year after the initial compliance test, conduct a performance test during routine operations, i.e., with product in the chamber using the procedures described in § 63.365(b) or (d) as appropriate. If the percent efficiency is less than 99 percent, restore the catalyst as soon as practicable but no later than 180 days after conducting the performance test; or
  - ii. Once per year after the initial compliance test, analyze ethylene oxide concentration data from § 63.364(e) or a continuous emission monitoring system (CEMS) and restore the catalyst as soon as practicable but no later than 180 days after data analysis; or,
  - iii. Every 5 years, beginning 5 years after the initial compliance test (or by December 6, 2002, whichever is later), replace the catalyst bed with new catalyst material. Based on historical data, this option is not allowed for SN-116 and SN-117.

[40 C.F.R. § 63.363(b) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

116. The procedures in paragraphs (c)(1) through (3) of § 63.363(c) shall be used to determine initial compliance with the emission limits under § 63.362(d), the aeration room vent standard:
- a) The owner or operator shall comply with either paragraph (b)(2) or (3) of § 63.363(c).
  - b) Determine the concentration of ethylene oxide emitted from the aeration room into the atmosphere (after any control device used to comply with § 63.362(d)) using the methods in § 63.365(c)(1); or
  - c) Determine the efficiency of the control device used to comply with § 63.362(d) using the test methods and procedures in § 63.365(d)(2).

[40 C.F.R. § 63.363(c) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

117. For facilities complying with the emissions limits under § 63.362 with a control technology other than acid-water scrubbers or catalytic or thermal oxidizers, the permittee shall provide to the Administrator or delegated authority information describing the design and operation of the air pollution control system, including recommendations for the operating parameters to be monitored to demonstrate continuous compliance. Based on this information, the Administrator will determine the operating parameter(s) to be measured during the performance test. During the performance test required in paragraph (a) of § 63.363, using the methods approved in § 63.365(g), the owner or operator shall determine the site-specific operating limit(s) for the operating parameters approved by the Administrator. [40 C.F.R. § 63.363(e) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

118. The permittee must demonstrate continuous compliance with each operating limit and work practice standard required under section § 63.363, except during periods of startup, shutdown, and malfunction, according to the methods specified in § 63.364. [40 C.F.R. § 63.363(f) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
119. The permittee is subject to emissions standards in § 63.362 shall comply with the monitoring requirements in § 63.8 of subpart A of this part, according to the applicability in Table 1 of § 63.360, and in section § 63.364.

- a) The permittee is subject to these emissions standards and shall monitor the parameters specified in this section. All monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the source are obtained. For monitoring equipment purchased from a vendor, verification of the operational status of the monitoring equipment shall include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

[40 C.F.R. § 63.364(a)(1)(2) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

120. For sterilization facilities complying with § 63.363(b) or (d) through the use of an acid-water scrubber, the permittee shall either:
- a) Sample the scrubber liquor and analyze and record once per week the ethylene glycol concentration of the scrubber liquor using the test methods and procedures in § 63.365(e)(1). Monitoring is required during a week only if the scrubber unit has been operated; or
- b) Measure and record once per week the level of the scrubber liquor in the recirculation tank. The permittee shall install, maintain, and use a liquid level indicator to measure the scrubber liquor tank level (i.e., a marker on the tank wall, a dipstick, a magnetic indicator, etc.). Monitoring is required during a week only if the scrubber unit has been operated.

[40 C.F.R. § 63.364(b)(1)(2) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

121. For sterilization facilities complying with § 63.363(b) or (c) through the use of catalytic oxidation or thermal oxidation, the permittee shall either comply with § 63.364(e) or continuously monitor and record the oxidation temperature at the outlet to the catalyst bed or at the exhaust point from the thermal combustion chamber using the temperature monitor described in 40 C.F.R. § 63.364 (c)(4) of this section. Monitoring is required only when the oxidation unit is operated. From 15-minute or shorter period temperature values, a data acquisition system for the temperature monitor shall compute and record a

- daily average oxidation temperature. Strip chart data shall be converted to record a daily average oxidation temperature each day any instantaneous temperature recording falls below the minimum temperature. [40 C.F.R. § 63.364(c) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
122. The owner or operator shall install, calibrate, operate, and maintain a temperature monitor accurate to within  $\pm 5.6$  °C ( $\pm 10$  °F) to measure the oxidation temperature. The owner or operator shall verify the accuracy of the temperature monitor twice each calendar year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be at the same location as that of the temperature monitor being tested. As an alternative, the accuracy temperature monitor may be verified in a calibrated oven (traceable to NIST standards). [40 C.F.R. § 63.364(c)(4) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  123. For sterilization facilities complying with §§ 63.363(b) or (c) through the use of a control device other than acid-water scrubbers or catalytic or thermal oxidizers, the permittee shall monitor the parameters as approved by the Administrator using the methods and procedures in § 63.365(g). [40 C.F.R. § 63.364(d) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  124. The permittee of a source subject to the emissions standards in § 63.362 shall fulfill all reporting requirements in §§ 63.10(a), (d), (e), and (f) of subpart A, according to the applicability in Table 1 of § 63.360. These reports will be made to the Administrator at the appropriate address identified in § 63.13 of subpart A of this part. [40 C.F.R. § 63.366(a) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  125. All deviations and monitoring system performance reports and all summary reports, if required per § 63.10(e)(3)(vii) and (viii), shall be delivered or postmarked within 30 days following the end of each calendar half or quarter as appropriate (see § 63.10(e)(3)(i) through (iv) for applicability). Written reports of deviations from an operating limit shall include all information required in § 63.10(c)(5) through (13), as applicable in Table 1 of § 63.360, and information from any calibration tests in which the monitoring equipment is not in compliance with PS 9 or the method used for temperature calibration. The written report shall also include the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no deviations have occurred or monitoring equipment has not been inoperative, repaired, or adjusted, such information shall be stated in the report. [40 C.F.R. § 63.366(a)(3) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  126. The permittee is subject to § 63.362 shall comply with the recordkeeping requirements in §§ 63.10(b) and (c), according to the applicability in Table 1 of § 63.360. All records required to be maintained by this subpart or a subpart referenced by this subpart shall be

maintained in such a manner that they can be readily accessed and are suitable for inspection. The most recent 2 years of records shall be retained onsite or shall be accessible to an inspector while onsite. The records of the preceding 3 years, where required, may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, computer disk, magnetic tape, or microfiche. [40 C.F.R. § 63.367(a) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

127. The permittee complying with § 63.363(b) (4) shall maintain records of the compliance test, data analysis, and if catalyst is replaced, proof of replacement. [40 C.F.R. § 63.367(d) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

**Plantwide NO<sub>x</sub> and CO Conditions**

128. Plantwide emissions shall not exceed 97 tpy NO<sub>x</sub> or 97 tpy CO. These emissions will be calculated on a monthly basis using approved emission factors and actual monthly throughput (e.g., natural gas usage, engine run hours). The currently approved emission factors are shown below. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Emission Factor	Emission Factor Units	Emission Factor Source
SN-17	84	lb CO/MMScf	AP-42
	100	lb NO <sub>x</sub> /MMScf	
SN-18	84	lb CO/MMScf	AP-42
	100	lb NO <sub>x</sub> /MMScf	
SN-101	84	lb CO/MMScf	AP-42 LESNI
	0.12	lb NO <sub>x</sub> /MMScf	
SN-112	0.21	lb CO/hr	Kohler
	1.98	lb NO <sub>x</sub> /hr	
SN-116	0.2	lb CO/MMBtu	February 23-26, 2022 Testing
	0.163	lb NO <sub>x</sub> /MMBtu	
SN-117	0.2	lb CO/MMBtu	February 23-26, 2022 Testing
	0.265	lb NO <sub>x</sub> /MMBtu	
SN-121	1.46	lb CO/hr	AP-42
	6.76	lb NO <sub>x</sub> /hr	
SN-122	2.34	lb CO/hr	AP-42
	10.85	lb NO <sub>x</sub> /hr	
SN-124	2.19	lb CO/hr	Kohler
	43.76	lb NO <sub>x</sub> /hr	
SN-125	18.7	lb CO/MMScf	Clever-Brooks
	70	lb NO <sub>x</sub> /MMScf	

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129. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #128. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The twelve month rolling totals and each individual month's data shall be maintained on-site and made available to Division personnel upon request. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  
130. If the calculated actual emissions of NO<sub>x</sub> or CO exceed 95.0 tons per rolling twelve months total, the permittee shall demonstrate the degree of accuracy of the calculations used to determine the emissions is sufficient to prove that the major source thresholds for NO<sub>x</sub> or CO have not been exceeded. [Rule 19.705 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Section V: 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 Rule 18 and Rule 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 August 4, 2021, October 6, 2022, and December 22, 2022. [Rule 19.408 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Description	Category
Natural Gas Hot Water Heater (0.2 MMBtu/hr each) (2)	Group A-1
Aeration Process Heaters (4 @ 1.6 MMBTU/hr Each)	Group A-1
Storage Tanks – DEHP (5), Epoxidized Oil (14), Diesel (3)	Group A-3
Laboratory Hoods (9)	Group A-5
Storage Tanks – 20,000 Gal DEHP (2)	Group A-13
Cooling Towers (9)	Group A-13
Jet Cleaners (3)	Group A-13
Plastics Operations (Tubing, Film Lines, Injection Molding, Pelletizing)	Group A-13
Dry Ingredient Silos (29)	Group A-13
Regrind Operation	Group A-13
15,000 Gal Fuel Oil Tank (2)	Group A-13

Section VI: GENERAL CONDITIONS

1. Any terms or conditions included in this permit that specify and reference Arkansas Pollution Control & Ecology Commission Rule 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 Rule 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 that specify and reference Arkansas Pollution Control & Ecology Commission Rule 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.
2. This permit does not relieve the owner or operator of the equipment and/or the facility from compliance with all applicable provisions of the Arkansas Water and Air Pollution Control Act and the rules promulgated under the Act. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
3. The permittee shall notify the Division of Environmental Quality in writing within thirty (30) days after each of the following events: commencement of construction, completion of construction, first operation of equipment and/or facility, and first attainment of the equipment and/or facility target production rate. [Rule 19.704 and/or Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
4. Construction or modification must commence within eighteen (18) months from the date of permit issuance. [Rule 19.410(B) and/or Rule 18.309(B) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
5. The permittee must keep records for five years to enable the Division of Environmental Quality to determine compliance with the terms of this permit such as hours of operation, throughput, upset conditions, and continuous monitoring data. The Division of Environmental Quality may use the records, at the discretion of the Division of Environmental Quality, to determine compliance with the conditions of the permit. [Rule 19.705 and/or Rule 18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
6. A responsible official must certify any reports required by any condition contained in this permit and submit any reports to the Division of Environmental Quality electronically using <https://eportal.adeq.state.ar.us> or mail them to the address below. [Rule 19.705 and/or Rule 18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Division of Environmental Quality  
Office of Air Quality



Baxter Healthcare Corporation  
Permit #: 0544-AR-19  
AFIN: 03-00002

ATTN: Compliance Inspector Supervisor  
5301 Northshore Drive  
North Little Rock, AR 72118-5317

7. The permittee shall test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) newly constructed or 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) existing equipment already operating according to the time frames set forth by the Division of Environmental Quality. The permittee must notify the Division of Environmental Quality of the scheduled date of compliance testing at least fifteen (15) business days in advance of such test. The permittee must submit compliance test results to the Division of Environmental Quality within sixty (60) calendar days after the completion of testing. [Rule 19.702 and/or Rule 18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
8. The permittee shall provide: [Rule 19.702 and/or Rule 18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - 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
9. The permittee shall operate equipment, control apparatus and emission monitoring equipment within their design limitations. The permittee shall maintain in good condition at all times equipment, control apparatus and emission monitoring equipment. [Rule 19.303 and/or Rule 18.1104 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
10. If the permittee exceeds an emission limit established by this permit, the permittee will be deemed in violation of said permit and will be subject to enforcement action. The Division of Environmental Quality may forego enforcement action for emissions exceeding any limits established by this permit provided the following requirements are met: [Rule 19.601 and/or Rule 18.1101 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  - a. The permittee demonstrates to the satisfaction of the Division of Environmental Quality that the emissions resulted from an equipment malfunction or upset and are not the result of negligence or improper maintenance, and the permittee took all reasonable measures to immediately minimize or eliminate the excess emissions.
  - b. The permittee reports the occurrence or upset or breakdown of equipment (by telephone, facsimile, overnight delivery, or online at <https://portal.adeq.state.ar.us>) to the Division of Environmental Quality by the

- end of the next business day after the occurrence or the discovery of the occurrence.
- c. The permittee must submit to the Division of Environmental Quality, within five business days after the occurrence or the discovery of the occurrence, a full, written report of such occurrence, including a statement of all known causes and of the scheduling and nature of the actions to be taken to minimize or eliminate future occurrences, including, but not limited to, action to reduce the frequency of occurrence of such conditions, to minimize the amount by which said limits are exceeded, and to reduce the length of time for which said limits are exceeded. If the information is included in the initial report, the information need not be submitted again.
11. The permittee shall allow representatives of the Division of Environmental Quality upon the presentation of credentials: [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
    - a. To enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of this permit;
    - b. To have access to and copy any records required to be kept under the terms and conditions of this permit, or the Act;
    - c. To inspect any monitoring equipment or monitoring method required in this permit;
    - d. To sample any emission of pollutants; and
    - e. To perform an operation and maintenance inspection of the permitted source.
  12. The Division of Environmental Quality issued this permit in reliance upon the statements and presentations made in the permit application. The Division of Environmental Quality has no responsibility for the adequacy or proper functioning of the equipment or control apparatus. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  13. The Division of Environmental Quality may revoke or modify this permit when, in the judgment of the Division of Environmental Quality, such revocation or modification is necessary to comply with the applicable provisions of the Arkansas Water and Air Pollution Control Act and the rules promulgated the Arkansas Water and Air Pollution Control Act. [Rule 19.410(A) and/or Rule 18.309(A) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  14. This permit may be transferred. An applicant for a transfer must submit a written request for transfer of the permit on a form provided by the Division of Environmental Quality and submit the disclosure statement required by Arkansas Code Annotated §8-1-106 at least thirty (30) days in advance of the proposed transfer date. The permit will be automatically transferred to the new permittee unless the Division of Environmental Quality denies the request to transfer within thirty (30) days of the receipt of the

disclosure statement. The Division of Environmental Quality may deny a transfer on the basis of the information revealed in the disclosure statement or other investigation or, deliberate falsification or omission of relevant information. [Rule 19.407(B) and/or Rule 18.307(B) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

15. This permit shall be available for inspection on the premises where the control apparatus is located. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
16. This permit authorizes only those pollutant emitting activities addressed herein. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
17. This permit supersedes and voids all previously issued air permits for this facility. [Rule 18 and/or Rule 19 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
18. The permittee must pay all permit fees in accordance with the procedures established in Rule 9. [Ark. Code Ann. § 8-1-105(c)]
19. 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.

[Rule 18.314(A) and/or Rule 19.416(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]

20. 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.

[Rule 18.314(B) and/or Rule 19.416(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]

21. 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:
- a. The request does not violate a federal requirement;
  - b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
  - c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Rule 18.314(C) and/or Rule 19.416(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]

22. Any credible evidence based on sampling, monitoring, and reporting may be used to determine violations of applicable emission limitations. [Rule 18.1001, Rule 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—40 C.F.R. Part 63 Subpart O: *Ethylene Oxide Emissions Standards for Sterilization Facilities*

## Subpart O - Ethylene Oxide Emissions Standards for Sterilization Facilities

Source: [59 FR 62589](#), Dec. 6, 1994, unless otherwise noted.

### § 63.360 Applicability.

(a) All sterilization sources using 1 ton (see definition) in sterilization or fumigation operations are subject to the emissions standards in [§ 63.362](#), except as specified in [paragraphs \(b\) through \(e\)](#) of this section. Owners or operators of sources using 1 ton (see definition) subject to the provisions of this subpart must comply with the requirements of subpart A, of this part according to the applicability of [subpart A of this part](#) to such sources in Table 1 of this section.

Table 1 of [Section 63.360](#) - General Provisions Applicability to Subpart O

Reference	Applies to sources using 10 tons in subpart O <sup>a</sup>	Applies to sources using 1 to 10 tons in subpart O <sup>a</sup>	Comment
63.1(a)(1)	Yes		Additional terms defined in <a href="#">§ 63.361</a> ; when overlap between subparts A and O occurs, subpart O takes precedence.
63.1(a)(2)	Yes		
63.1(a)(3)	Yes		
63.1(a)(4)	Yes		Subpart O clarifies the applicability of each paragraph in subpart A to sources subject to subpart O.
63.1(a)(5)	No		Reserved.
63.1(a)(6)	Yes		
63.1(a)(7)	Yes		
63.1.1(a)(8)	Yes		
63.1(a)(9)	No		Reserved.
63.1(a)(10)	Yes		
63.1(a)(11)	Yes		§ 63.366(a) of subpart O also allows report submissions via fax and on electronic media.
63.1(a)(12)-(14)	Yes		
63.1(b)(1)-(2)	Yes		
63.1(b)(3)	No		§ 63.367 clarifies the applicability of recordkeeping requirements for sources that determine they are not subject to the

Reference	Applies to sources using 10 tons in subpart O <sup>a</sup>	Applies to sources using 1 to 10 tons in subpart O <sup>a</sup>	Comment
			emissions standards.
63.1(c)(1)	Yes		Subpart O clarifies the applicability of each paragraph in subpart A to sources subject to subpart O in this table.
63.1(c)(2)	Yes		§ 63.360(f) exempts area sources subject to this subpart from the obligation to obtain Title V operating permits.
63.1(c)(3)	No		Reserved.
63.1(c)(4)	Yes		
63.1(c)(5)	No		§ 63.360 specifies applicability.
63.1(c)(6)	Yes		
63.1(d)	No		Reserved.
63.1(e)	Yes		
63.2	Yes		Additional terms defined in <a href="#">§ 63.361</a> ; when overlap between subparts A and O occurs, subpart O takes precedence.
63.3	Yes		Other units used in subpart O are defined in the text of subpart O.
63.4(a)(1)-(3)	Yes		
63.4(a)(4)	No		Reserved.
63.4(a)(5)	Yes		
63.4(b)	Yes		
63.4(c)	Yes		
63.5(a)	No		§ 63.366(b)(1) contains applicability requirements for constructed or reconstructed sources.
63.5(b)(1)	Yes	No	
63.5(b)(2)	No		Reserved.
63.5(b)(3)	No		See <a href="#">§ 63.366(b)(2)</a> .
63.5(b)(4)	Yes	No	
63.5(b)(5)	Yes	No	
63.5(b)(6)	Yes	No	
63.5(c)	No		Reserved.
63.5(d)(1)-(2)	No		See <a href="#">§ 63.366(b)(3)</a> .
63.5(d)(3)-(4)	Yes	No	
63.5(e)	Yes	No	



Reference	Applies to sources using 10 tons in subpart O <sup>a</sup>	Applies to sources using 1 to 10 tons in subpart O <sup>a</sup>	Comment
63.5(f)(1)-(2)	No		See <a href="#">§ 63.366(b)(4)</a> .
63.6(a)(1)	Yes		
63.6(a)(2)	No		§ 63.360 specifies applicability.
63.6(b)-(c)	No		§ 63.360(g) specifies compliance dates for sources.
63.6(d)	No		Reserved.
63.6(e)	No		Subpart O does not contain any operation and maintenance plan requirements.
63.6(f)(1)	No		§ 63.362(b) specifies when the standards apply.
63.6(f)(2)(i)	Yes		
63.6(f)(2)(ii)	No		§ 63.363 specifies parameters for determining compliance.
63.6(f)(2)(iii)-(iv)	Yes		
63.6(f)(2)(v)	No		
63.6(f)(3)	Yes		
63.6(g)	Yes		
63.6(h)	No		Subpart O does not contain any opacity or visible emission standards.
63.6(i)(1)-(14)	Yes		
63.6(i)(15)	No		Reserved
63.6(i)(16)	Yes		
63.6(j)	Yes		
63.7(a)(1)	Yes		
63.7(a)(2)	Yes		
63.7(a)(3)	Yes		
63.7(b)	Yes		
63.7(c)	Yes	No	
63.7(d)	Yes	No	
63.7(e)	Yes		§ 63.365 also contains test methods specific to sources subject to the emissions standards.
63.7(f)	Yes		
63.7(g)(1)	Yes		
63.7(g)(2)	No		Reserved

Reference	Applies to sources using 10 tons in subpart O <sup>a</sup>	Applies to sources using 1 to 10 tons in subpart O <sup>a</sup>	Comment
63.7(g)(3)	Yes		
63.7(h)	Yes		
63.8(a)(1)	Yes		
63.8(a)(2)	Yes		
63.8(a)(3)	No		Reserved
63.8(a)(4)	Yes		
63.8(b)(1)	Yes		
63.8(b)(2)	Yes		
63.8(b)(3)	No		
63.8(c)(1) (i)-(ii)	No		A startup, shutdown, and malfunction plan is not required for these standards.
63.8(c)(1)(iii)	Yes		
63.8(c)(2)-(3)	Yes		
63.8(c)(4)-(5)	No		Frequency of monitoring measurements is provided in <a href="#">§ 63.364</a> ; opacity monitors are not required for these standards.
63.8(c)(6)	No		Performance specifications for gas chromatographs and temperature monitors are contained in <a href="#">§ 63.365</a> .
63.8(c)(7)(i)(A)-(B)	No		Performance specifications for gas chromatographs and temperature monitors are contained in <a href="#">§ 63.365</a> .
63.8(c)(7)(i)(C)	No		Opacity monitors are not required for these standards.
63.8(c)(7)(ii)	No		Performance specifications for gas chromatographs and temperature monitors are contained in <a href="#">§ 63.365</a> .
63.8(c)(8)	No		
63.8(d)	Yes	No	
63.8(e)(1)	Yes		
63.8(e)(2)	Yes		
63.8(e)(3)	Yes	No	
63.8(e)(4)	Yes		
63.8(e)(5)(i)	Yes		
63.8(e)(5)(ii)	No		Opacity monitors are not required for these standards.
63.8(f)(1)-(5)	Yes		

Reference	Applies to sources using 10 tons in subpart O <sup>a</sup>	Applies to sources using 1 to 10 tons in subpart O <sup>a</sup>	Comment
63.8(f)(6)	No		
63.8(g)(1)	Yes		
63.8(g)(2)	No		
63.8(g)(3)-(5)	Yes		
63.9(a)	Yes		
63.9(b)(1)-(i)	Yes		
63.9(b)(1)(ii)-(iii)	No		§ 63.366(c)(1)(i) contains language for sources that increase usage such that the source becomes subject to the emissions standards.
63.9(b)(2)-(3)	Yes		§ 63.366(c)(3) contains additional information to be included in the initial report for existing and new sources.
63.9(b)(4)-(5)	No		§ 63.366(c)(1)(ii) and (iii) contains requirements for new or reconstructed sources subject to the emissions standards.
63.9(c)	Yes		
63.9(d)	No		
63.9(e)	Yes		
63.9(f)	No		Opacity monitors are not required for these standards.
63.9(g)(1)	Yes		
63.9(g)(2)-(3)	No		Opacity monitors and relative accuracy testing are not required for these standards.
63.9(h)(1)-(3)	Yes		
63.9(h)(4)	No		Reserved.
63.9(h)(5)	No		§ 63.366(c)(2) instructs sources to submit actual data.
63.9(h)(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)	No		Not applicable due to batch nature of the industry.

Reference	Applies to sources using 10 tons in subpart O <sup>a</sup>	Applies to sources using 1 to 10 tons in subpart O <sup>a</sup>	Comment
63.10(b)(2)(ii)	Yes		
63.10(b)(2)(iii)	No		
63.10(b)(2)(iv)-(v)	No		A startup, shutdown, and malfunction plan is not required for these standards.
63.10(b)(2)(vi)-(xii)	Yes		
63.10(b)(2)(xiii)	No		
63.10(b)(2)(xiv)	Yes		
63.10(b)(3)	No		§ 63.367 (b) and (c) contains applicability determination requirements.
63.10(c)(1)	Yes		
63.10(c)(2)-(4)	No		Reserved.
63.10(c)(5)	Yes		
63.10(c)(6)	No		
63.10(c)(7)	No		Not applicable due to batch nature of the industry.
63.10(c)(8)	Yes		
63.10(c)(9)	No		
63.10(c)(10)-(13)	Yes		
63.10(c)(14)	Yes	No	
63.10(c)(15)	No		A startup, shutdown, and malfunction plan is not required for these standards.
63.10(d)(1)	Yes		
63.10(d)(2)	Yes		
63.10(d)(3)	No		Subpart O does not contain opacity or visible emissions standards.
63.10(d)(4)	Yes		
63.10(d)(5)	No		A startup, shutdown, and malfunction plan is not required for these standards.
63.10(e)(1)	Yes		
63.10(e)(2)(i)	Yes		
63.10(e)(2)(ii)	No		Opacity monitors are not required for these standards.
63.10(e)(3)(i)-(iv)	Yes		
63.10(e)(3)(v)	No		§ 63.366(a)(3) specifies contents and

Reference	Applies to sources using 10 tons in subpart O <sup>a</sup>	Applies to sources using 1 to 10 tons in subpart O <sup>a</sup>	Comment
63.10(e)(3)(vi)-(viii)	Yes		submittal dates for excess emissions and monitoring system performance reports.
63.10(e)(4)	No		Opacity monitors are not required for these standards.
63.10(f)	Yes		
63.11	Yes		
63.12-63.15	Yes		

<sup>a</sup> See definition.

(b) Sterilization sources using less than 1 ton (see definition) are not subject to the emissions standards in [§ 63.362](#). The recordkeeping requirements of [§ 63.367\(c\)](#) apply.

(c) This subpart does not apply to beehive fumigators.

(d) This subpart does not apply to research or laboratory facilities as defined in section 112(c)(7) of title III of the Clean Air Act Amendment of 1990.

(e) This subpart does not apply to ethylene oxide sterilization operations at stationary sources such as hospitals, doctors offices, clinics, or other facilities whose primary purpose is to provide medical services to humans or animals.

(f) 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 [71](#), provided you are not required to obtain a permit under [40 CFR 70.3\(a\)](#) or [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.

(g) The owner or operator shall comply with the provisions of this subpart as follows:

(1) All sterilization chamber vents subject to the emissions standards in [§ 63.362](#) with an initial startup date before December 6, 1998, no later than December 6, 1998.

(2) All sterilization chamber vents subject to the emissions standards in [§ 63.362](#) with an initial startup date on or after December 6, 1998, immediately upon initial startup of the source.

(3) All sterilization chamber vents at sources using less than 1 ton of ethylene oxide that increase their ethylene oxide usage after December 6, 1998 such that the sterilization

chamber vent becomes subject to the emissions standards in [§ 63.362\(c\)](#), immediately upon becoming subject to the emission standards.

(4) All aeration room vents subject to the emissions standards in [§ 63.362](#) with an initial startup date before December 6, 2000, no later than December 6, 2000.

(5) All aeration room vents subject to the emissions standards in [§ 63.362](#) with an initial startup date on or after December 6, 2000, immediately upon initial startup of the source.

(6) All aeration room vents at sources using less than 10 tons that increase their ethylene oxide usage after December 6, 2000, such that the aeration room vents become subject to the emissions standards in [§ 63.362](#), immediately upon becoming subject to the emission standards.

(7)-(10) [Reserved]

[[59 FR 62589](#), Dec. 6, 1994, as amended at [61 FR 27788](#), June 3, 1996; [63 FR 66994](#), Dec. 4, 1998; [64 FR 67793](#), Dec. 3, 1999; [64 FR 69643](#), Dec. 14, 1999; [66 FR 55582](#), Nov. 2, 2001; [70 FR 75345](#), Dec. 19, 2005; [85 FR 73889](#), Nov. 19, 2020]

## **§ 63.361 Definitions.**

Terms and nomenclature used in this subpart are defined in the Clean Air Act (the Act) as amended in 1990, [§§ 63.2](#) and [63.3](#) of [subpart A of this part](#), or in this section. For the purposes of subpart O, if the same term is defined in subpart A and in this section, it shall have the meaning given in this section.

*Aeration room* means any vessel or room that is used to facilitate off-gassing of ethylene oxide at a sterilization facility.

*Aeration room vent* means the point(s) through which the evacuation of ethylene oxide-laden air from an aeration room occurs.

*Baseline temperature* means a minimum temperature at the outlet from the catalyst bed of a catalytic oxidation control device or at the exhaust point from the combustion chamber of a thermal oxidation control device.

*Chamber exhaust vent* means the point(s) through which ethylene oxide-laden air is removed from the sterilization chamber during chamber unloading following the completion of sterilization and associated air washes.

*Compliance date* means the date by which a source subject to the emissions standards in [§ 63.362](#) is required to be in compliance with the standard.

*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 startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

*Effective date* means the date of promulgation in the Federal Register notice.

*Initial startup date* means the date when a source subject to the emissions standards in [§ 63.362](#) first begins operation of a sterilization process.

*Manifolding emissions* means combining ethylene oxide emissions from two or more different vent types for the purpose of controlling these emissions with a single control device.

*Maximum ethylene glycol concentration* means any concentration of ethylene glycol in the scrubber liquor of an acid-water scrubber control device established during a performance test when the scrubber achieves at least 99-percent control of ethylene oxide emissions.

*Maximum liquor tank level* means any level of scrubber liquor in the acid-water scrubber liquor recirculation tank established during a performance test when the scrubber achieves at least 99-percent control of ethylene oxide emissions.

*Oxidation temperature* means the temperature at the outlet point of a catalytic oxidation unit control device or at the exhaust point from the combustion chamber for a thermal oxidation unit control device.

*Source(s) using less than 1 ton* means source(s) using less than 907 kg (1 ton) of ethylene oxide within all consecutive 12-month periods after December 6, 1996.

*Source(s) using 1 ton* means source(s) using 907 kg (1 ton) or more of ethylene oxide within any consecutive 12-month period after December 6, 1996.

*Source(s) using 1 to 10 tons* means source(s) using 907 kg (1 ton) or more of ethylene oxide in any consecutive 12-month period but less than 9,070 kg (10 tons) of ethylene oxide in all consecutive 12-month periods after December 6, 1996.

*Source(s) using less than 10 tons* means source(s) using less than 9,070 kg (10 tons) of ethylene oxide in all consecutive 12-month periods after December 6, 1996.

*Source(s) using 10 tons* means source(s) using 9,070 kg (10 tons) or more of ethylene oxide in any consecutive 12-month period after December 6, 1996.



*Sterilization chamber* means any enclosed vessel or room that is filled with ethylene oxide gas, or an ethylene oxide/inert gas mixture, for the purpose of sterilizing and/or fumigating at a sterilization facility.

*Sterilization chamber vent* means the point (prior to the vacuum pump) through which the evacuation of ethylene oxide from the sterilization chamber occurs following sterilization or fumigation, including any subsequent air washes.

*Sterilization facility* means any stationary source where ethylene oxide is used in the sterilization or fumigation of materials.

*Sterilization operation* means any time when ethylene oxide is removed from the sterilization chamber through the sterilization chamber vent or the chamber exhaust vent or when ethylene oxide is removed from the aeration room through the aeration room vent.

*Thermal oxidizer* means all combustion devices except flares.

[59 FR 62589, Dec. 6, 1994, as amended at 66 FR 55583, Nov. 2, 2001]

## § 63.362 Standards.

(a) Each owner or operator of a source subject to the provisions of this subpart shall comply with these requirements on and after the compliance date specified in § 63.360(g). The standards of this section are summarized in Table 1 of this section.

Table 1 of [Section 63.362](#) - Standards for Ethylene Oxide Commercial Sterilizers and Fumigators

Existing and new sources	Source type	Sterilization chamber vent	Aeration room vent	Chamber exhaust vent
Source size	<907 kg (<1 ton)	No control required; minimal recordkeeping requirements apply (see <a href="#">§ 63.367(c)</a> ).		
	≥907 kg and <9,070 kg (≥1 ton and <10 tons)	99% emission reduction (see <a href="#">§ 63.362(c)</a> )	No control	No control.
	≥9,070 kg (≥10 tons)	99% emission reduction (see <a href="#">§ 63.362(c)</a> )	1 ppm maximum outlet concentration or 99% emission reduction (see <a href="#">§ 63.362(d)</a> )	No control.

(b) **Applicability of emission limits.** The emission limitations of [paragraphs \(c\), \(d\), and \(e\)](#) of this section apply during sterilization operation. The emission limitations do not apply during periods of malfunction.

(c) ***Sterilization chamber vent at sources using 1 ton.*** Each owner or operator of a sterilization source using 1 ton shall reduce ethylene oxide emissions to the atmosphere by at least 99 percent from each sterilization chamber vent.

(d) ***Aeration room vent at sources using 10 tons.*** Each owner or operator of a sterilization source using 10 tons shall reduce ethylene oxide emissions to the atmosphere from each aeration room vent to a maximum concentration of 1 ppmv or by at least 99 percent, whichever is less stringent, from each aeration room vent.

(e) [Reserved]

[[59 FR 62589](#), Dec. 6, 1994, as amended at [66 FR 55583](#), Nov. 2, 2001]

## **§ 63.363 Compliance and performance provisions.**

(a)

(1) The owner or operator of a source subject to emissions standards in [§ 63.362](#) shall conduct an initial performance test using the procedures listed in [§ 63.7](#) according to the applicability in Table 1 of [§ 63.360](#), the procedures listed in this section, and the test methods listed in [§ 63.365](#).

(2) The owner or operator of all sources subject to these emissions standards shall complete the performance test within 180 days after the compliance date for the specific source as determined in [§ 63.360\(g\)](#).

(b) The procedures in [paragraphs \(b\)\(1\)](#) through [\(3\)](#) of this section shall be used to determine initial compliance with the emission limits under [§ 63.362\(c\)](#), the sterilization chamber vent standard and to establish operating limits for the control devices:

(1) The owner or operator shall determine the efficiency of control devices used to comply with [§ 63.362\(c\)](#) using the test methods and procedures in [§ 63.365\(b\)](#).

(2) For facilities with acid-water scrubbers, the owner or operator shall establish as an operating limit either:

(i) The maximum ethylene glycol concentration using the procedures described in [§ 63.365\(e\)\(1\)](#); or

(ii) The maximum liquor tank level using the procedures described in [§ 63.365\(e\)\(2\)](#).

(3) For facilities with catalytic oxidizers or thermal oxidizers, the operating limit consists of the recommended minimum oxidation temperature provided by the oxidation unit manufacturer for an operating limit.

(4) Facilities with catalytic oxidizers shall comply with one of the following work practices:

- (i) Once per year after the initial compliance test, conduct a performance test during routine operations, i.e., with product in the chamber using the procedures described in [§ 63.365\(b\)](#) or [\(d\)](#) as appropriate. If the percent efficiency is less than 99 percent, restore the catalyst as soon as practicable but no later than 180 days after conducting the performance test; or
- (ii) Once per year after the initial compliance test, analyze ethylene oxide concentration data from [§ 63.364\(e\)](#) or a continuous emission monitoring system (CEMS) and restore the catalyst as soon as practicable but no later than 180 days after data analysis; or,
- (iii) Every 5 years, beginning 5 years after the initial compliance test (or by December 6, 2002, whichever is later), replace the catalyst bed with new catalyst material.
- (c) The procedures in [paragraphs \(c\)\(1\)](#) through [\(3\)](#) of this section shall be used to determine initial compliance with the emission limits under [§ 63.362\(d\)](#), the aeration room vent standard:
- (1) The owner or operator shall comply with either [paragraph \(b\)\(2\)](#) or [\(3\)](#) of this section.
- (2) Determine the concentration of ethylene oxide emitted from the aeration room into the atmosphere (after any control device used to comply with [§ 63.362\(d\)](#)) using the methods in [§ 63.365\(c\)\(1\)](#); or
- (3) Determine the efficiency of the control device used to comply with [§ 63.362\(d\)](#) using the test methods and procedures in [§ 63.365\(d\)\(2\)](#).
- (d) [Reserved]
- (e) For facilities complying with the emissions limits under [§ 63.362](#) with a control technology other than acid-water scrubbers or catalytic or thermal oxidizers, the owner or operator of the facility shall provide to the Administrator or delegated authority information describing the design and operation of the air pollution control system, including recommendations for the operating parameters to be monitored to demonstrate continuous compliance. Based on this information, the Administrator will determine the operating parameter(s) to be measured during the performance test. During the performance test required in [paragraph \(a\)](#) of this section, using the methods approved in [§ 63.365\(g\)](#), the owner or operator shall determine the site-specific operating limit(s) for the operating parameters approved by the Administrator.
- (f) A facility must demonstrate continuous compliance with each operating limit and work practice standard required under this section, except during periods of startup, shutdown, and malfunction, according to the methods specified in [§ 63.364](#).

[[66 FR 55583](#), Nov. 2, 2001]

## **§ 63.364 Monitoring requirements.**

(a)

(1) The owner or operator of a source subject to emissions standards in [§ 63.362](#) shall comply with the monitoring requirements in [§ 63.8](#) of [subpart A of this part](#), according to the applicability in Table 1 of [§ 63.360](#), and in this section.

(2) Each owner or operator of an ethylene oxide sterilization facility subject to these emissions standards shall monitor the parameters specified in this section. All monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the source are obtained. For monitoring equipment purchased from a vendor, verification of the operational status of the monitoring equipment shall include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(b) For sterilization facilities complying with [§ 63.363\(b\)](#) or [\(d\)](#) through the use of an acid-water scrubber, the owner or operator shall either:

(1) Sample the scrubber liquor and analyze and record once per week the ethylene glycol concentration of the scrubber liquor using the test methods and procedures in [§ 63.365\(e\)\(1\)](#). Monitoring is required during a week only if the scrubber unit has been operated; or

(2) Measure and record once per week the level of the scrubber liquor in the recirculation tank. The owner or operator shall install, maintain, and use a liquid level indicator to measure the scrubber liquor tank level (i.e., a marker on the tank wall, a dipstick, a magnetic indicator, etc.). Monitoring is required during a week only if the scrubber unit has been operated.

(c) For sterilization facilities complying with [§ 63.363\(b\)](#) or [\(c\)](#) through the use of catalytic oxidation or thermal oxidation, the owner or operator shall either comply with [§ 63.364\(e\)](#) or continuously monitor and record the oxidation temperature at the outlet to the catalyst bed or at the exhaust point from the thermal combustion chamber using the temperature monitor described in [paragraph \(c\)\(4\)](#) of this section. Monitoring is required only when the oxidation unit is operated. From 15-minute or shorter period temperature values, a data acquisition system for the temperature monitor shall compute and record a daily average oxidation temperature. Strip chart data shall be converted to record a daily average oxidation temperature each day any instantaneous temperature recording falls below the minimum temperature.

(1)-(3) [Reserved]

(4) The owner or operator shall install, calibrate, operate, and maintain a temperature monitor accurate to within  $\pm 5.6$  °C ( $\pm 10$  °F) to measure the oxidation temperature. The owner or operator shall verify the accuracy of the temperature monitor twice each calendar year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be at the same location as that of the temperature monitor being tested. As an alternative, the accuracy temperature monitor may be verified in a calibrated oven (traceable to NIST standards).

(d) For sterilization facilities complying with [§ 63.363\(b\)](#) or [\(c\)](#) through the use of a control device other than acid-water scrubbers or catalytic or thermal oxidizers, the owner or operator shall monitor the parameters as approved by the Administrator using the methods and procedures in [§ 63.365\(g\)](#).

(e) Measure and record once per hour the ethylene oxide concentration at the outlet to the atmosphere after any control device according to the procedures specified in [§ 63.365\(c\)\(1\)](#). The owner or operator shall compute and record a 24-hour average daily. The owner or operator will install, calibrate, operate, and maintain a monitor consistent with the requirements of performance specification (PS) 8 or 9 in [40 CFR part 60, appendix B](#), to measure ethylene oxide. The daily calibration requirements of [section 7.2](#) of PS-9 or [Section 13.1](#) of PS-8 are required only on days when ethylene oxide emissions are vented to the control device.

(f) [Reserved]

[[59 FR 62589](#), Dec. 6, 1994, as amended at [66 FR 55584](#), Nov. 2, 2001; [79 FR 11283](#), Feb. 27, 2014]

## **§ 63.365 Test methods and procedures.**

(a) ***Performance testing.*** The owner or operator of a source subject to the emissions standards in [§ 63.362](#) shall comply with the performance testing requirements in [§ 63.7](#) of [subpart A of this part](#), according to the applicability in Table 1 of [§ 63.360](#), and in this section.

(b) ***Efficiency at the sterilization chamber vent.*** California Air Resources Board (CARB) Method 431 or the following procedures shall be used to determine the efficiency of all types of control devices used to comply with [§ 63.362\(c\)](#), sterilization chamber vent standard.

(1) ***First evacuation of the sterilization chamber.*** These procedures shall be performed on an empty sterilization chamber, charged with a typical amount of ethylene oxide, for the duration of the first evacuation under normal operating conditions (i.e., sterilization pressure and temperature).

(i) The amount of ethylene oxide loaded into the sterilizer ( $W_c$ ) shall be determined by either:

(A) Weighing the ethylene oxide gas cylinder(s) used to charge the sterilizer before and after charging. Record these weights to the nearest 45 g (0.1 lb). Multiply the total mass of gas charged by the weight percent ethylene oxide present in the gas.

(B) Installing calibrated rotameters at the sterilizer inlet and measuring flow rate and duration of sterilizer charge. Use the following equation to convert flow rate to weight of ethylene oxide:

$$W_c = F_v \times t \times \%EO_v \times \left( \frac{MW}{SV} \right)$$

where:

$W_c$  = weight of ethylene oxide charged, g (lb)

$F_v$  = volumetric flow rate, liters per minute (L/min) corrected to 20 °C and 101.325 kilopascals (kPa) (scf per minute (scfm) corrected to 68 °F and 1 atmosphere of pressure (atm)); the flowrate must be constant during time (t)

t = time, min

$\%EO_v$  = volume fraction ethylene oxide

SV = standard volume, 24.05 liters per mole (L/mole) = 22.414 L/mole ideal gas law constant corrected to 20 °C and 101.325 kPa (385.32 scf per mole (scf/mole) = 359 scf/mole ideal gas law constant corrected to 68 °F and 1 atm).

MW = molecular weight of ethylene oxide, 44.05 grams per gram-mole (g/g-mole) (44.05 pounds per pound-mole (lb/lb-mole)), or

(C) Calculating the mass based on the conditions of the chamber immediately after it has been charged using the following equation:

$$W_c = \frac{MW \times \%EO_v \times P \times V}{R \times T}$$

where:

P = chamber pressure, kPa (psia)

V = chamber volume, liters (L) (ft<sup>3</sup>)

R = gas constant, 8.313 L·kPa/g-mole·(10.73 psia·ft<sup>3</sup>/mole·°R)

T = temperature, K (°R)

Note:

If the ethylene oxide concentration is in weight percent, use the following equation to calculate mole fraction:

$$\%EO_v = \frac{W_{EO}}{W_{EO} + \left( W_x \times \frac{MW}{MW_x} \right)}$$

where:

$W_{EO}$  = weight percent of ethylene oxide

$W_x$  = weight percent of compound in the balance of the mixture

$MW_x$  = molecular weight of compound in the balance gas mixture

(ii) The residual mass of ethylene oxide in the sterilizer shall be determined by recording the chamber temperature, pressure, and volume after the completion of the first evacuation and using the following equation:

$$W_r = \frac{MW \times \%EO_v \times P \times V}{R \times T}$$

where:

$W_r$  = weight of ethylene oxide remaining in chamber (after the first evacuation), in g (lb)

(iii) Calculate the total mass of ethylene oxide at the inlet to the control device ( $W_i$ ) by subtracting the residual mass ( $W_r$ ) calculated in [paragraph \(b\)\(1\)\(ii\)](#) of this section from the charged weight ( $W_c$ ) calculated in [paragraph \(b\)\(1\)\(i\)](#) of this section.

(iv) The mass of ethylene oxide emitted from the control device outlet ( $W_o$ ) shall be calculated by continuously monitoring the flow rate and concentration using the following procedure.

(A) Measure the flow rate through the control device exhaust continuously during the first evacuation using the procedure found in [40 CFR part 60, appendix A](#), Test Methods 2, 2A, 2C, or 2D, as appropriate. (Method 2D (using orifice plates or Rootstye meters) is recommended for measuring flow rates from sterilizer control devices.) Record the flow rate at 1-minute intervals throughout the test cycle, taking the first reading within 15 seconds after time zero. Time zero is defined as the moment when the pressure in the sterilizer is released. Correct the flow to standard conditions (20 °C and 101.325 kPa (68 °F and 1 atm)) and determine the flow rate for the run as outlined in the test methods listed in [paragraph \(b\)](#) of this section.

(B) Test Method 18 or 25A, [40 CFR part 60, appendix A](#) (hereafter referred to as Method 18 or 25A, respectively), shall be used to measure the concentration of ethylene oxide.



(1) Prepare a graph of volumetric flow rate versus time corresponding to the period of the run cycle. Integrate the area under the curve to determine the volume.

(2) Calculate the mass of ethylene oxide by using the following equation:

$$W_o = C \times V \times \frac{MW}{SV} \times \frac{1}{10^6}$$

Where:

$W_o$  = Mass of ethylene oxide, g (lb)

$C$  = concentration of ethylene oxide in ppmv

$V$  = volume of gas exiting the control device corrected to standard conditions, L ( $\text{ft}^3$ )

$1/10^6$  = correction factor  $L_{EO}/10^6 L_{TOTAL\ GAS}$  ( $\text{ft}^3_{EO}/10^6 \text{ft}^3_{TOTAL\ GAS}$ )

(3) Calculate the efficiency by the equation in [paragraph \(b\)\(1\)\(v\)](#) of this section.

(C) [Reserved]

(v) Determine control device efficiency (% Eff) using the following equation:

$$\% \text{Eff} = \frac{W_i - W_o}{W_i} \times 100$$

where:

% Eff = percent efficiency

$W_i$  = mass flow rate into the control device

$W_o$  = mass flow rate out of the control device

(vi) Repeat the procedures in [paragraphs \(b\)\(1\) \(i\)](#) through [\(v\)](#) of this section three times. The arithmetic average percent efficiency of the three runs shall determine the overall efficiency of the control device.

(2) [Reserved]

(c) **Concentration determination.** The following procedures shall be used to determine the ethylene oxide concentration.

(1) **Parameter monitoring.** For determining the ethylene oxide concentration required in [§ 63.364\(e\)](#), follow the procedures in PS 8 or PS 9 in [40 CFR part 60, appendix B](#). Sources complying with PS 8 are exempt from the relative accuracy procedures in sections 2.4 and 3 of PS-8.

(2) **Initial compliance.** For determining the ethylene oxide concentration required in [§ 63.363\(c\)\(2\)](#), the procedures outlined in Method 18 or Method 25 A ([40 CFR part 60, appendix A](#)) shall be used. A Method 18 or Method 25A test consists of three 1-hour runs. If using Method 25A to determine concentration, calibrate and report Method 25A instrument results using ethylene oxide as the calibration gas. The arithmetic average of the ethylene oxide concentration of the three test runs shall determine the overall outlet ethylene oxide concentration from the control device.

(d) **Efficiency determination at the aeration room vent (not manifolded).** The following procedures shall be used to determine the efficiency of a control device used to comply with [§ 63.362\(d\)](#), the aeration room vent standard.

(1) Determine the concentration of ethylene oxide at the inlet and outlet of the control device using the procedures in Method 18 or 25A in [40 CFR part 60, appendix A](#). A test is comprised of three 1-hour runs.

(2) Determine control device efficiency (% Eff) using the following equation:

$$\% \text{ Eff} = \frac{W_i - W_o}{W_i} \times 100$$

Where:

% Eff = percent efficiency

$W_i$  = mass flow rate into the control device

$W_o$  = mass flow rate out of the control device

(3) Repeat the procedures in [paragraphs \(d\)\(1\)](#) and [\(2\)](#) of this section three times. The arithmetic average percent efficiency of the three runs shall determine the overall efficiency of the control device.

(e) **Determination of baseline parameters for acid-water scrubbers.** The procedures in this paragraph shall be used to determine the monitored parameters established in [§ 63.363\(b\)](#), [\(d\)](#), or [\(e\)](#) for acid-water scrubbers and to monitor the parameters as established in [§ 63.364\(b\)](#).

(1) **Ethylene glycol concentration.** For determining the ethylene glycol concentration, the facility owner or operator shall establish the maximum ethylene glycol concentration as the ethylene glycol concentration averaged over three test runs; the sampling and analysis

procedures in ASTM D 3695-88, Standard Test Method for Volatile Alcohols in Water By Direct Aqueous-Injection Gas Chromatography, (incorporated by reference - see [§ 63.14](#)) shall be used to determine the ethylene glycol concentration.

(2) **Scrubber liquor tank level.** For determining the scrubber liquor tank level, the sterilization facility owner or operator shall establish the maximum liquor tank level based on a single measurement of the liquor tank level during one test run.

(f) [Reserved]

(g) An owner or operator of a sterilization facility seeking to demonstrate compliance with the standards found at [§ 63.362\(c\)](#), [\(d\)](#), or [\(e\)](#) with a control device other than an acid-water scrubber or catalytic or thermal oxidation unit shall provide to the Administrator the information requested under [§ 63.363\(f\)](#). The owner or operator shall submit: a description of the device; test results collected in accordance with [§ 63.363\(f\)](#) verifying the performance of the device for controlling ethylene oxide emissions to the atmosphere to the levels required by the applicable standards; the appropriate operating parameters that will be monitored; and the frequency of measuring and recording to establish continuous compliance with the standards. The monitoring plan submitted identifying the compliance monitoring is subject to the Administrator's approval. The owner or operator of the sterilization facility shall install, calibrate, operate, and maintain the monitor(s) approved by the Administrator based on the information submitted by the owner or operator. The owner or operator shall include in the information submitted to the Administrator proposed performance specifications and quality assurance procedures for their monitors. The Administrator may request further information and shall approve appropriate test methods and procedures.

(h) An owner or operator of a sterilization facility seeking to demonstrate compliance with the requirements of [§ 63.363](#) or [§ 63.364](#), with a monitoring device or procedure other than a gas chromatograph or a flame ionization analyzer, shall provide to the Administrator information describing the operation of the monitoring device or procedure and the parameter(s) that would demonstrate continuous compliance with each operating limit. The Administrator may request further information and will specify appropriate test methods and procedures.

[[59 FR 62589](#), Dec. 6, 1994, as amended at [66 FR 55584](#), Nov. 2, 2001; [79 FR 11283](#), Feb. 27, 2014]

## **§ 63.366 Reporting requirements.**

(a) The owner or operator of a source subject to the emissions standards in [§ 63.362](#) shall fulfill all reporting requirements in [§§ 63.10\(a\)](#), [\(d\)](#), [\(e\)](#), and [\(f\)](#) of subpart A, according to the applicability in Table 1 of [§ 63.360](#). These reports will be made to the Administrator at the appropriate address identified in [§ 63.13](#) of [subpart A of this part](#).

(1) Reports required by subpart A and this section may be sent by U.S. mail, fax, or by another courier.

(i) Submittals sent by U.S. mail shall be postmarked on or before the specified date.

(ii) Submittals sent by other methods shall be received by the Administrator on or before the specified date.

(2) If acceptable to both the Administrator and the owner or operator of a source, reports may be submitted on electronic media.

(3) Content and submittal dates for deviations and monitoring system performance reports. All deviations and monitoring system performance reports and all summary reports, if required per [§ 63.10\(e\)\(3\)\(vii\)](#) and [\(viii\)](#), shall be delivered or postmarked within 30 days following the end of each calendar half or quarter as appropriate (see [§ 63.10\(e\)\(3\)\(i\)](#) through [\(iv\)](#) for applicability). Written reports of deviations from an operating limit shall include all information required in [§ 63.10\(c\)\(5\)](#) through [\(13\)](#), as applicable in Table 1 of [§ 63.360](#), and information from any calibration tests in which the monitoring equipment is not in compliance with PS 9 or the method used for temperature calibration. The written report shall also include the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no deviations have occurred or monitoring equipment has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(b) **Construction and reconstruction.** The owner or operator of each source using 10 tons shall fulfill all requirements for construction or reconstruction of a source in [§ 63.5](#) of [subpart A of this part](#), according to the applicability in Table 1 of [§ 63.360](#), and in this paragraph.

(1) **Applicability.**

(i) This paragraph and [§ 63.5](#) of [subpart A of this part](#) implement the preconstruction review requirements of section 112(i)(1) for sources subject to these emissions standards. In addition, this paragraph and [§ 63.5](#) of [subpart A of this part](#) include other requirements for constructed and reconstructed sources that are or become subject to these emissions standards.

(ii) After the effective date, the requirements in this section and in [§ 63.5](#) of [subpart A of this part](#) apply to owners or operators who construct a new source or reconstruct a source subject to these emissions standards after December 6, 1994. New or reconstructed sources subject to these emissions standards with an initial startup date before the effective date are not subject to the preconstruction review requirements specified in [paragraphs \(b\) \(2\) and \(3\)](#) of this section and [§ 63.5\(d\) \(3\) and \(4\) and \(e\)](#) of [subpart A of this part](#).

(2) After the effective date, whether or not an approved permit program is effective in the State in which a source is (or would be) located, no person may construct a new source or reconstruct a source subject to these emissions standards, or reconstruct a source such that the source becomes a source subject to these emissions standards, without obtaining advance written approval from the Administrator in accordance with the procedures specified in [paragraph \(b\)\(3\)](#) of this section and [§ 63.5\(d\) \(3\) and \(4\) and \(e\)](#) of [subpart A of this part](#).

(3) ***Application for approval of construction or reconstruction.*** The provisions of [paragraph \(b\)\(3\)](#) of this section and § 63.5(d) (3) and (4) of [subpart A of this part](#) implement section 112(i)(1) of the Act.

(i) ***General application requirements.***

(A) An owner or operator who is subject to the requirements of [paragraph \(b\)\(2\)](#) of this section shall submit to the Administrator an application for approval of the construction of a new source subject to these emissions standards, the reconstruction of a source subject to these emissions standards, or the reconstruction of a source such that the source becomes a source subject to these emissions standards. The application shall be submitted as soon as practicable before the construction or reconstruction is planned to commence (but not sooner than the effective date) if the construction or reconstruction commences after the effective date. The application shall be submitted as soon as practicable before the initial startup date but no later than 60 days after the effective date if the construction or reconstruction had commenced and the initial startup date had not occurred before the effective date. The application for approval of construction or reconstruction may be used to fulfill the initial notification requirements of [paragraph \(c\)\(1\)\(iii\)](#) of this section. The owner or operator may submit the application for approval well in advance of the date construction or reconstruction is planned to commence in order to ensure a timely review by the Administrator and that the planned commencement date will not be delayed.

(B) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:

(1) The applicant's name and address.

(2) A notification of intention to construct a new source subject to these emissions standards or make any physical or operational change to a source subject to these emissions standards that may meet or has been determined to meet the criteria for a reconstruction, as defined in [§ 63.2](#) of [subpart A of this part](#).

(3) The address (i.e., physical location) or proposed address of the source.

(4) An identification of the relevant standard that is the basis of the application.

(5) The expected commencement date of the construction or reconstruction.

(6) The expected completion date of the construction or reconstruction.

(7) The anticipated date of (initial) startup of the source.

(8) The type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the standard, or if actual emissions data are not yet available, an estimate of the type and

quantity of hazardous air pollutants expected to be emitted by the source reported in units and averaging times specified. The owner or operator may submit percent reduction information, if the standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance.

(9) Other information as specified in [paragraph \(b\)\(3\)\(ii\)](#) of this section and § 63.5(d)(3) of [subpart A of this part](#).

(C) An owner or operator who submits estimates or preliminary information in place of the actual emissions data and analysis required in [paragraphs \(b\)\(3\)\(i\)\(B\)\(8\)](#) and [\(ii\)](#) of this section shall submit the actual, measured emissions data and other correct information as soon as available but no later than with the notification of compliance status required in [paragraph \(c\)\(2\)](#) of this section.

(ii) ***Application for approval of construction.*** Each application for approval of construction shall include, in addition to the information required in [paragraph \(b\)\(3\)\(i\)\(B\)](#) of this section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source subject to these emissions standards, including an identification of each point of emission for each hazardous air pollutant that is emitted (or could be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations. An owner or operator who submits approximations of control efficiencies under [paragraph \(b\)\(3\)](#) of this section shall submit the actual control efficiencies as specified in [paragraph \(b\)\(3\)\(i\)\(C\)](#) of this section.

***(4) Approval of construction or reconstruction based on prior State preconstruction review.***

(i) The Administrator may approve an application for construction or reconstruction specified in [paragraphs \(b\)\(2\)](#) and [\(3\)](#) of this section and § 63.5(d)(3) and (4) of [subpart A of this part](#) if the owner or operator of a new or reconstructed source who is subject to such requirement demonstrates to the Administrator's satisfaction that the following conditions have been (or will be) met:

(A) The owner or operator of the new or reconstructed source subject to these emissions standards has undergone a preconstruction review and approval process in the State in which the source is (or would be) located before the effective date and has received a federally enforceable construction permit that contains a finding that the source will meet these emissions standards as proposed, if the source is properly built and operated;

(B) In making its finding, the State has considered factors substantially equivalent to those specified in § 63.5(e)(1) of [subpart A of this part](#).

(ii) The owner or operator shall submit to the Administrator the request for approval of construction or reconstruction no later than the application deadline specified in [paragraph \(b\)\(3\)\(i\)](#) of this section. The owner or operator shall include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in § 63.5 of [subpart A of this part](#). The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction.

(c) **Notification requirements.** The owner or operator of each source subject to the emissions standards in [§ 63.362](#) shall fulfill all notification requirements in [§ 63.9](#) of [subpart A of this part](#), according to the applicability in Table 1 of [§ 63.360](#), and in this paragraph.

(1) **Initial notifications.**

(i)

(A) If a source that otherwise would be subject to these emissions standards subsequently increases its use of ethylene oxide within any consecutive 12-month period after December 6, 1996, such that the source becomes subject to these emissions standards or other requirements, such source shall be subject to the notification requirements of [§ 63.9](#) of [subpart A of this part](#).

(B) Sources subject to these emissions standards may use the application for approval of construction or reconstruction under [paragraph \(b\)\(3\)\(ii\)](#) of this section and § 63.5(d) (3) of [subpart A of this part](#), respectively, if relevant to fulfill the initial notification requirements.

(ii) The owner or operator of a new or reconstructed source subject to these emissions standards that has an initial startup date after the effective date and for which an application for approval of construction or reconstruction is required under [paragraph \(b\)\(3\)](#) of this section and § 63.5(d) (3) and (4) of [subpart A of this part](#) shall provide the following information in writing to the Administrator:

(A) A notification of intention to construct a new source subject to these emissions standards, reconstruct a source subject to these emissions standards, or reconstruct a source such that the source becomes a source subject to these emissions standards with the application for approval of construction or reconstruction as specified in [paragraph \(b\)\(3\)\(i\)\(A\)](#) of this section;

(B) A notification of the date when construction or reconstruction was commenced, submitted simultaneously with the application for approval of construction or reconstruction, if construction or reconstruction was commenced before the effective date of these standards;



(C) A notification of the date when construction or reconstruction was commenced, delivered or postmarked not later than 30 days after such date, if construction or reconstruction was commenced after the effective date of these standards;

(D) A notification of the anticipated date of startup of the source, delivered or postmarked not more than 60 days nor less than 30 days before such date; and

(E) A notification of the actual date of initial startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) After the effective date, whether or not an approved permit program is effective in the State in which a source subject to these emissions standards is (or would be) located, an owner or operator who intends to construct a new source subject to these emissions standards or reconstruct a source subject to these emissions standards, or reconstruct a source such that it becomes a source subject to these emissions standards, shall notify the Administrator in writing of the intended construction or reconstruction. The notification shall be submitted as soon as practicable before the construction or reconstruction is planned to commence (but no sooner than the effective date of these standards) if the construction or reconstruction commences after the effective date of the standard. The notification shall be submitted as soon as practicable before the initial startup date but no later than 60 days after the effective date of this standard if the construction or reconstruction had commenced and the initial startup date has not occurred before the standard's effective date. The notification shall include all the information required for an application for approval of construction or reconstruction as specified in [paragraph \(b\)\(3\)](#) of this section and § 63.5(d)(3) and (4) of [subpart A of this part](#). For sources subject to these emissions standards, the application for approval of construction or reconstruction may be used to fulfill the initial notification requirements of [§ 63.9](#) of [subpart A of this part](#).

(2) If an owner or operator of a source subject to these emissions standards submits estimates or preliminary information in the application for approval of construction or reconstruction required in [paragraph \(b\)\(3\)\(ii\)](#) of this section and § 63.5(d)(3) of [subpart A of this part](#), respectively, in place of the actual emissions data or control efficiencies required in [paragraphs \(b\)\(3\)\(i\)\(B\)\(8\)](#) and [\(ii\)](#) of this section, the owner or operator shall submit the actual emissions data and other correct information as soon as available but no later than with the initial notification of compliance status.

(3) The owner or operator of any existing sterilization facility subject to this subpart shall also include the amount of ethylene oxide used during the previous consecutive 12-month period in the initial notification report required by [§ 63.9\(b\)\(2\)](#) and [\(3\)](#) of [subpart A of this part](#). For new sterilization facilities subject to this subpart, the amount of ethylene oxide used shall be an estimate of expected use during the first consecutive 12-month period of operation.

## **§ 63.367 Recordkeeping requirements.**

(a) The owner or operator of a source subject to [§ 63.362](#) shall comply with the recordkeeping requirements in [§ 63.10\(b\)](#) and [\(c\)](#), according to the applicability in Table 1 of [§ 63.360](#), and in this section. All records required to be maintained by this subpart or a subpart referenced by this subpart shall be maintained in such a manner that they can be readily accessed and are suitable for inspection. The most recent 2 years of records shall be retained onsite or shall be accessible to an inspector while onsite. The records of the preceding 3 years, where required, may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, computer disk, magnetic tape, or microfiche.

(b) The owners or operators of a source using 1 to 10 tons not subject to [§ 63.362](#) shall maintain records of ethylene oxide use on a 12-month rolling average basis (until the source changes its operations to become a source subject to [§ 63.362](#)).

(c) The owners or operators of a source using less than 1 ton shall maintain records of ethylene oxide use on a 12-month rolling average basis (until the source changes its operations to become a source subject to [§ 63.362](#)).

(d) The owners or operators complying with [§ 63.363\(b\) \(4\)](#) shall maintain records of the compliance test, data analysis, and if catalyst is replaced, proof of replacement.

[[66 FR 55585](#), Nov. 2, 2001]

## **§ 63.368 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 implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

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

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in [paragraphs \(c\)\(1\)](#) through [\(4\)](#) of this section.

(1) Approval of alternatives to the requirements in [§§ 63.360](#) and [63.362](#).

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

(3) Approval of major alternatives to 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 37348](#), June 23, 2003]

Appendix B—40 C.F.R. Part 63 Subpart A: *National Emission Standards for Hazardous Air Pollutants for Source Categories—General Provisions*

## Subpart A - General Provisions

Source: [59 FR 12430](#), Mar. 16, 1994, unless otherwise noted.

### § 63.1 Applicability.

(a) *General.*

(1) Terms used throughout this part are defined in [§ 63.2](#) or in the Clean Air Act (Act) as amended in 1990, except that individual [subparts of this part](#) may include specific definitions in addition to or that supersede definitions in [§ 63.2](#).

(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in [40 CFR part 61](#). The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.

(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard.

(4)

(i) Each relevant standard in this part 63 must identify explicitly whether each provision in this subpart A is or is not included in such relevant standard.

(ii) If a relevant part 63 standard incorporates the requirements of [40 CFR part 60](#), part 61 or other part 63 standards, the relevant part 63 standard must identify explicitly the applicability of each corresponding part 60, part 61, or other part 63 subpart A (General) provision.

(iii) The General Provisions in this subpart A do not apply to regulations developed pursuant to section 112(r) of the amended Act, unless otherwise specified in those regulations.

(5) [Reserved]

(6) To obtain the most current list of categories of sources to be regulated under section 112 of the Act, or to obtain the most recent regulation promulgation schedule established pursuant to section 112(e) of the Act, contact the Office of the Director, Emission Standards Division, Office of Air Quality Planning and Standards, U.S. EPA (MD-13), Research Triangle Park, North Carolina 27711.

(7)-(9) [Reserved]

(10) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word “calendar” is absent, unless otherwise specified in an applicable requirement.

(11) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, test plan, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery agreed to by the permitting authority, is acceptable.

(12) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in [§ 63.9\(i\)](#).

**(b) *Initial applicability determination for this part.***

(1) The provisions of this part apply to the owner or operator of any stationary source that -

(i) Emits or has the potential to emit any hazardous air pollutant listed in or pursuant to section 112(b) of the Act; and

(ii) Is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to this part.

(2) [Reserved]

(3) An owner or operator of a stationary source who is in the relevant source category and who determines that the source is not subject to a relevant standard or other requirement established under this part must keep a record as specified in [§ 63.10\(b\)\(3\)](#).

**(c) *Applicability of this part after a relevant standard has been set under this part.***

(1) If a relevant standard has been established under this part, the owner or operator of an affected source must comply with the provisions of that standard and of this subpart as provided in [paragraph \(a\)\(4\)](#) of this section.

(2) Except as provided in [§ 63.10\(b\)\(3\)](#), if a relevant standard has been established under this part, the owner or operator of an affected source may be required to obtain a title V permit from a permitting authority in the State in which the source is located. Emission standards promulgated in this part for area sources pursuant to section 112(c)(3) of the Act will specify whether -

(i) States will have the option to exclude area sources affected by that standard from the requirement to obtain a title V permit (i.e., the standard will exempt the category of area sources altogether from the permitting requirement);

(ii) States will have the option to defer permitting of area sources in that category until the Administrator takes rulemaking action to determine applicability of the permitting requirements; or

(iii) If a standard fails to specify what the permitting requirements will be for area sources affected by such a standard, then area sources that are subject to the standard will be subject to the requirement to obtain a title V permit without any deferral.

(3)-(4) [Reserved]

(5) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source that is subject to the emission standard or other requirement, such source also shall be subject to the notification requirements of this subpart.

(6) A major source may become an area source at any time upon reducing its emissions of and potential to emit hazardous air pollutants, as defined in this subpart, to below the major source thresholds established in [§ 63.2](#), subject to the provisions in [paragraphs \(c\)\(6\)\(i\)](#) and [\(ii\)](#) of this section.

(i) A major source reclassifying to area source status is subject to the applicability of standards, compliance dates and notification requirements specified in [\(c\)\(6\)\(i\)\(A\)](#) of this section. An area source that previously was a major source and becomes a major source again is subject to the applicability of standards, compliance dates, and notification requirements specified in [\(c\)\(6\)\(i\)\(B\)](#) of this section:

(A) A major source reclassifying to area source status under this part remains subject to any applicable major source requirements established under this part until the reclassification becomes effective. After the reclassification becomes effective, the



source is subject to any applicable area source requirements established under this part immediately, provided the compliance date for the area source requirements has passed. The owner or operator of a major source that becomes an area source subject to newly applicable area source requirements under this part must comply with the initial notification requirements pursuant to [§ 63.9\(b\)](#). The owner or operator of a major source that becomes an area source must also provide to the Administrator any change in the information already provided under [§ 63.9\(b\)](#) per [§ 63.9\(j\)](#).

(B) An area source that previously was a major source under this part and that becomes a major source again is subject to the applicable major source requirements established under this part immediately upon becoming a major source again, provided the compliance date for the major source requirements has passed, notwithstanding any provision within the applicable subparts. The owner or operator of an area source that becomes a major source again must comply with the initial notification pursuant to [§ 63.9\(b\)](#). The owner or operator must also provide to the Administrator any change in the information already provided under [§ 63.9\(b\)](#) per [§ 63.9\(j\)](#).

(ii) Becoming an area source does not absolve a source subject to an enforcement action or investigation for major source violations or infractions from the consequences of any actions occurring when the source was major. Becoming a major source does not absolve a source subject to an enforcement action or investigation for area source violations or infractions from the consequences of any actions occurring when the source was an area source.

(d) [Reserved]

(e) If the Administrator promulgates an emission standard under section 112(d) or (h) of the Act that is applicable to a source subject to an emission limitation by permit established under section 112(j) of the Act, and the requirements under the section 112(j) emission limitation are substantially as effective as the promulgated emission standard, the owner or operator may request the permitting authority to revise the source's title V permit to reflect that the emission limitation in the permit satisfies the requirements of the promulgated emission standard. The process by which the permitting authority determines whether the section 112(j) emission limitation is substantially as effective as the promulgated emission standard must include, consistent with [part 70](#) or [71 of this chapter](#), the opportunity for full public, EPA, and affected State review (including the opportunity for EPA's objection) prior to the permit revision being finalized. A negative determination by the permitting authority constitutes final action for purposes of review and appeal under the applicable title V operating permit program.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [67 FR 16595](#), Apr. 5, 2002; [85 FR 73885](#), Nov. 19, 2020]

## **§ 63.2 Definitions.**

The terms used in this part are defined in the Act or in this section as follows:

*Act* means the Clean Air Act ([42 U.S.C. 7401 et seq.](#), as amended by Pub. L. 101-549, 104 Stat. 2399).

*Actual emissions* is defined in [subpart D of this part](#) for the purpose of granting a compliance extension for an early reduction of hazardous air pollutants.

*Administrator* means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

*Affected source*, for the purposes of this part, means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act. Each relevant standard will define the “affected source,” as defined in this paragraph unless a different definition is warranted based on a published justification as to why this definition would result in significant administrative, practical, or implementation problems and why the different definition would resolve those problems. The term “affected source,” as used in this part, is separate and distinct from any other use of that term in EPA regulations such as those implementing title IV of the Act. Affected source may be defined differently for part 63 than affected facility and stationary source in parts 60 and 61, respectively. This definition of “affected source,” and the procedures for adopting an alternative definition of “affected source,” shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002.

*Alternative emission limitation* means conditions established pursuant to sections 112(i)(5) or 112(i)(6) of the Act by the Administrator or by a State with an approved permit program.

*Alternative emission standard* means an alternative means of emission limitation that, after notice and opportunity for public comment, has been demonstrated by an owner or operator to the Administrator's satisfaction to achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under a relevant design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act.

*Alternative test method* means any method of sampling and analyzing for an air pollutant that has been demonstrated to the Administrator's satisfaction, using Method 301 in [appendix A of this part](#), to produce results adequate for the Administrator's determination that it may be used in place of a test method specified in this part.

*Approved permit program* means a State permit program approved by the Administrator as meeting the requirements of [part 70 of this chapter](#) or a Federal permit program established in this chapter pursuant to title V of the Act ([42 U.S.C. 7661](#)).

*Area source* means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

*Commenced* means, with respect to construction or reconstruction of an affected source, that an owner or operator has undertaken a continuous program of construction or reconstruction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.

*Compliance date* means the date by which an affected source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to section 112 of the Act.

*Compliance schedule* means:

(1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or

(2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or

(3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based.

*Construction* means the on-site fabrication, erection, or installation of an affected source. Construction does not include the removal of all equipment comprising an affected source from an existing location and reinstallation of such equipment at a new location. The owner or operator of an existing affected source that is relocated may elect not to reinstall minor ancillary equipment including, but not limited to, piping, ductwork, and valves. However, removal and reinstallation of an affected source will be construed as reconstruction if it satisfies the criteria for reconstruction as defined in this section. The costs of replacing minor ancillary equipment must be considered in determining whether the existing affected source is reconstructed.

*Continuous emission monitoring system (CEMS)* means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of emissions.

*Continuous monitoring system (CMS)* is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation.

*Continuous opacity monitoring system (COMS)* means a continuous monitoring system that measures the opacity of emissions.

*Continuous parameter monitoring system* means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

*Effective date* means:

(1) With regard to an emission standard established under this part, the date of promulgation in the Federal Register of such standard; or

(2) With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

*Emission standard* means a national standard, limitation, prohibition, or other regulation promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act.

*Emissions averaging* is a way to comply with the emission limitations specified in a relevant standard, whereby an affected source, if allowed under a subpart of this part, may create emission credits by reducing emissions from specific points to a level below that required by the relevant standard, and those credits are used to offset emissions from points that are not controlled to the level required by the relevant standard.

*EPA* means the United States Environmental Protection Agency.

*Equivalent emission limitation* means any maximum achievable control technology emission limitation or requirements which are applicable to a major source of hazardous air pollutants and are adopted by the Administrator (or a State with an approved permit program) on a case-by-case basis, pursuant to section 112(g) or (j) of the Act.

*Excess emissions and continuous monitoring system performance report* is a report that must be submitted periodically by an affected source in order to provide data on its compliance with relevant emission limits, operating parameters, and the performance of its continuous parameter monitoring systems.

*Existing source* means any affected source that is not a new source.

*Federally enforceable* means all limitations and conditions that are enforceable by the Administrator and citizens under the Act or that are enforceable under other statutes administered by the Administrator. Examples of federally enforceable limitations and conditions include, but are not limited to:

- (1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;
- (2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;
- (3) All terms and conditions in a title V permit, including any provisions that limit a source's potential to emit, unless expressly designated as not federally enforceable;
- (4) Limitations and conditions that are part of an approved State Implementation Plan (SIP) or a Federal Implementation Plan (FIP);
- (5) Limitations and conditions that are part of a Federal construction permit issued under [40 CFR 52.21](#) or any construction permit issued under regulations approved by the EPA in accordance with [40 CFR part 51](#);
- (6) Limitations and conditions that are part of an operating permit where the permit and the permitting program pursuant to which it was issued meet all of the following criteria:
  - (i) The operating permit program has been submitted to and approved by EPA into a State implementation plan (SIP) under section 110 of the CAA;
  - (ii) The SIP imposes a legal obligation that operating permit holders adhere to the terms and limitations of such permits and provides that permits which do not conform to the operating permit program requirements and the requirements of EPA's underlying regulations may be deemed not “federally enforceable” by EPA;
  - (iii) The operating permit program requires that all emission limitations, controls, and other requirements imposed by such permits will be at least as stringent as any other applicable limitations and requirements contained in the SIP or enforceable under the SIP, and that the program may not issue permits that waive, or make less stringent, any limitations or requirements contained in or issued pursuant to the SIP, or that are otherwise “federally enforceable”;
  - (iv) The limitations, controls, and requirements in the permit in question are permanent, quantifiable, and otherwise enforceable as a practical matter; and
  - (v) The permit in question was issued only after adequate and timely notice and opportunity for comment for EPA and the public.

(7) Limitations and conditions in a State rule or program that has been approved by the EPA under [subpart E of this part](#) for the purposes of implementing and enforcing section 112; and

(8) Individual consent agreements that the EPA has legal authority to create.

*Fixed capital cost* means the capital needed to provide all the depreciable components of an existing source.

*Force majeure* means, for purposes of [§ 63.7](#), 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 the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

*Fugitive emissions* means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source.

*Hazardous air pollutant* means any air pollutant listed in or pursuant to section 112(b) of the Act.

*Issuance* of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of [part 70 of this chapter](#) and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

*Major source* means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring 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.

*Monitoring* means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:



(1) Indicator(s) of performance - the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.

(2) Measurement techniques - the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency - the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time - the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

*New affected source* means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of “new affected source,” and the criteria to be utilized in implementing it, shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term “new affected source,” which will be the same as the “affected source” unless a different collection is warranted based on consideration of factors including:

- (1) Emission reduction impacts of controlling individual sources versus groups of sources;
- (2) Cost effectiveness of controlling individual equipment;
- (3) Flexibility to accommodate common control strategies;



- (4) Cost/benefits of emissions averaging;
- (5) Incentives for pollution prevention;
- (6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);
- (7) Feasibility and cost of monitoring; and
- (8) Other relevant factors.

*New source* means any affected source the construction or reconstruction of which is commenced after the Administrator first proposes a relevant emission standard under this part establishing an emission standard applicable to such source.

*One-hour period*, unless otherwise defined in an applicable subpart, means any 60-minute period commencing on the hour.

*Opacity* means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. For continuous opacity monitoring systems, opacity means the fraction of incident light that is attenuated by an optical medium.

*Owner or operator* means any person who owns, leases, operates, controls, or supervises a stationary source.

*Performance audit* means a procedure to analyze blind samples, the content of which is known by the Administrator, simultaneously with the analysis of performance test samples in order to provide a measure of test data quality.

*Performance evaluation* means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

*Performance test* means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

*Permit modification* means a change to a title V permit as defined in regulations codified in this chapter to implement title V of the Act ([42 U.S.C. 7661](#)).

*Permit program* means a comprehensive State operating permit system established pursuant to title V of the Act ([42 U.S.C. 7661](#)) and regulations codified in [part 70 of this chapter](#) and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

*Permit revision* means any permit modification or administrative permit amendment to a title V permit as defined in regulations codified in this chapter to implement title V of the Act ([42 U.S.C. 7661](#)).

*Permitting authority* means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under [part 70 of this chapter](#); or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act ([42 U.S.C. 7661](#)).

*Pollution Prevention* means *source reduction* as defined under the Pollution Prevention Act ([42 U.S.C. 13101-13109](#)). The definition is as follows:

(1) ***Source reduction*** is any practice that:

(i) Reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and

(ii) Reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.

(2) The term *source reduction* includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.

(3) The term *source reduction* does not include any practice that alters the physical, chemical, or biological characteristics or the volume of a hazardous substance, pollutant, or contaminant through a process or activity which itself is not integral to and necessary for the production of a product or the providing of a service.

*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 enforceable.

*Reconstruction*, unless otherwise defined in a relevant standard, means the replacement of components of an affected or a previously nonaffected source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

*Regulation promulgation schedule* means the schedule for the promulgation of emission standards under this part, established by the Administrator pursuant to section 112(e) of the Act and published in the Federal Register.

*Relevant standard* means:

- (1) An emission standard;
- (2) An alternative emission standard;
- (3) An alternative emission limitation; or
- (4) An equivalent emission limitation established pursuant to section 112 of the Act that applies to the collection of equipment, activities, or both regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or operational requirement, or other measure, process, method, system, or technique (including prohibition of emissions) that the Administrator (or a State) establishes for new or existing sources to which such standard or limitation applies. Every relevant standard established pursuant to section 112 of the Act includes [subpart A of this part](#), as provided by [§ 63.1\(a\)\(4\)](#), and all applicable appendices of this part or of other parts of this chapter that are referenced in that standard.

*Responsible official* means one of the following:

- (1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:
  - (i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
  - (ii) The delegation of authority to such representative is approved in advance by the Administrator.
- (2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.
- (3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer

of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).

(4) For affected sources (as defined in this part) applying for or subject to a title V permit: “responsible official” shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter ([42 U.S.C. 7661](#)), whichever is applicable.

*Run* means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part.

*Shutdown* means the cessation of operation of an affected source or portion of an affected source for any purpose.

*Six-minute period* means, with respect to opacity determinations, any one of the 10 equal parts of a 1-hour period.

*Source at a Performance Track member facility* means a major or area source located at a facility which has been accepted by EPA for membership in the Performance Track Program (as described at [www.epa.gov/PerformanceTrack](http://www.epa.gov/PerformanceTrack)) and is still a member of the Program. The Performance Track Program is a voluntary program that encourages continuous environmental improvement through the use of environmental management systems, local community outreach, and measurable results.

*Standard conditions* means a temperature of 293 K (68 °F) and a pressure of 101.3 kilopascals (29.92 in. Hg).

*Startup* means the setting in operation of an affected source or portion of an affected source for any purpose.

*State* means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:

- (1) The provisions of this part and/or
- (2) the permit program established under [part 70 of this chapter](#). The term State shall have its conventional meaning where clear from the context.

*Stationary source* means any building, structure, facility, or installation which emits or may emit any air pollutant.

*Test method* means the validated procedure for sampling, preparing, and analyzing for an air pollutant specified in a relevant standard as the performance test procedure. The test method may include methods described in an appendix of this chapter, test methods incorporated by reference in this part, or methods validated for an application through procedures in Method 301 of [appendix A of this part](#).

*Title V permit* means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act ([42 U.S.C. 7661](#)). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

*Visible emission* means the observation of an emission of opacity or optical density above the threshold of vision.

*Working day* means any day on which Federal Government offices (or State government offices for a State that has obtained delegation under section 112(l)) are open for normal business. Saturdays, Sundays, and official Federal (or where delegated, State) holidays are not working days.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [67 FR 16596](#), Apr. 5, 2002; [68 FR 32600](#), May 30, 2003; [69 FR 21752](#), Apr. 22, 2004; [72 FR 27443](#), May 16, 2007; [85 FR 63418](#), Oct. 7, 2020; [85 FR 73885](#), Nov. 19, 2020]

## **§ 63.3 Units and abbreviations.**

Used in this part are abbreviations and symbols of units of measure. These are defined as follows:

(a) *System International (SI) units of measure:*

A = ampere

g = gram

Hz = hertz

J = joule

°K = degree Kelvin

kg = kilogram

l = liter

m = meter

m<sup>3</sup> = cubic meter

mg = milligram = 10<sup>-3</sup> gram

ml = milliliter = 10<sup>-3</sup> liter

mm = millimeter = 10<sup>-3</sup> meter

Mg = megagram =  $10^6$  gram = metric ton

MJ = megajoule

mol = mole

N = newton

ng = nanogram =  $10^{-9}$  gram

nm = nanometer =  $10^{-9}$  meter

Pa = pascal

s = second

V = volt

W = watt

$\Omega$  = ohm

$\mu\text{g}$  = microgram =  $10^{-6}$  gram

$\mu\text{l}$  = microliter =  $10^{-6}$  liter

(b) ***Other units of measure:***

Btu = British thermal unit

$^{\circ}\text{C}$  = degree Celsius (centigrade)

cal = calorie

cfm = cubic feet per minute

cc = cubic centimeter

cu ft = cubic feet

d = day

dcf = dry cubic feet

dcm = dry cubic meter

dscf = dry cubic feet at standard conditions

dscm = dry cubic meter at standard conditions

eq = equivalent

°F degree Fahrenheit

ft = feet

ft<sup>2</sup> = square feet

ft<sup>3</sup> = cubic feet

gal = gallon

gr = grain

g-eq = gram equivalent

g-mole = gram mole

hr = hour

in. = inch

in. H<sub>2</sub> O = inches of water

K = 1,000

kcal = kilocalorie

lb = pound

lpm = liter per minute

meq = milliequivalent

min = minute

MW = molecular weight

oz = ounces

ppb = parts per billion



ppbw = parts per billion by weight

ppbv = parts per billion by volume

ppm = parts per million

ppmw = parts per million by weight

ppmv = parts per million by volume

psia = pounds per square inch absolute

psig = pounds per square inch gage

°R = degree Rankine

scf = cubic feet at standard conditions

scfh = cubic feet at standard conditions per hour

scm = cubic meter at standard conditions

scmm = cubic meter at standard conditions per minute

sec = second

sq ft = square feet

std = at standard conditions

v/v = volume per volume

yd<sup>2</sup> = square yards

yr = year

(c) *Miscellaneous:*

act = actual

avg = average

I.D. = inside diameter

M = molar

N = normal

O.D. = outside diameter

% = percent

[[59 FR 12430](#), Mar. 16, 1994, as amended at [67 FR 16598](#), Apr. 5, 2002]

## **§ 63.4 Prohibited activities and circumvention.**

### **(a) *Prohibited activities.***

(1) No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance are not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under section 112(i)(4) of the Act.

(2) No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.

(3)-(5) [Reserved]

**(b) *Circumvention.*** No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to -

(1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere;

(2) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions; and

**(c) *Fragmentation.*** Fragmentation after November 15, 1990 which divides ownership of an operation, within the same facility among various owners where there is no real change in control, will not affect applicability. The owner and operator must not use fragmentation or phasing of reconstruction activities (i.e., intentionally dividing reconstruction into multiple parts for purposes of avoiding new source requirements) to avoid becoming subject to new source requirements.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [67 FR 16598](#), Apr. 5, 2002]

## **§ 63.5 Preconstruction review and notification requirements.**

(a) ***Applicability.***

(1) This section implements the preconstruction review requirements of section 112(i)(1). After the effective date of a relevant standard, promulgated pursuant to section 112(d), (f), or (h) of the Act, under this part, the preconstruction review requirements in this section apply to the owner or operator of new affected sources and reconstructed affected sources that are major-emitting as specified in this section. New and reconstructed affected sources that commence construction or reconstruction before the effective date of a relevant standard are not subject to the preconstruction review requirements specified in [paragraphs \(b\)\(3\), \(d\), and \(e\)](#) of this section.

(2) This section includes notification requirements for new affected sources and reconstructed affected sources that are not major-emitting affected sources and that are or become subject to a relevant promulgated emission standard after the effective date of a relevant standard promulgated under this part.

(b) ***Requirements for existing, newly constructed, and reconstructed sources.***

(1) A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

(2) [Reserved]

(3) After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures specified in [paragraphs \(d\) and \(e\)](#) of this section, do any of the following:

(i) Construct a new affected source that is major-emitting and subject to such standard;

(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or

(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

(4) After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in [§ 63.9\(b\)](#).

(5) [Reserved]

(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source.

(c) [Reserved]

(d) ***Application for approval of construction or reconstruction.*** The provisions of this paragraph implement section 112(i)(1) of the Act.

(1) ***General application requirements.***

(i) An owner or operator who is subject to the requirements of [paragraph \(b\)\(3\)](#) of this section must submit to the Administrator an application for approval of the construction or reconstruction. The application must be submitted as soon as practicable before actual construction or reconstruction begins. The application for approval of construction or reconstruction may be used to fulfill the initial notification requirements of [§ 63.9\(b\)\(5\)](#). The owner or operator may submit the application for approval well in advance of the date actual construction or reconstruction begins in order to ensure a timely review by the Administrator and that the planned date to begin will not be delayed.

(ii) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:

(A) The applicant's name and address;

(B) A notification of intention to construct a new major affected source or make any physical or operational change to a major affected source that may meet or has been determined to meet the criteria for a reconstruction, as defined in [§ 63.2](#) or in the relevant standard;

(C) The address (i.e., physical location) or proposed address of the source;

(D) An identification of the relevant standard that is the basis of the application;

(E) The expected date of the beginning of actual construction or reconstruction;

(F) The expected completion date of the construction or reconstruction;

(G) [Reserved]

(H) The type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the relevant standard, or if actual emissions data are not yet available, an estimate of the type and quantity of hazardous air pollutants expected to be emitted by the source reported in

units and averaging times specified in the relevant standard. The owner or operator may submit percent reduction information if a relevant standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance; and

(I) [Reserved]

(J) Other information as specified in [paragraphs \(d\)\(2\)](#) and [\(d\)\(3\)](#) of this section.

(iii) An owner or operator who submits estimates or preliminary information in place of the actual emissions data and analysis required in [paragraphs \(d\)\(1\)\(ii\)\(H\)](#) and [\(d\)\(2\)](#) of this section shall submit the actual, measured emissions data and other correct information as soon as available but no later than with the notification of compliance status required in [§ 63.9\(h\)](#) (see [§ 63.9\(h\)\(5\)](#)).

(2) ***Application for approval of construction.*** Each application for approval of construction must include, in addition to the information required in [paragraph \(d\)\(1\)\(ii\)](#) of this section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including an identification of each type of emission point for each type of hazardous air pollutant that is emitted (or could reasonably be anticipated to be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions must include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions must include an estimated control efficiency (percent) for that method. Such technical information must include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations.

(3) ***Application for approval of reconstruction.*** Each application for approval of reconstruction shall include, in addition to the information required in [paragraph \(d\)\(1\)\(ii\)](#) of this section -

(i) A brief description of the affected source and the components that are to be replaced;

(ii) A description of present and proposed emission control systems (i.e., equipment or methods). The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations;

(iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;

(iv) The estimated life of the affected source after the replacements; and

(v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.

(vi) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in [paragraphs \(d\)\(3\)\(iii\)](#) through [\(d\)\(3\)\(v\)](#) of this section.

(4) **Additional information.** The Administrator may request additional relevant information after the submittal of an application for approval of construction or reconstruction.

(e) **Approval of construction or reconstruction.**

(1)

(i) If the Administrator determines that, if properly constructed, or reconstructed, and operated, a new or existing source for which an application under [paragraph \(d\)](#) of this section was submitted will not cause emissions in violation of the relevant standard(s) and any other federally enforceable requirements, the Administrator will approve the construction or reconstruction.

(ii) In addition, in the case of reconstruction, the Administrator's determination under this paragraph will be based on:

(A) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new source;

(B) The estimated life of the source after the replacements compared to the life of a comparable entirely new source;

(C) The extent to which the components being replaced cause or contribute to the emissions from the source; and

(D) Any economic or technical limitations on compliance with relevant standards that are inherent in the proposed replacements.

(2)

(i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of construction or reconstruction within 60 calendar days after receipt of sufficient information to evaluate an application submitted under [paragraph \(d\)](#) of this section. The 60-day approval or denial period will begin after the owner or operator has

been notified in writing that his/her application is complete. The Administrator will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(3) Before denying any application for approval of construction or reconstruction, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with -

(i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator to enable further action on the application.

(4) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 calendar days of presentation of additional information or arguments (if the application is complete), or within 60 calendar days after the final date specified for presentation if no presentation is made.

(5) Neither the submission of an application for approval nor the Administrator's approval of construction or reconstruction shall -

(i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

**(f) *Approval of construction or reconstruction based on prior State preconstruction review.***

(1) Preconstruction review procedures that a State utilizes for other purposes may also be utilized for purposes of this section if the procedures are substantially equivalent to those specified in this section. The Administrator will approve an application for construction or reconstruction specified in [paragraphs \(b\)\(3\)](#) and [\(d\)](#) of this section if the owner or operator of a new affected source or reconstructed affected source, who is subject to such requirement meets the following conditions:



(i) The owner or operator of the new affected source or reconstructed affected source has undergone a preconstruction review and approval process in the State in which the source is (or would be) located and has received a federally enforceable construction permit that contains a finding that the source will meet the relevant promulgated emission standard, if the source is properly built and operated.

(ii) Provide a statement from the State or other evidence (such as State regulations) that it considered the factors specified in [paragraph \(e\)\(1\)](#) of this section.

(2) The owner or operator must submit to the Administrator the request for approval of construction or reconstruction under this [paragraph \(f\)\(2\)](#) no later than the application deadline specified in [paragraph \(d\)\(1\)](#) of this section (see also [§ 63.9\(b\)\(2\)](#)). The owner or operator must include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in [paragraph \(e\)](#) of this section. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction under this [paragraph \(f\)\(2\)](#).

[[59 FR 12430](#), Mar. 16, 1994, as amended at [67 FR 16598](#), Apr. 5, 2002]

## **§ 63.6 Compliance with standards and maintenance requirements.**

### ***(a) Applicability.***

(1) The requirements in this section apply to the owner or operator of affected sources for which any relevant standard has been established pursuant to section 112 of the Act and the applicability of such requirements is set out in accordance with [§ 63.1\(a\)\(4\)](#) unless -

(i) The Administrator (or a State with an approved permit program) has granted an extension of compliance consistent with [paragraph \(i\)](#) of this section; or

(ii) The President has granted an exemption from compliance with any relevant standard in accordance with section 112(i)(4) of the Act.

(2) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source, such source shall be subject to the relevant emission standard or other requirement.

### ***(b) Compliance dates for new and reconstructed sources.***

(1) Except as specified in [paragraphs \(b\)\(3\)](#) and [\(4\)](#) of this section, the owner or operator of a new or reconstructed affected source for which construction or reconstruction commences

after proposal of a relevant standard that has an initial startup before the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard not later than the standard's effective date.

(2) Except as specified in [paragraphs \(b\)\(3\)](#) and [\(4\)](#) of this section, the owner or operator of a new or reconstructed affected source that has an initial startup after the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard upon startup of the source.

(3) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established under this part pursuant to section 112(d), 112(f), or 112(h) of the Act but before the effective date (that is, promulgation) of such standard shall comply with the relevant emission standard not later than the date 3 years after the effective date if:

(i) The promulgated standard (that is, the relevant standard) is more stringent than the proposed standard; for purposes of this paragraph, a finding that controls or compliance methods are “more stringent” must include control technologies or performance criteria and compliance or compliance assurance methods that are different but are substantially equivalent to those required by the promulgated rule, as determined by the Administrator (or his or her authorized representative); and

(ii) The owner or operator complies with the standard as proposed during the 3-year period immediately after the effective date.

(4) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established pursuant to section 112(d) of the Act but before the proposal date of a relevant standard established pursuant to section 112(f) shall not be required to comply with the section 112(f) emission standard until the date 10 years after the date construction or reconstruction is commenced, except that, if the section 112(f) standard is promulgated more than 10 years after construction or reconstruction is commenced, the owner or operator must comply with the standard as provided in [paragraphs \(b\)\(1\)](#) and [\(2\)](#) of this section.

(5) The owner or operator of a new source that is subject to the compliance requirements of [paragraph \(b\)\(3\)](#) or [\(4\)](#) of this section must notify the Administrator in accordance with [§ 63.9\(d\)](#)

(6) [Reserved]

(7) When an area source increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source, the portion of the facility that meets the definition of a new affected source must comply with all requirements of that standard applicable to new sources. The source owner or operator must comply with the relevant standard upon startup.

**(c) *Compliance dates for existing sources.***

(1) After the effective date of a relevant standard established under this part pursuant to section 112(d) or 112(h) of the Act, the owner or operator of an existing source shall comply with such standard by the compliance date established by the Administrator in the applicable subpart(s) of this part, except as provided in § 63.1(c)(6)(i). Except as otherwise provided for in section 112 of the Act, in no case will the compliance date established for an existing source in an applicable subpart of this part exceed 3 years after the effective date of such standard.

(2) If an existing source is subject to a standard established under this part pursuant to section 112(f) of the Act, the owner or operator must comply with the standard by the date 90 days after the standard's effective date, or by the date specified in an extension granted to the source by the Administrator under [paragraph \(i\)\(4\)\(ii\)](#) of this section, whichever is later.

(3)-(4) [Reserved]

(5) Except as provided in [paragraph \(b\)\(7\)](#) of this section, the owner or operator of an area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source and meets the definition of an existing source in the applicable major source standard shall be subject to relevant standards for existing sources. Except as provided in paragraph § 63.1(c)(6)(i)(B), such sources must comply by the date specified in the standards for existing area sources that become major sources. If no such compliance date is specified in the standards, the source shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.

(d) [Reserved]

**(e) *Operation and maintenance requirements.***

(1)

(i) At all times, including periods of startup, shutdown, and malfunction, the owner or operator 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. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it 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 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 (including the startup, shutdown, and malfunction plan required in [paragraph \(e\)\(3\)](#) of this section), review of operation and maintenance records, and inspection of the source.

(ii) Malfunctions must be corrected as soon as practicable after their occurrence. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2) [Reserved]

(3) ***Startup, shutdown, and malfunction plan.***

(i) The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the relevant standard. The startup, shutdown, and malfunction plan does not need to address any scenario that would not cause the source to exceed an applicable emission limitation in the relevant standard. This plan must be developed by the owner or operator by the source's compliance date for that relevant standard. The purpose of the startup, shutdown, and malfunction plan is to -

(A) Ensure that, at all times, the owner or operator operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions established by [paragraph \(e\)\(1\)\(i\)](#) of this section;

(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and

(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(ii) [Reserved]

(iii) When actions taken by the owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the

relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan and describes the actions taken for that event. In addition, the owner or operator must keep records of these events as specified in paragraph 63.10(b), including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in [§ 63.10\(d\)\(5\)](#).

(iv) If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the owner or operator must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with [§ 63.10\(d\)\(5\)](#) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).

(v) The owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in [paragraph \(e\)\(3\)\(viii\)](#) of this section, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator. The Administrator may at any time request in writing that the owner or operator submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the owner or operator. Upon receipt of such a request, the owner or operator must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. The owner or operator may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Administrator in an electronic format. If the owner or operator claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection

from disclosure under section 114(c) of the Act or [40 CFR 2.301](#), the material which is claimed as confidential must be clearly designated in the submission.

(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator.

(vii) Based on the results of a determination made under [paragraph \(e\)\(1\)\(i\)](#) of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by [paragraph \(e\)\(1\)\(i\)](#) of this section;

(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or

(D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in [§ 63.2](#).

(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by [§ 63.10\(d\)\(5\)](#). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan



shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

(ix) The title V permit for an affected source must require that the owner or operator develop a startup, shutdown, and malfunction plan which conforms to the provisions of this part, but may do so by citing to the relevant subpart or subparagraphs of [paragraph \(e\)](#) of this section. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under [part 70](#) or [part 71 of this chapter](#) and the elements of the startup, shutdown, and malfunction plan shall not be considered an applicable requirement as defined in [§ 70.2](#) and [§ 71.2 of this chapter](#). Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

(f) ***Compliance with nonopacity emission standards -***

(1) ***Applicability.*** The non-opacity emission standards set forth in this part shall apply at all times except as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the non-opacity emission standards set forth in this part, then that emission point must still be required to comply with the non-opacity emission standards and other applicable requirements.

(2) ***Methods for determining compliance.***

(i) The Administrator will determine compliance with nonopacity emission standards in this part based on the results of performance tests conducted according to the procedures in [§ 63.7](#), unless otherwise specified in an applicable subpart of this part.

(ii) The Administrator will determine compliance with nonopacity emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in [§ 63.6\(e\)](#) and applicable [subparts of this part](#).

(iii) If an affected source conducts performance testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if -

(A) The performance test was conducted within a reasonable amount of time before an initial performance test is required to be conducted under the relevant standard;

(B) The performance test was conducted under representative operating conditions for the source;

(C) The performance test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in [§ 63.7\(e\) of this subpart](#); and



(D) The performance test was appropriately quality-assured, as specified in [§ 63.7\(c\)](#).

(iv) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by review of records, inspection of the source, and other procedures specified in applicable [subparts of this part](#).

(v) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, as specified in [paragraph \(e\)](#) of this section and applicable [subparts of this part](#).

(3) ***Finding of compliance.*** The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard, as specified in [paragraphs \(f\)\(1\) and \(2\)](#) of this section, upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable), and information available to the Administrator pursuant to [paragraph \(e\)\(1\)\(i\)](#) of this section.

***(g) Use of an alternative nonopacity emission standard.***

(1) If, in the Administrator's judgment, an owner or operator of an affected source has established that an alternative means of emission limitation will achieve a reduction in emissions of a hazardous air pollutant from an affected source at least equivalent to the reduction in emissions of that pollutant from that source achieved under any design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act, the Administrator will publish in the Federal Register a notice permitting the use of the alternative emission standard for purposes of compliance with the promulgated standard. Any Federal Register notice under this paragraph shall be published only after the public is notified and given the opportunity to comment. Such notice will restrict the permission to the stationary source(s) or category(ies) of sources from which the alternative emission standard will achieve equivalent emission reductions. The Administrator will condition permission in such notice on requirements to assure the proper operation and maintenance of equipment and practices required for compliance with the alternative emission standard and other requirements, including appropriate quality assurance and quality control requirements, that are deemed necessary.

(2) An owner or operator requesting permission under this paragraph shall, unless otherwise specified in an applicable subpart, submit a proposed test plan or the results of testing and monitoring in accordance with [§ 63.7](#) and [§ 63.8](#), a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring. Any testing or monitoring conducted to request permission to use an alternative nonopacity emission standard shall be appropriately quality assured and quality controlled, as specified in [§ 63.7](#) and [§ 63.8](#).

(3) The Administrator may establish general procedures in an applicable subpart that accomplish the requirements of [paragraphs \(g\)\(1\)](#) and [\(g\)\(2\)](#) of this section.

(h) ***Compliance with opacity and visible emission standards -***

(1) ***Applicability.*** The opacity and visible emission standards set forth in this part must apply at all times except as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the opacity and visible emission standards set forth in this part, then that emission point shall still be required to comply with the opacity and visible emission standards and other applicable requirements.

(2) ***Methods for determining compliance.***

(i) The Administrator will determine compliance with opacity and visible emission standards in this part based on the results of the test method specified in an applicable subpart. Whenever a continuous opacity monitoring system (COMS) is required to be installed to determine compliance with numerical opacity emission standards in this part, compliance with opacity emission standards in this part shall be determined by using the results from the COMS. Whenever an opacity emission test method is not specified, compliance with opacity emission standards in this part shall be determined by conducting observations in accordance with Test Method 9 in appendix A of [part 60 of this chapter](#) or the method specified in [paragraph \(h\)\(7\)\(ii\)](#) of this section. Whenever a visible emission test method is not specified, compliance with visible emission standards in this part shall be determined by conducting observations in accordance with Test Method 22 in appendix A of [part 60 of this chapter](#).

(ii) [Reserved]

(iii) If an affected source undergoes opacity or visible emission testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if -

(A) The opacity or visible emission test was conducted within a reasonable amount of time before a performance test is required to be conducted under the relevant standard;

(B) The opacity or visible emission test was conducted under representative operating conditions for the source;

(C) The opacity or visible emission test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in [§ 63.7\(e\)](#); and

(D) The opacity or visible emission test was appropriately quality-assured, as specified in [§ 63.7\(c\)](#) of this section.

(3) [Reserved]

(4) ***Notification of opacity or visible emission observations.*** The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting opacity or visible emission observations in accordance with [§ 63.9\(f\)](#), if such observations are required for the source by a relevant standard.

(5) ***Conduct of opacity or visible emission observations.*** When a relevant standard under this part includes an opacity or visible emission standard, the owner or operator of an affected source shall comply with the following:

(i) For the purpose of demonstrating initial compliance, opacity or visible emission observations shall be conducted concurrently with the initial performance test required in [§ 63.7](#) unless one of the following conditions applies:

(A) If no performance test under [§ 63.7](#) is required, opacity or visible emission observations shall be conducted within 60 days after achieving the maximum production rate at which a new or reconstructed source will be operated, but not later than 120 days after initial startup of the source, or within 120 days after the effective date of the relevant standard in the case of new sources that start up before the standard's effective date. If no performance test under [§ 63.7](#) is required, opacity or visible emission observations shall be conducted within 120 days after the compliance date for an existing or modified source; or

(B) If visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under [§ 63.7](#), or within the time period specified in [paragraph \(h\)\(5\)\(i\)\(A\)](#) of this section, the source's owner or operator shall reschedule the opacity or visible emission observations as soon after the initial performance test, or time period, as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. The rescheduled opacity or visible emission observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under [§ 63.7](#). The visible emissions observer shall determine whether visibility or other conditions prevent the opacity or visible emission observations from being made concurrently with the initial performance test in accordance with procedures contained in Test Method 9 or Test Method 22 in appendix A of [part 60 of this chapter](#).

(ii) For the purpose of demonstrating initial compliance, the minimum total time of opacity observations shall be 3 hours (30 6-minute averages) for the performance test or other required set of observations (e.g., for fugitive-type emission sources subject only to an opacity emission standard).

(iii) The owner or operator of an affected source to which an opacity or visible emission standard in this part applies shall conduct opacity or visible emission observations in accordance with the provisions of this section, record the results of the evaluation of emissions, and report to the Administrator the opacity or visible emission results in accordance with the provisions of [§ 63.10\(d\)](#).

(iv) [Reserved]

(v) Opacity readings of portions of plumes that contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity emission standards.

(6) ***Availability of records.*** The owner or operator of an affected source shall make available, upon request by the Administrator, such records that the Administrator deems necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification.

(7) ***Use of a continuous opacity monitoring system.***

(i) The owner or operator of an affected source required to use a continuous opacity monitoring system (COMS) shall record the monitoring data produced during a performance test required under [§ 63.7](#) and shall furnish the Administrator a written report of the monitoring results in accordance with the provisions of [§ 63.10\(e\)\(4\)](#).

(ii) Whenever an opacity emission test method has not been specified in an applicable subpart, or an owner or operator of an affected source is required to conduct Test Method 9 observations (see appendix A of [part 60 of this chapter](#)), the owner or operator may submit, for compliance purposes, COMS data results produced during any performance test required under [§ 63.7](#) in lieu of Method 9 data. If the owner or operator elects to submit COMS data for compliance with the opacity emission standard, he or she shall notify the Administrator of that decision, in writing, simultaneously with the notification under [§ 63.7\(b\)](#) of the date the performance test is scheduled to begin. Once the owner or operator of an affected source has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent performance tests required under [§ 63.7](#), unless the owner or operator notifies the Administrator in writing to the contrary not later than with the notification under [§ 63.7\(b\)](#) of the date the subsequent performance test is scheduled to begin.

(iii) For the purposes of determining compliance with the opacity emission standard during a performance test required under [§ 63.7](#) using COMS data, the COMS data shall be reduced to 6-minute averages over the duration of the mass emission performance test.

(iv) The owner or operator of an affected source using a COMS for compliance purposes is responsible for demonstrating that he/she has complied with the performance evaluation requirements of [§ 63.8\(e\)](#), that the COMS has been properly maintained, operated, and data quality-assured, as specified in [§ 63.8\(c\)](#) and [§ 63.8\(d\)](#), and that the resulting data have not been altered in any way.

(v) Except as provided in [paragraph \(h\)\(7\)\(ii\)](#) of this section, the results of continuous monitoring by a COMS that indicate that the opacity at the time visual observations were made was not in excess of the emission standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the affected source proves that, at the

time of the alleged violation, the instrument used was properly maintained, as specified in [§ 63.8\(c\)](#), and met Performance Specification 1 in appendix B of [part 60 of this chapter](#), and that the resulting data have not been altered in any way.

(8) ***Finding of compliance.*** The Administrator will make a finding concerning an affected source's compliance with an opacity or visible emission standard upon obtaining all the compliance information required by the relevant standard (including the written reports of the results of the performance tests required by [§ 63.7](#), the results of Test Method 9 or another required opacity or visible emission test method, the observer certification required by [paragraph \(h\)\(6\)](#) of this section, and the continuous opacity monitoring system results, whichever is/are applicable) and any information available to the Administrator needed to determine whether proper operation and maintenance practices are being used.

(9) ***Adjustment to an opacity emission standard.***

(i) If the Administrator finds under [paragraph \(h\)\(8\)](#) of this section that an affected source is in compliance with all relevant standards for which initial performance tests were conducted under [§ 63.7](#), but during the time such performance tests were conducted fails to meet any relevant opacity emission standard, the owner or operator of such source may petition the Administrator to make appropriate adjustment to the opacity emission standard for the affected source. Until the Administrator notifies the owner or operator of the appropriate adjustment, the relevant opacity emission standard remains applicable.

(ii) The Administrator may grant such a petition upon a demonstration by the owner or operator that -

(A) The affected source and its associated air pollution control equipment were operated and maintained in a manner to minimize the opacity of emissions during the performance tests;

(B) The performance tests were performed under the conditions established by the Administrator; and

(C) The affected source and its associated air pollution control equipment were incapable of being adjusted or operated to meet the relevant opacity emission standard.

(iii) The Administrator will establish an adjusted opacity emission standard for the affected source meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity emission standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity emission standard in the Federal Register.

(iv) After the Administrator promulgates an adjusted opacity emission standard for an affected source, the owner or operator of such source shall be subject to the new opacity emission standard, and the new opacity emission standard shall apply to such source during any subsequent performance tests.

(i) ***Extension of compliance with emission standards.***

(1) Until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with all applicable requirements of this part.

(2) ***Extension of compliance for early reductions and other reductions -***

(i) ***Early reductions.*** Pursuant to section 112(i)(5) of the Act, if the owner or operator of an existing source demonstrates that the source has achieved a reduction in emissions of hazardous air pollutants in accordance with the provisions of [subpart D of this part](#), the Administrator (or the State with an approved permit program) will grant the owner or operator an extension of compliance with specific requirements of this part, as specified in subpart D.

(ii) ***Other reductions.*** Pursuant to section 112(i)(6) of the Act, if the owner or operator of an existing source has installed best available control technology (BACT) (as defined in section 169(3) of the Act) or technology required to meet a lowest achievable emission rate (LAER) (as defined in section 171 of the Act) prior to the promulgation of an emission standard in this part applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to the BACT or LAER installation, the Administrator will grant the owner or operator an extension of compliance with such emission standard that will apply until the date 5 years after the date on which such installation was achieved, as determined by the Administrator.

(3) ***Request for extension of compliance.*** [Paragraphs \(i\)\(4\)](#) through [\(i\)\(7\)](#) of this section concern requests for an extension of compliance with a relevant standard under this part (except requests for an extension of compliance under [paragraph \(i\)\(2\)\(i\)](#) of this section will be handled through procedures specified in [subpart D of this part](#)).

(4)

(i)

(A) The owner or operator of an existing source who is unable to comply with a relevant standard established under this part pursuant to section 112(d) of the Act may request that the Administrator (or a State, when the State has an approved part 70 permit program and the source is required to obtain a part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the source up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 1-year extension of compliance is insufficient to dry and cover mining waste in order to reduce emissions of any hazardous air pollutant. The owner or operator of an affected source who has requested an extension of compliance under this paragraph and who is



otherwise required to obtain a title V permit shall apply for such permit or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the affected source's title V permit according to the provisions of part 70 or Federal title V regulations in this chapter ([42 U.S.C. 7661](#)), whichever are applicable.

(B) Any request under this paragraph for an extension of compliance with a relevant standard must be submitted in writing to the appropriate authority no later than 120 days prior to the affected source's compliance date (as specified in [paragraphs \(b\)](#) and [\(c\)](#) of this section), except as provided for in [paragraph \(i\)\(4\)\(i\)\(C\)](#) of this section. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the date of denial. Emission standards established under this part may specify alternative dates for the submittal of requests for an extension of compliance if alternatives are appropriate for the source categories affected by those standards.

(C) An owner or operator may submit a compliance extension request after the date specified in [paragraph \(i\)\(4\)\(i\)\(B\)](#) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in [paragraph \(i\)\(6\)\(i\)](#) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(ii) The owner or operator of an existing source unable to comply with a relevant standard established under this part pursuant to section 112(f) of the Act may request that the Administrator grant an extension allowing the source up to 2 years after the standard's effective date to comply with the standard. The Administrator may grant such an extension if he/she finds that such additional period is necessary for the installation of controls and that steps will be taken during the period of the extension to assure that the health of persons will be protected from imminent endangerment. Any request for an extension of compliance with a relevant standard under this paragraph must be submitted in writing to the Administrator not later than 90 calendar days after the effective date of the relevant standard.

(5) The owner or operator of an existing source that has installed BACT or technology required to meet LAER [as specified in [paragraph \(i\)\(2\)\(ii\)](#) of this section] prior to the promulgation of a relevant emission standard in this part may request that the Administrator grant an extension allowing the source 5 years from the date on which such installation was achieved, as determined by the Administrator, to comply with the standard. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 120 days after the promulgation date of the



standard. The Administrator may grant such an extension if he or she finds that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(6)

(i) The request for a compliance extension under [paragraph \(i\)\(4\)](#) of this section shall include the following information:

(A) A description of the controls to be installed to comply with the standard;

(B) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(1) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated; and

(2) The date by which final compliance is to be achieved.

(3) The date by which on-site construction, installation of emission control equipment, or a process change is to be completed; and

(4) The date by which final compliance is to be achieved;

(C)-(D)

(ii) The request for a compliance extension under [paragraph \(i\)\(5\)](#) of this section shall include all information needed to demonstrate to the Administrator's satisfaction that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(7) Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(8) ***Approval of request for extension of compliance.*** [Paragraphs \(i\)\(9\)](#) through [\(i\)\(14\)](#) of this section concern approval of an extension of compliance requested under [paragraphs \(i\)\(4\)](#) through [\(i\)\(6\)](#) of this section.

(9) Based on the information provided in any request made under [paragraphs \(i\)\(4\)](#) through [\(i\)\(6\)](#) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with an emission standard, as specified in [paragraphs \(i\)\(4\)](#) and [\(i\)\(5\)](#) of this section.

(10) The extension will be in writing and will -

(i) Identify each affected source covered by the extension;

- (ii) Specify the termination date of the extension;
- (iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;
- (iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and
- (v)
  - (A) Under paragraph (i)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or
  - (B) Under paragraph (i)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

(11) The owner or operator of an existing source that has been granted an extension of compliance under [paragraph \(i\)\(10\)](#) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached. The contents of the progress reports and the dates by which they shall be submitted will be specified in the written extension of compliance granted under [paragraph \(i\)\(10\)](#) of this section.

(12)

- (i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under [paragraph \(i\)\(4\)\(i\)](#) or [\(i\)\(5\)](#) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete.
- (ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(iv) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(13)

(i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under [paragraph \(i\)\(4\)\(ii\)](#) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 15 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator will notify the owner or operator in writing of the Administrator's intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator before further action on the request.

(iv) A final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be

made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(14) The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under [paragraph \(i\)\(10\)\(iii\)](#) or [\(iv\)](#) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(i) Notice of the reason for termination; and

(ii) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(iii) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(15) [Reserved]

(16) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the Act.

(j) ***Exemption from compliance with emission standards.*** The President may exempt any stationary source from compliance with any relevant standard established pursuant to section 112 of the Act for a period of not more than 2 years if the President determines that the technology to implement such standard is not available and that it is in the national security interests of the United States to do so. An exemption under this paragraph may be extended for 1 or more additional periods, each period not to exceed 2 years.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [67 FR 16599](#), Apr. 5, 2002; [68 FR 32600](#), May 30, 2003; [71 FR 20454](#), Apr. 20, 2006; [85 FR 73885](#), Nov. 19, 2020; [86 FR 13821](#), Mar. 11, 2021]

## **§ 63.7 Performance testing requirements.**

(a) ***Applicability and performance test dates.***

(1) The applicability of this section is set out in [§ 63.1\(a\)\(4\)](#).

(2) Except as provided in [paragraph \(a\)\(4\)](#) of this section, if required to do performance testing by a relevant standard, and unless a waiver of performance testing is obtained under this section or the conditions of [paragraph \(c\)\(3\)\(ii\)\(B\)](#) of this section apply, the owner or

operator of the affected source must perform such tests within 180 days of the compliance date for such source.

(i)-(viii) [Reserved]

(ix) Except as provided in [paragraph \(a\)\(4\)](#) of this section, when an emission standard promulgated under this part is more stringent than the standard proposed (see [§ 63.6\(b\)\(3\)](#)), the owner or operator of a new or reconstructed source subject to that standard for which construction or reconstruction is commenced between the proposal and promulgation dates of the standard shall comply with performance testing requirements within 180 days after the standard's effective date, or within 180 days after startup of the source, whichever is later. If the promulgated standard is more stringent than the proposed standard, the owner or operator may choose to demonstrate compliance with either the proposed or the promulgated standard. If the owner or operator chooses to comply with the proposed standard initially, the owner or operator shall conduct a second performance test within 3 years and 180 days after the effective date of the standard, or after startup of the source, whichever is later, to demonstrate compliance with the promulgated standard.

(3) The Administrator may require an owner or operator to conduct performance tests at the affected source at any other time when the action is authorized by section 114 of the Act.

(4) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure:

(i) The owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline specified in [paragraph \(a\)\(2\)](#) or [\(a\)\(3\)](#) of this section, or elsewhere in this part, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall occur as soon as practicable.

(ii) The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the owner or operator proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure occurs.

(iii) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an extension as soon as practicable.

(iv) Until an extension of the performance test deadline has been approved by the Administrator under [paragraphs \(a\)\(4\)\(i\), \(a\)\(4\)\(ii\), and \(a\)\(4\)\(iii\)](#) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.

**(b) *Notification of performance test.***

(1) The owner or operator of an affected source must notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled to begin to allow the Administrator, upon request, to review and approve the site-specific test plan required under [paragraph \(c\)](#) of this section and to have an observer present during the test.

(2) In the event the owner or operator is unable to conduct the performance test on the date specified in the notification requirement specified in [paragraph \(b\)\(1\)](#) of this section due to unforeseeable circumstances beyond his or her control, the owner or operator must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the owner or operator of legal responsibility for compliance with any other applicable provisions of this part or with any other applicable Federal, State, or local requirement, nor will it prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

**(c) *Quality assurance program.***

(1) The results of the quality assurance program required in this paragraph will be considered by the Administrator when he/she determines the validity of a performance test.

(2)

(i) ***Submission of site-specific test plan.*** Before conducting a required performance test, the owner or operator of an affected source shall develop and, if requested by the Administrator, shall submit a site-specific test plan to the Administrator for approval. The test plan shall include a test program summary, the test schedule, data quality objectives, and both an internal and external quality assurance (QA) program. Data quality objectives are the pretest expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data precision; an example of internal QA is the sampling and analysis of replicate samples.

(iii) The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid



audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

(A) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3A and 3C of appendix A-3 of [part 60 of this chapter](#); Methods 6C, 7E, 9, and 10 of appendix A-4 of part 60; Methods 18 and 19 of appendix A-6 of part 60; Methods 20, 22, and 25A of appendix A-7 of part 60; Methods 30A and 30B of appendix A-8 of part 60; and Methods 303, 318, 320, and 321 of [appendix A of this part](#). If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. “Commercially available” means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, [www.epa.gov/ttn/emc](http://www.epa.gov/ttn/emc), to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering



an audit sample, the source owner, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request, and the compliance authority may grant, a waiver to the requirement that a representative of the compliance authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance authority and then report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

(B) An AASP shall have and shall prepare, analyze, and report the true value of audit samples in accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:

- (1) Preparing the sample;
- (2) Confirming the true concentration of the sample;
- (3) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range;
- (4) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;
- (5) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;
- (6) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;

(7) Reporting the results from each audit sample in a timely manner to the compliance authority and to the source owner, operator, or representative by the AASP. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.

(8) Evaluating the acceptance limits of samples at least once every two years to determine in consultation with the voluntary consensus standard body if they should be changed.

(9) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

(C) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

(1) Checking audit samples to confirm their true value as reported by the AASP.

(2) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years.

(3) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.

(D) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget *Circular A-119*. A copy of Circular A-119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395-6880 or downloading online at

[http://standards.gov/standards\\_gov/a119.cfm](http://standards.gov/standards_gov/a119.cfm). The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in [paragraphs \(c\)\(2\)\(iii\)\(B\) through \(C\)](#) of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, <http://www.epa.gov/ttn/emc>.

(iv) The owner or operator of an affected source shall submit the site-specific test plan to the Administrator upon the Administrator's request at least 60 calendar days before the performance test is scheduled to take place, that is, simultaneously with the notification of intention to conduct a performance test required under [paragraph \(b\)](#) of this section, or on a mutually agreed upon date.

(v) The Administrator may request additional relevant information after the submittal of a site-specific test plan.

**(3) *Approval of site-specific test plan.***

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the site-specific test plan (if review of the site-specific test plan is requested) within 30 calendar days after receipt of the original plan and within 30 calendar days after receipt of any supplementary information that is submitted under [paragraph \(c\)\(3\)\(i\)\(B\)](#) of this section. Before disapproving any site-specific test plan, the Administrator will notify the applicant of the Administrator's intention to disapprove the plan together with -

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present, within 30 calendar days after he/she is notified of the intended disapproval, additional information to the Administrator before final action on the plan.

(ii) In the event that the Administrator fails to approve or disapprove the site-specific test plan within the time period specified in [paragraph \(c\)\(3\)\(i\)](#) of this section, the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the test method(s) specified in the relevant standard or with only minor changes to those tests methods (see [paragraph \(e\)\(2\)\(i\)](#) of this section), the owner or operator must conduct the performance test within the time specified in this section using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator

approves the use of the alternative method when the Administrator approves the site-specific test plan (if review of the site-specific test plan is requested) or after the alternative method is approved (see [paragraph \(f\)](#) of this section). However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval 45 days after submission of the site-specific test plan or request to use an alternative method. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(iii) Neither the submission of a site-specific test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall -

(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(d) ***Performance testing facilities.*** If required to do performance testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source, shall provide performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such source. This includes:

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures;

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

**(e) *Conduct of performance tests.***

(1) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under [§ 63.6\(e\)](#). 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.

(2) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this section, in each relevant standard, and, if required, in applicable appendices of [parts 51, 60, 61, and 63 of this chapter](#) unless the Administrator -

(i) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology (see definition in [§ 63.90\(a\)](#)). Such changes may be approved in conjunction with approval of the site-specific test plan (see [paragraph \(c\)](#) of this section); or

(ii) Approves the use of an intermediate or major change or alternative to a test method (see definitions in [§ 63.90\(a\)](#)), the results of which the Administrator has determined to be adequate for indicating whether a specific affected source is in compliance; or

(iii) Approves shorter sampling times or smaller sample volumes when necessitated by process variables or other factors; or

(iv) Waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the Administrator's satisfaction that the affected source is in compliance with the relevant standard.

(3) Unless otherwise specified in a relevant standard or test method, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the relevant standard. For the purpose of determining compliance with a relevant standard, the arithmetic mean of the results of the three runs shall apply. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run in the event that -

(i) A sample is accidentally lost after the testing team leaves the site; or

(ii) Conditions occur in which one of the three runs must be discontinued because of forced shutdown; or

(iii) Extreme meteorological conditions occur; or

(iv) Other circumstances occur that are beyond the owner or operator's control.

(4) Nothing in [paragraphs \(e\)\(1\)](#) through [\(e\)\(3\)](#) of this section shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

**(f) *Use of an alternative test method* -**

(1) **General.** Until authorized to use an intermediate or major change or alternative to a test method, the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) The owner or operator of an affected source required to do performance testing by a relevant standard may use an alternative test method from that specified in the standard provided that the owner or operator -

(i) Notifies the Administrator of his or her intention to use an alternative test method at least 60 days before the performance test is scheduled to begin;

(ii) Uses Method 301 in [appendix A of this part](#) to validate the alternative test method. This may include the use of specific procedures of Method 301 if use of such procedures are sufficient to validate the alternative test method; and

(iii) Submits the results of the Method 301 validation process along with the notification of intention and the justification for not using the specified test method. The owner or operator may submit the information required in this paragraph well in advance of the deadline specified in [paragraph \(f\)\(2\)\(i\)](#) of this section to ensure a timely review by the Administrator in order to meet the performance test date specified in this section or the relevant standard.

(3) The Administrator will determine whether the owner or operator's validation of the proposed alternative test method is adequate and issue an approval or disapproval of the alternative test method. If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method. However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval/disapproval 45 days after submission of the request to use an alternative method and the request satisfies the requirements in [paragraph \(f\)\(2\)](#) of this section. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.



(4) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative test method for the purposes of demonstrating compliance with a relevant standard, the Administrator may require the use of a test method specified in a relevant standard.

(5) If the owner or operator uses an alternative test method for an affected source during a required performance test, the owner or operator of such source shall continue to use the alternative test method for subsequent performance tests at that affected source until he or she receives approval from the Administrator to use another test method as allowed under [§ 63.7\(f\)](#).

(6) Neither the validation and approval process nor the failure to validate an alternative test method shall abrogate the owner or operator's responsibility to comply with the requirements of this part.

**(g) *Data analysis, recordkeeping, and reporting.***

(1) Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, results of a performance test shall include the analysis of samples, determination of emissions, and raw data. A performance test is “completed” when field sample collection is terminated. The owner or operator of an affected source shall report the results of the performance test to the Administrator before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator (see [§ 63.9\(i\)](#)). The results of the performance test shall be submitted as part of the notification of compliance status required under [§ 63.9\(h\)](#). Before a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the appropriate permitting authority.

(2) Contents of a performance test, CMS performance evaluation, or CMS quality assurance test report (electronic or paper submitted copy). Unless otherwise specified in a relevant standard, test method, CMS performance specification, or quality assurance requirement for a CMS, or as otherwise approved by the Administrator in writing, the report shall include the elements identified in [paragraphs \(g\)\(2\)\(i\)](#) through [\(vi\)](#) of this section.

(i) General identification information for the facility including a mailing address, the physical address, the owner or operator or responsible official (where applicable) and his/her email address, and the appropriate Federal Registry System (FRS) number for the facility.

(ii) Purpose of the test including the applicable regulation requiring the test, the pollutant(s) and other parameters being measured, the applicable emission standard, and any process parameter component, and a brief process description.



(iii) Description of the emission unit tested including fuel burned, control devices, and vent characteristics; the appropriate source classification code (SCC); the permitted maximum process rate (where applicable); and the sampling location.

(iv) Description of sampling and analysis procedures used and any modifications to standard procedures, quality assurance procedures and results, record of process operating conditions that demonstrate the applicable test conditions are met, and values for any operating parameters for which limits were being set during the test.

(v) Where a test method, CEMS, PEMS, or COMS performance specification, or on-going quality assurance requirement for a CEMS, PEMS, or COMS requires you record or report, the following shall be included in your report: Record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, chain-of-custody documentation, and example calculations for reported results.

(vi) Identification of the company conducting the performance test including the primary office address, telephone number, and the contact for this test including his/her email address.

(3) For a minimum of 5 years after a performance test is conducted, the owner or operator shall retain and make available, upon request, for inspection by the Administrator the records or results of such performance test and other data needed to determine emissions from an affected source.

**(h) *Waiver of performance tests.***

(1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

**(3) *Request to waive a performance test.***

(i) If a request is made for an extension of compliance under [§ 63.6\(i\)](#), the application for a waiver of an initial performance test shall accompany the information required for the request for an extension of compliance. If no extension of compliance is requested or if the owner or operator has requested an extension of compliance and the Administrator is still considering that request, the application for a waiver of an initial performance test shall be submitted at least 60 days before the performance test if the site-specific test plan under [paragraph \(c\)](#) of this section is not submitted.

(ii) If an application for a waiver of a subsequent performance test is made, the application may accompany any required compliance progress report, compliance status report, or excess emissions and continuous monitoring system performance report [such as those required under [§ 63.6\(i\)](#), [§ 63.9\(h\)](#), and [§ 63.10\(e\)](#) or specified in a relevant standard or in the source's title V permit], but it shall be submitted at least 60 days before the performance test if the site-specific test plan required under [paragraph \(c\)](#) of this section is not submitted.

(iii) Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test.

(4) ***Approval of request to waive performance test.*** The Administrator will approve or deny a request for a waiver of a performance test made under [paragraph \(h\)\(3\)](#) of this section when he/she -

(i) Approves or denies an extension of compliance under [§ 63.6\(i\)\(8\)](#); or

(ii) Approves or disapproves a site-specific test plan under [§ 63.7\(c\)\(3\)](#); or

(iii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iv) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [65 FR 62215](#), Oct. 17, 2000; [67 FR 16602](#), Apr. 5, 2002; [72 FR 27443](#), May 16, 2007; [75 FR 55655](#), Sept. 13, 2010; [79 FR 11277](#), Feb. 27, 2014; [81 FR 59825](#), Aug. 30, 2016; [83 FR 56725](#), Nov. 14, 2018]

## **§ 63.8 Monitoring requirements.**

(a) ***Applicability.***

(1) The applicability of this section is set out in [§ 63.1\(a\)\(4\)](#).

(2) For the purposes of this part, all CMS required under relevant standards shall be subject to the provisions of this section upon promulgation of performance specifications for CMS as specified in the relevant standard or otherwise by the Administrator.

(3) [Reserved]

(4) Additional monitoring requirements for control devices used to comply with provisions in relevant standards of this part are specified in [§ 63.11](#).

**(b) *Conduct of monitoring.***

(1) Monitoring shall be conducted as set forth in this section and the relevant standard(s) unless the Administrator -

(i) Specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures (see [§ 63.90\(a\)](#) for definition); or

(ii) Approves the use of an intermediate or major change or alternative to any monitoring requirements or procedures (see [§ 63.90\(a\)](#) for definition).

(iii) Owners or operators with flares subject to [§ 63.11\(b\)](#) are not subject to the requirements of this section unless otherwise specified in the relevant standard.

(2)

(i) When the emissions from two or more affected sources are combined before being released to the atmosphere, the owner or operator may install an applicable CMS for each emission stream or for the combined emissions streams, provided the monitoring is sufficient to demonstrate compliance with the relevant standard.

(ii) If the relevant standard is a mass emission standard and the emissions from one affected source are released to the atmosphere through more than one point, the owner or operator must install an applicable CMS at each emission point unless the installation of fewer systems is -

(A) Approved by the Administrator; or

(B) Provided for in a relevant standard (e.g., instead of requiring that a CMS be installed at each emission point before the effluents from those points are channeled to a common control device, the standard specifies that only one CMS is required to be installed at the vent of the control device).

(3) When more than one CMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CMS. However, when one CMS is used as a backup to another CMS, the owner or operator shall report the results from the CMS used to meet the monitoring requirements of this part. If both such CMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CMS for the relevant compliance period.

**(c) *Operation and maintenance of continuous monitoring systems.***

(1) The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of an affected source must maintain and operate each CMS as specified in [§ 63.6\(e\)\(1\)](#).

(ii) The owner or operator must keep the necessary parts for routine repairs of the affected CMS equipment readily available.

(iii) The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan for CMS as specified in [§ 63.6\(e\)\(3\)](#).

(2)

(i) All CMS must be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

(3) All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under [§ 63.7](#). Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(4) Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS, including COMS and CEMS, shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(i) 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.

(ii) All CEMS for measuring emissions other than opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(5) Unless otherwise approved by the Administrator, minimum procedures for COMS shall include a method for producing a simulated zero opacity condition and an upscale (high-level) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of all the analyzer's internal optical surfaces and all electronic circuitry, including the lamp and photodetector assembly normally used in the measurement of opacity.

(6) The owner or operator of a CMS that is not a CPMS, which is installed in accordance with the provisions of this part and the applicable CMS performance specification(s), must check the zero (low-level) and high-level calibration drifts at least once daily in accordance with the written procedure specified in the performance evaluation plan developed under [paragraphs \(e\)\(3\)\(i\)](#) and [\(ii\)](#) of this section. The zero (low-level) and high-level calibration drifts must be adjusted, at a minimum, whenever the 24-hour zero (low-level) drift exceeds two times the limits of the applicable performance specification(s) specified in the relevant standard. The system shall allow the amount of excess zero (low-level) and high-level drift measured at the 24-hour interval checks to be recorded and quantified whenever specified. For COMS, all optical and instrumental surfaces exposed to the effluent gases must be cleaned prior to performing the zero (low-level) and high-level drift adjustments; the optical surfaces and instrumental surfaces must be cleaned when the cumulative automatic zero compensation, if applicable, exceeds 4 percent opacity. The CPMS must be calibrated prior to use for the purposes of complying with this section. The CPMS must be checked daily for indication that the system is responding. If the CPMS system includes an internal system check, results must be recorded and checked daily for proper operation.

(7)

(i) A CMS is out of control if -

(A) The zero (low-level), mid-level (if applicable), or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard; or

(B) The CMS fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit; or

(C) The COMS CD exceeds two times the limit in the applicable performance specification in the relevant standard.

(ii) When the CMS is out of control, the owner or operator of the affected source shall take the necessary corrective action and shall repeat all necessary tests which indicate that the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour the owner or operator conducts a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the

allowable limits. During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement established under this part.

(8) The owner or operator of a CMS that is out of control as defined in [paragraph \(c\)\(7\)](#) of this section shall submit all information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken, in the excess emissions and continuous monitoring system performance report required in [§ 63.10\(e\)\(3\)](#).

**(d) *Quality control program.***

(1) The results of the quality control program required in this paragraph will be considered by the Administrator when he/she determines the validity of monitoring data.

(2) The owner or operator of an affected source that is required to use a CMS and is subject to the monitoring requirements of this section and a relevant standard shall develop and implement a CMS quality control program. As part of the quality control program, the owner or operator shall develop and submit to the Administrator for approval upon request a site-specific performance evaluation test plan for the CMS performance evaluation required in [paragraph \(e\)\(3\)\(i\)](#) of this section, according to the procedures specified in paragraph (e). In addition, each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the following operations:

- (i) Initial and any subsequent calibration of the CMS;
- (ii) Determination and adjustment of the calibration drift of the CMS;
- (iii) Preventive 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.

(3) 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. Where relevant, e.g., program of corrective action for a malfunctioning CMS, these written procedures may be incorporated as part of the affected source's startup, shutdown, and malfunction plan to avoid duplication of planning and recordkeeping efforts.

**(e) *Performance evaluation of continuous monitoring systems -***

(1) **General.** When required by a relevant standard, and at any other time the Administrator may require under section 114 of the Act, the owner or operator of an affected source being monitored shall conduct a performance evaluation of the CMS. Such performance evaluation shall be conducted according to the applicable specifications and procedures described in this section or in the relevant standard.

(2) **Notification of performance evaluation.** The owner or operator shall notify the Administrator in writing of the date of the performance evaluation simultaneously with the notification of the performance test date required under [§ 63.7\(b\)](#) or at least 60 days prior to the date the performance evaluation is scheduled to begin if no performance test is required.

(3)

(i) **Submission of site-specific performance evaluation test plan.** Before conducting a required CMS performance evaluation, the owner or operator of an affected source shall develop and submit a site-specific performance evaluation test plan to the Administrator for approval upon request. The performance evaluation test plan shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external QA program. Data quality objectives are the pre-evaluation expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance. The external QA program shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(iii) The owner or operator of an affected source shall submit the site-specific performance evaluation test plan to the Administrator (if requested) at least 60 days before the performance test or performance evaluation is scheduled to begin, or on a mutually agreed upon date, and review and approval of the performance evaluation test plan by the Administrator will occur with the review and approval of the site-specific test plan (if review of the site-specific test plan is requested).

(iv) The Administrator may request additional relevant information after the submittal of a site-specific performance evaluation test plan.

(v) In the event that the Administrator fails to approve or disapprove the site-specific performance evaluation test plan within the time period specified in [§ 63.7\(c\)\(3\)](#), the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the monitoring method(s) specified in the relevant standard, the owner or operator shall conduct the performance evaluation within the time specified in this subpart using the specified method(s);



(B) If the owner or operator intends to demonstrate compliance by using an alternative to a monitoring method specified in the relevant standard, the owner or operator shall refrain from conducting the performance evaluation until the Administrator approves the use of the alternative method. If the Administrator does not approve the use of the alternative method within 30 days before the performance evaluation is scheduled to begin, the performance evaluation deadlines specified in [paragraph \(e\)\(4\)](#) of this section may be extended such that the owner or operator shall conduct the performance evaluation within 60 calendar days after the Administrator approves the use of the alternative method. Notwithstanding the requirements in the preceding two sentences, the owner or operator may proceed to conduct the performance evaluation as required in this section (without the Administrator's prior approval of the site-specific performance evaluation test plan) if he/she subsequently chooses to use the specified monitoring method(s) instead of an alternative.

(vi) Neither the submission of a site-specific performance evaluation test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall -

(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

**(4) *Conduct of performance evaluation and performance evaluation dates.*** The owner or operator of an affected source shall conduct a performance evaluation of a required CMS during any performance test required under [§ 63.7](#) in accordance with the applicable performance specification as specified in the relevant standard. Notwithstanding the requirement in the previous sentence, if the owner or operator of an affected source elects to submit COMS data for compliance with a relevant opacity emission standard as provided under [§ 63.6\(h\)\(7\)](#), he/she shall conduct a performance evaluation of the COMS as specified in the relevant standard, before the performance test required under [§ 63.7](#) is conducted in time to submit the results of the performance evaluation as specified in [paragraph \(e\)\(5\)\(ii\)](#) of this section. If a performance test is not required, or the requirement for a performance test has been waived under [§ 63.7\(h\)](#), the owner or operator of an affected source shall conduct the performance evaluation not later than 180 days after the appropriate compliance date for the affected source, as specified in [§ 63.7\(a\)](#), or as otherwise specified in the relevant standard.

**(5) *Reporting performance evaluation results.***

(i) The owner or operator shall furnish the Administrator a copy of a written report of the results of the performance evaluation containing the information specified in [§ 63.7\(g\)\(2\)\(i\)](#) through [\(vi\)](#) simultaneously with the results of the performance test required under [§ 63.7](#)

or within 60 days of completion of the performance evaluation, unless otherwise specified in a relevant standard.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under [§ 63.7](#) and described in [§ 63.6\(d\)\(6\)](#) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation under this paragraph. The copies shall be provided at least 15 calendar days before the performance test required under [§ 63.7](#) is conducted.

**(f) Use of an alternative monitoring method -**

(1) **General.** Until permission to use an alternative monitoring procedure (minor, intermediate, or major changes; see definition in [§ 63.90\(a\)](#)) has been granted by the Administrator under this [paragraph \(f\)\(1\)](#), the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their measurements and the measurements of opacity by a system complying with the

requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4)

(i) ***Request to use alternative monitoring procedure.*** An owner or operator who wishes to use an alternative monitoring procedure must submit an application to the Administrator as described in [paragraph \(f\)\(4\)\(ii\)](#) of this section. The application may be submitted at any time provided that the monitoring procedure is not the performance test method used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring procedure will serve as the performance test method that is to be used to demonstrate compliance with a relevant standard, the application must be submitted at least 60 days before the performance evaluation is scheduled to begin and must meet the requirements for an alternative test method under [§ 63.7\(f\)](#).

(ii) The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in [§ 63.2](#) and a performance evaluation test plan, if required, as specified in [paragraph \(e\)\(3\)](#) of this section. In addition, the application must include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) The owner or operator may submit the information required in this paragraph well in advance of the submittal dates specified in paragraph (f)(4)(i) above to ensure a timely review by the Administrator in order to meet the compliance demonstration date specified in this section or the relevant standard.

(iv) Application for minor changes to monitoring procedures, as specified in [paragraph \(b\)\(1\)](#) of this section, may be made in the site-specific performance evaluation plan.

(5) ***Approval of request to use alternative monitoring procedure.***

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any

supplementary information that is submitted. If a request for a minor change is made in conjunction with site-specific performance evaluation plan, then approval of the plan will constitute approval of the minor change. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with -

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) The Administrator may establish general procedures and criteria in a relevant standard to accomplish the requirements of [paragraph \(f\)\(5\)\(i\)](#) of this section.

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under [paragraph \(f\)\(5\)\(i\)](#) of this section, the owner or operator of such source shall continue to use the alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by [§ 63.8\(f\)](#).

(6) ***Alternative to the relative accuracy test.*** An alternative to the relative accuracy test for CEMS specified in a relevant standard may be requested as follows:

(i) ***Criteria for approval of alternative procedures.*** An alternative to the test method for determining relative accuracy is available for affected sources with emission rates demonstrated to be less than 50 percent of the relevant standard. The owner or operator of an affected source may petition the Administrator under [paragraph \(f\)\(6\)\(ii\)](#) of this section to substitute the relative accuracy test in section 7 of Performance Specification 2 with the procedures in section 10 if the results of a performance test conducted according to the requirements in [§ 63.7](#), or other tests performed following the criteria in [§ 63.7](#), demonstrate that the emission rate of the pollutant of interest in the units of the relevant standard is less than 50 percent of the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the owner or operator may petition the Administrator to substitute the relative accuracy test with the procedures in section 10 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the CEMS is used continuously to determine compliance with the relevant standard.

(ii) ***Petition to use alternative to relative accuracy test.*** The petition to use an alternative to the relative accuracy test shall include a detailed description of the procedures to be applied, the location and the procedure for conducting the alternative, the concentration or response levels of the alternative relative accuracy materials, and the other equipment

checks included in the alternative procedure(s). The Administrator will review the petition for completeness and applicability. The Administrator's determination to approve an alternative will depend on the intended use of the CEMS data and may require specifications more stringent than in Performance Specification 2.

(iii) ***Rescission of approval to use alternative to relative accuracy test.*** The Administrator will review the permission to use an alternative to the CEMS relative accuracy test and may rescind such permission if the CEMS data from a successful completion of the alternative relative accuracy procedure indicate that the affected source's emissions are approaching the level of the relevant standard. The criterion for reviewing the permission is that the collection of CEMS data shows that emissions have exceeded 70 percent of the relevant standard for any averaging period, as specified in the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the criterion for reviewing the permission is that the collection of CEMS data shows that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for any averaging period, as specified in the relevant standard. The owner or operator of the affected source shall maintain records and determine the level of emissions relative to the criterion for permission to use an alternative for relative accuracy testing. If this criterion is exceeded, the owner or operator shall notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increased emissions. The Administrator will review the notification and may rescind permission to use an alternative and require the owner or operator to conduct a relative accuracy test of the CEMS as specified in section 7 of Performance Specification 2. The Administrator will review the notification and may rescind permission to use an alternative and require the owner or operator to conduct a relative accuracy test of the CEMS as specified in [section 8.4](#) of Performance Specification 2.

(g) ***Reduction of monitoring data.***

(1) The owner or operator of each CMS must reduce the monitoring data as specified in [paragraphs \(g\)\(1\)](#) through [\(5\)](#) of this section.

(2) The owner or operator of each COMS shall reduce all data to 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period. Data from CEMS for measurement other than opacity, unless otherwise specified in the relevant standard, shall be reduced to 1-hour averages computed from four or more data points equally spaced over each 1-hour period, except during periods when calibration, quality assurance, or maintenance activities pursuant to provisions of this part are being performed. During these periods, a valid hourly average shall consist of at least two data points with each representing a 15-minute period. Alternatively, an arithmetic or integrated 1-hour average of CEMS data may be used. Time periods for averaging are defined in [§ 63.2](#).

(3) The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant).

(4) All emission data shall be converted into units of the relevant standard for reporting purposes using the conversion procedures specified in that standard. After conversion into units of the relevant standard, the data may be rounded to the same number of significant digits as used in that standard to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

(5) Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments must not be included in any data average computed under this part. For the owner or operator complying with the requirements of [§ 63.10\(b\)\(2\)\(vii\)\(A\)](#) or [\(B\)](#), data averages must include any data recorded during periods of monitor breakdown or malfunction.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [64 FR 7468](#), Feb. 12, 1999; [67 FR 16603](#), Apr. 5, 2002; [71 FR 20455](#), Apr. 20, 2006; [79 FR 11277](#), Feb. 27, 2014; [83 FR 56725](#), Nov. 14, 2018]

## **§ 63.9 Notification requirements.**

### ***(a) Applicability and general information.***

(1) The applicability of this section is set out in [§ 63.1\(a\)\(4\)](#).

(2) For affected sources that have been granted an extension of compliance under [subpart D of this part](#), the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a notice that contains all the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(4)

(i) Before a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in [§ 63.13](#)).

(ii) After a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of the EPA, as specified in [paragraph \(a\)\(4\)\(i\)](#) of this section. The Regional Office may waive this requirement for any notifications at its discretion.



(b) ***Initial notifications.***

(1)

(i) The requirements of this paragraph apply to the owner or operator of an affected source when such source becomes subject to a relevant standard.

(ii) If an area source subsequently becomes a major source that is subject to the emission standard or other requirement, such source shall be subject to the notification requirements of this section. Area sources previously subject to major source requirements that become major sources again are also subject to the notification requirements of this paragraph and must submit the notification according to the requirements of [paragraph \(k\)](#) of this section.

(iii) Affected sources that are required under this paragraph to submit an initial notification may use the application for approval of construction or reconstruction under [§ 63.5\(d\) of this subpart](#), if relevant, to fulfill the initial notification requirements of this paragraph.

(2) The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard), shall provide the following information:

(i) The name and address of the owner or operator;

(ii) The address (i.e., physical location) of the affected source;

(iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;

(iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and

(v) A statement of whether the affected source is a major source or an area source.

(3) [Reserved]

(4) The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under [§ 63.5\(d\)](#) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source



becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in [§ 63.5\(d\)\(1\)\(i\)](#); and

(ii)-(iv) [Reserved]

(v) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(5) The owner or operator of a new or reconstructed affected source for which an application for approval of construction or reconstruction is not required under [§ 63.5\(d\)](#) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new affected source, reconstruct an affected source, or reconstruct a source such that the source becomes an affected source, and

(ii) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) Unless the owner or operator has requested and received prior permission from the Administrator to submit less than the information in [§ 63.5\(d\)](#), the notification must include the information required on the application for approval of construction or reconstruction as specified in [§ 63.5\(d\)\(1\)\(i\)](#).

(c) ***Request for extension of compliance.*** If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with [§ 63.6\(i\)\(5\) of this subpart](#), he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in [§ 63.6\(i\)\(4\)](#) through [§ 63.6\(i\)\(6\)](#).

(d) ***Notification that source is subject to special compliance requirements.*** An owner or operator of a new source that is subject to special compliance requirements as specified in [§ 63.6\(b\)\(3\)](#) and [§ 63.6\(b\)\(4\)](#) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in [paragraph \(b\)](#) of this section for new sources that are not subject to the special provisions.

(e) ***Notification of performance test.*** The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Administrator to review and approve the site-specific test plan required under [§ 63.7\(c\)](#), if requested by the Administrator, and to have an observer present during the test.

(f) ***Notification of opacity and visible emission observations.*** The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting the opacity or visible emission observations specified in [§ 63.6\(h\)\(5\)](#), if such observations are required for the source by a relevant standard. The notification shall be submitted with the

notification of the performance test date, as specified in [paragraph \(e\)](#) of this section, or if no performance test is required or visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under [§ 63.7](#), the owner or operator shall deliver or postmark the notification not less than 30 days before the opacity or visible emission observations are scheduled to take place.

**(g) *Additional notification requirements for sources with continuous monitoring systems.***

The owner or operator of an affected source required to use a CMS by a relevant standard shall furnish the Administrator written notification as follows:

(1) A notification of the date the CMS performance evaluation under [§ 63.8\(e\)](#) is scheduled to begin, submitted simultaneously with the notification of the performance test date required under [§ 63.7\(b\)](#). If no performance test is required, or if the requirement to conduct a performance test has been waived for an affected source under [§ 63.7\(h\)](#), the owner or operator shall notify the Administrator in writing of the date of the performance evaluation at least 60 calendar days before the evaluation is scheduled to begin;

(2) A notification that COMS data results will be used to determine compliance with the applicable opacity emission standard during a performance test required by [§ 63.7](#) in lieu of Method 9 or other opacity emissions test method data, as allowed by [§ 63.6\(h\)\(7\)\(ii\)](#), if compliance with an opacity emission standard is required for the source by a relevant standard. The notification shall be submitted at least 60 calendar days before the performance test is scheduled to begin; and

(3) A notification that the criterion necessary to continue use of an alternative to relative accuracy testing, as provided by [§ 63.8\(f\)\(6\)](#), has been exceeded. The notification shall be delivered or postmarked not later than 10 days after the occurrence of such exceedance, and it shall include a description of the nature and cause of the increased emissions.

**(h) *Notification of compliance status.***

(1) The requirements of [paragraphs \(h\)\(2\)](#) through [\(h\)\(4\)](#) of this section apply when an affected source becomes subject to a relevant standard.

(2)

(i) Before a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit to the Administrator a notification of compliance status, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the relevant standard. The notification shall list -

(A) The methods that were used to determine compliance;

(B) The results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted;

(C) The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods;

(D) The type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard;

(E) If the relevant standard applies to both major and area sources, an analysis demonstrating whether the affected source is a major source (using the emissions data generated for this notification);

(F) A description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method); and

(G) A statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements.

(ii) The notification must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business on the 60th (or other required) day following the completion of any subsequent required performance test. If no performance test is required but opacity or visible emission observations are required to demonstrate compliance with an opacity or visible emission standard under this part, the notification of compliance status shall be sent before close of business on the 30th day following the completion of opacity or visible emission observations. Notifications may be combined as long as the due date requirement for each notification is met.

(3) After a title V permit has been issued to the owner or operator of an affected source, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this part. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in the relevant standard.

(4) [Reserved]

(5) If an owner or operator of an affected source submits estimates or preliminary information in the application for approval of construction or reconstruction required in § 63.5(d) in place of the actual emissions data or control efficiencies required in paragraphs (d)(1)(ii)(H) and (d)(2) of § 63.5, the owner or operator shall submit the actual emissions data and other correct information as soon as available but no later than with the initial notification of compliance status required in this section.

(6) Advice on a notification of compliance status may be obtained from the Administrator.

**(i) *Adjustment to time periods or postmark deadlines for submittal and review of required communications.***

(1)

(i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under [paragraphs \(i\)\(2\)](#) and [\(i\)\(3\)](#) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in [paragraphs \(i\)\(2\)](#) and [\(i\)\(3\)](#) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

**(j) *Change in information already provided.*** Any change in the information already provided under this section shall be provided to the Administrator within 15 calendar days after the

change. The owner or operator of a major source that reclassifies to area source status is also subject to the notification requirements of this paragraph. The owner or operator may use the application for reclassification with the regulatory authority (*e.g.*, permit application) to fulfill the requirements of this paragraph. A source which reclassified after January 25, 2018, and before January 19, 2021, and has not yet provided the notification of a change in information is required to provide such notification no later than February 2, 2021, according to the requirements of [paragraph \(k\)](#) of this section. Beginning January 19, 2021, the owner or operator of a major source that reclassifies to area source status must submit the notification according to the requirements of [paragraph \(k\)](#) of this section. A notification of reclassification must contain the following information:

- (1) The name and address of the owner or operator;
- (2) The address (*i.e.*, physical location) of the affected source;
- (3) An identification of the standard being reclassified from and to (if applicable); and
- (4) Date of effectiveness of the reclassification.

(k) ***Electronic submission of notifications or reports.*** If you are required to submit notifications or reports following the procedure specified in this [paragraph \(k\)](#), you must submit notifications or reports to the EPA via CEDRI, which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). The notification or report must be submitted by the deadline specified. The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as confidential business information (CBI). Anything submitted using CEDRI cannot later be claimed to be CBI. Although we do not expect persons to assert a claim of CBI, if persons wish to assert a CBI, submit a complete notification or report, including information claimed to be CBI, to the EPA. 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 the EPA via the EPA's CDX as described earlier in this [paragraph \(k\)](#). All CBI claims must be asserted at the time of submission. Furthermore, under section 114(c) of the Act emissions data is not entitled to confidential treatment and requires EPA to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available.

- (1) If you are required to electronically submit a notification or report by this [paragraph \(k\)](#) through CEDRI in the EPA's CDX, you may assert a claim of EPA system outage for failure to timely comply with the electronic submittal requirement. To assert a claim of EPA system outage, you must meet the requirements outlined in [paragraphs \(k\)\(1\)\(i\)](#) through [\(vii\)](#) of this section.

(i) You must have been or will be precluded from accessing CEDRI and submitting a required notification or report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

(ii) The outage must have occurred within the period of time beginning 5 business days prior to the date that the notification or report is due.

(iii) The outage may be planned or unplanned.

(iv) 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.

(v) You must provide to the Administrator a written description identifying:

(A) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(B) A rationale for attributing the delay in submitting beyond the regulatory deadline to EPA system outage;

(C) Measures taken or to be taken to minimize the delay in submitting; and

(D) The date by which you propose to submit, or if you have already met the electronic submittal requirement in this [paragraph \(k\)](#) at the time of the notification, the date you submitted the notification or report.

(vi) 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.

(vii) In any circumstance, the notification or report must be submitted electronically as soon as possible after the outage is resolved.

(2) If you are required to electronically submit a notification or report by this [paragraph \(k\)](#) through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to timely comply with the electronic submittal requirement. To assert a claim of force majeure, you must meet the requirements outlined in [paragraphs \(k\)\(2\)\(i\)](#) through [\(v\)](#) of this section.

(i) 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 notification or 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).

(ii) 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 submitting through CEDRI.

(iii) You must provide to the Administrator:

(A) A written description of the force majeure event;

(B) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

(C) Measures taken or to be taken to minimize the delay in reporting; and

(D) The date by which you propose to submit the notification or report, or if you have already met the electronic submittal requirement in this [paragraph \(k\)](#) at the time of the notification, the date you submitted the notification or report.

(iv) The decision to accept the claim of force majeure and allow an extension to the submittal deadline is solely within the discretion of the Administrator.

(v) In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [64 FR 7468](#), Feb. 12, 1999; [67 FR 16604](#), Apr. 5, 2002; [68 FR 32601](#), May 30, 2003; [85 FR 73885](#), Nov. 19, 2020]

## **§ 63.10 Recordkeeping and reporting requirements.**

(a) *Applicability and general information.*

(1) The applicability of this section is set out in [§ 63.1\(a\)\(4\)](#).

(2) For affected sources that have been granted an extension of compliance under [subpart D of this part](#), the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a report that contains all the information required in a report listed in this section, an owner or operator may send the Administrator a copy of the report sent to the State to satisfy the requirements of this section for that report.

(4)



(i) Before a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in [§ 63.13](#)).

(ii) After a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each report submitted to the State to the appropriate Regional Office of the EPA, as specified in [paragraph \(a\)\(4\)\(i\)](#) of this section. The Regional Office may waive this requirement for any reports at its discretion.

(5) If an owner or operator of an affected source in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. For each relevant standard established pursuant to section 112 of the Act, the allowance in the previous sentence applies in each State beginning 1 year after the affected source's compliance date for that standard. Procedures governing the implementation of this provision are specified in [§ 63.9\(i\)](#).

(6) If an owner or operator supervises one or more stationary sources affected by more than one standard established pursuant to section 112 of the Act, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required for each source shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the latest compliance date for any relevant standard established pursuant to section 112 of the Act for any such affected source(s). Procedures governing the implementation of this provision are specified in [§ 63.9\(i\)](#).

(7) If an owner or operator supervises one or more stationary sources affected by standards established pursuant to section 112 of the Act (as amended November 15, 1990) and standards set under part 60, part 61, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required by each relevant (i.e., applicable) standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the relevant section 112 standard, or 1 year after the stationary source is required to be in compliance with the applicable part 60 or part 61 standard, whichever is latest. Procedures governing the implementation of this provision are specified in [§ 63.9\(i\)](#).

**(b) *General recordkeeping requirements.***

(1) The owner or operator of an affected source subject to the provisions of this part shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(2) The owner or operator of an affected source subject to the provisions of this part shall maintain relevant records for such source of -

(i) The occurrence and duration of each startup or shutdown when the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards;

(ii) The occurrence and duration of each malfunction of operation (i.e., process equipment) or the required air pollution control and monitoring equipment;

(iii) All required maintenance performed on the air pollution control and monitoring equipment;

(iv)

(A) Actions taken during periods of startup or shutdown when the source exceeded applicable emission limitations in a relevant standard and when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see [§ 63.6\(e\)\(3\)](#)); or

(B) Actions taken during periods of malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see [§ 63.6\(e\)\(3\)](#));

(v) All information necessary, including actions taken, to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see [§ 63.6\(e\)\(3\)](#)) when all actions taken during periods of startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be

recorded using a “checklist,” or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events);

(vi) Each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);

(vii) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);

(A) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under [paragraph \(b\)\(2\)\(vii\)](#) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(B) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under [paragraph \(b\)\(2\)\(vii\)](#) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(C) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (b)(2)(vii), if the administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(viii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations;

(ix) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations;

(x) All CMS calibration checks;

(xi) All adjustments and maintenance performed on CMS;

(xii) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements under this part, if the source has been granted a waiver under [paragraph \(f\)](#) of this section;

(xiii) All emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test, if the source has been granted such permission under [§ 63.8\(f\)\(6\)](#); and

(xiv) All documentation supporting initial notifications and notifications of compliance status under [§ 63.9](#).

(3) If an owner or operator determines that his or her existing or new stationary source is in the source category regulated by a standard established pursuant to section 112 of the Act, but that source is not subject to the relevant standard (or other requirement established under this part) because of enforceable limitations on the source's potential to emit, or the source otherwise qualifies for an exclusion, the owner or operator must keep a record of the applicability determination. The applicability determination must be kept on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source subject to the relevant standard (or other requirement established under this part), whichever comes first if the determination is made prior to January 19, 2021. The applicability determination must be kept until the source changes its operations to become an affected source subject to the relevant standard (or other requirement established under this part) if the determination was made on or after January 19, 2021. The record of the applicability determination must be signed by the person making the determination and include an emissions analysis (or other information) that demonstrates the owner or operator's conclusion that the source is unaffected (*e.g.*, because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the Administrator to make an applicability finding for the source with regard to the relevant standard or other requirement. If applicable, the analysis must be performed in accordance with requirements established in relevant [subparts of this part](#) for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with EPA guidance materials published to assist sources in making applicability determinations under section 112 of the Act, if any. The requirements to determine applicability of a standard under [§ 63.1\(b\)\(3\)](#) and to record the results of that determination under this [paragraph \(b\)\(3\)](#) of this section shall not by themselves create an obligation for the owner or operator to obtain a title V permit.

(c) ***Additional recordkeeping requirements for sources with continuous monitoring systems.*** In addition to complying with the requirements specified in [paragraphs \(b\)\(1\)](#) and [\(b\)\(2\)](#) of this section, the owner or operator of an affected source required to install a CMS by a relevant standard shall maintain records for such source of -

(1) All required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);

(2)-(4) [Reserved]

(5) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;

(6) The date and time identifying each period during which the CMS was out of control, as defined in [§ 63.8\(c\)\(7\)](#);

(7) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source;

(8) The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

(9) [Reserved]

(10) The nature and cause of any malfunction (if known);

(11) The corrective action taken or preventive measures adopted;

(12) The nature of the repairs or adjustments to the CMS that was inoperative or out of control;

(13) The total process operating time during the reporting period; and

(14) All procedures that are part of a quality control program developed and implemented for CMS under [§ 63.8\(d\)](#).

(15) In order to satisfy the requirements of [paragraphs \(c\)\(10\)](#) through [\(c\)\(12\)](#) of this section and to avoid duplicative recordkeeping efforts, the owner or operator may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan specified in [§ 63.6\(e\)](#), provided that such plan and records adequately address the requirements of paragraphs (c)(10) through (c)(12).

**(d) *General reporting requirements.***

(1) Notwithstanding the requirements in this paragraph or [paragraph \(e\)](#) of this section, and except as provided in [§ 63.16](#), the owner or operator of an affected source subject to reporting requirements under this part shall submit reports to the Administrator in accordance with the reporting requirements in the relevant standard(s).

(2) ***Reporting results of performance tests.*** Before a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of any

performance test under [§ 63.7](#) to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of a required performance test to the appropriate permitting authority. The owner or operator of an affected source shall report the results of the performance test to the Administrator (or the State with an approved permit program) before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator. The results of the performance test shall be submitted as part of the notification of compliance status required under [§ 63.9\(h\)](#).

(3) **Reporting results of opacity or visible emission observations.** The owner or operator of an affected source required to conduct opacity or visible emission observations by a relevant standard shall report the opacity or visible emission results (produced using Test Method 9 or Test Method 22, or an alternative to these test methods) along with the results of the performance test required under [§ 63.7](#). If no performance test is required, or if visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the performance test required under [§ 63.7](#), the owner or operator shall report the opacity or visible emission results before the close of business on the 30th day following the completion of the opacity or visible emission observations.

(4) **Progress reports.** The owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under [§ 63.6\(i\)](#) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

(5)

(i) **Periodic startup, shutdown, and malfunction reports.** If actions taken by an owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see [§ 63.6\(e\)\(3\)](#)), the owner or operator shall state such information in a startup, shutdown, and malfunction report. Actions taken to minimize emissions during such startups, shutdowns, and malfunctions shall be summarized in the report and may be done in checklist form; if actions taken are the same for each event, only one checklist is necessary. Such a report shall also 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. Reports shall only be required if a startup or shutdown caused the source to exceed any applicable emission limitation in the relevant emission standards, or if a malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit). The



startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under [paragraph \(e\)](#) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in [paragraph \(e\)\(3\)](#) of this section.

(ii) ***Immediate startup, shutdown, and malfunction reports.*** Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under [paragraph \(d\)\(5\)\(i\)](#) of this section, any time an action taken by an owner or operator during a startup or shutdown that caused the source to exceed any applicable emission limitation in the relevant emission standards, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this [paragraph \(d\)\(5\)\(ii\)](#) shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred (or could have occurred in the case of malfunctions), and actions taken to minimize emissions in conformance with [§ 63.6\(e\)\(1\)\(i\)](#). Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this [paragraph \(d\)\(5\)\(ii\)](#) are specified in [§ 63.9\(i\)](#).

(e) ***Additional reporting requirements for sources with continuous monitoring systems -***

(1) ***General.*** When more than one CEMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CEMS.

(2) ***Reporting results of continuous monitoring system performance evaluations.***



(i) The owner or operator of an affected source required to install a CMS by a relevant standard shall furnish the Administrator a copy of a written report of the results of the CMS performance evaluation, as required under [§ 63.8\(e\)](#), simultaneously with the results of the performance test required under [§ 63.7](#), unless otherwise specified in the relevant standard.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under [§ 63.7](#) and described in [§ 63.6\(d\)\(6\)](#) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation conducted under [§ 63.8\(e\)](#). The copies shall be furnished at least 15 calendar days before the performance test required under [§ 63.7](#) is conducted.

**(3) *Excess emissions and continuous monitoring system performance report and summary report.***

(i) Excess emissions and parameter monitoring exceedances are defined in relevant standards. The owner or operator of an affected source required to install a CMS by a relevant standard shall submit an excess emissions and continuous monitoring system performance report and/or a summary report to the Administrator semiannually, except when -

(A) More frequent reporting is specifically required by a relevant standard;

(B) The Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source; or

(C) [Reserved]

(D) The affected source is complying with the Performance Track Provisions of [§ 63.16](#), which allows less frequent reporting.

(ii) ***Request to reduce frequency of excess emissions and continuous monitoring system performance reports.*** Notwithstanding the frequency of reporting requirements specified in [paragraph \(e\)\(3\)\(i\)](#) of this section, an owner or operator who is required by a relevant standard to submit excess emissions and continuous monitoring system performance (and summary) reports on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(A) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected source's excess emissions and continuous monitoring system performance reports continually demonstrate that the source is in compliance with the relevant standard;

(B) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the relevant standard; and

(C) The Administrator does not object to a reduced frequency of reporting for the affected source, as provided in [paragraph \(e\)\(3\)\(iii\)](#) of this section.

(iii) The frequency of reporting of excess emissions and continuous monitoring system performance (and summary) reports required to comply with a relevant standard may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the 5-year recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iv) As soon as CMS data indicate that the source is not in compliance with any emission limitation or operating parameter specified in the relevant standard, the frequency of reporting shall revert to the frequency specified in the relevant standard, and the owner or operator shall submit an excess emissions and continuous monitoring system performance (and summary) report for the noncomplying emission points at the next appropriate reporting period following the noncomplying event. After demonstrating ongoing compliance with the relevant standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard, as provided for in [paragraphs \(e\)\(3\)\(ii\)](#) and [\(e\)\(3\)\(iii\)](#) of this section.

(v) ***Content and submittal dates for excess emissions and monitoring system performance reports.*** All excess emissions and monitoring system performance reports and all summary reports, if required, shall be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate. Written reports of excess emissions or exceedances of process or control system parameters shall include all the information required in [paragraphs \(c\)\(5\)](#) through [\(c\)\(13\)](#) of this section, in [§§ 63.8\(c\)\(7\)](#) and [63.8\(c\)\(8\)](#), and in the relevant standard, and they shall contain the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no excess emissions or exceedances of a parameter have occurred, or a CMS has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

(vi) ***Summary report.*** As required under [paragraphs \(e\)\(3\)\(vii\)](#) and [\(e\)\(3\)\(viii\)](#) of this section, one summary report shall be submitted for the hazardous air pollutants monitored at each affected source (unless the relevant standard specifies that more than one summary report is required, e.g., one summary report for each hazardous air pollutant monitored).

The summary report shall be entitled “Summary Report - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance” and shall contain the following information:

- (A) The company name and address of the affected source;
- (B) An identification of each hazardous air pollutant monitored at the affected source;
- (C) The beginning and ending dates of the reporting period;
- (D) A brief description of the process units;
- (E) The emission and operating parameter limitations specified in the relevant standard(s);
- (F) The monitoring equipment manufacturer(s) and model number(s);
- (G) The date of the latest CMS certification or audit;
- (H) The total operating time of the affected source during the reporting period;
- (I) An emission data summary (or similar summary if the owner or operator monitors control system parameters), including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes;
- (J) A CMS performance summary (or similar summary if the owner or operator monitors control system parameters), including the total CMS downtime during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of CMS downtime expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total CMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, nonmonitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes;
- (K) A description of any changes in CMS, processes, or controls since the last reporting period;
- (L) The name, title, and signature of the responsible official who is certifying the accuracy of the report; and
- (M) The date of the report.

(vii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period, and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report shall be submitted, and the full excess emissions and continuous monitoring system performance report need not be submitted unless required by the Administrator.

(viii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, both the summary report and the excess emissions and continuous monitoring system performance report shall be submitted.

**(4) *Reporting continuous opacity monitoring system data produced during a performance test.*** The owner or operator of an affected source required to use a COMS shall record the monitoring data produced during a performance test required under [§ 63.7](#) and shall furnish the Administrator a written report of the monitoring results. The report of COMS data shall be submitted simultaneously with the report of the performance test results required in [paragraph \(d\)\(2\)](#) of this section.

**(f) *Waiver of recordkeeping or reporting requirements.***

(1) Until a waiver of a recordkeeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Recordkeeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator's judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of recordkeeping or reporting is made, the application shall accompany the request for an extension of compliance under [§ 63.6\(i\)](#), any required compliance progress report or compliance status report required under this part (such as under [§§ 63.6\(i\)](#) and [63.9\(h\)](#)) or in the source's title V permit, or an excess emissions and continuous monitoring system performance report required under [paragraph \(e\)](#) of this section, whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements under this paragraph when he/she -

(i) Approves or denies an extension of compliance; or

(ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any recordkeeping or reporting requirement granted under this paragraph may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [64 FR 7468](#), Feb. 12, 1999; [67 FR 16604](#), Apr. 5, 2002; [68 FR 32601](#), May 30, 2003; [69 FR 21752](#), Apr. 22, 2004; [71 FR 20455](#), Apr. 20, 2006; [85 FR 73886](#), Nov. 19, 2020]

## **§ 63.11 Control device and work practice requirements.**

### **(a) *Applicability.***

(1) The applicability of this section is set out in [§ 63.1\(a\)\(4\)](#).

(2) This section contains requirements for control devices used to comply with applicable [subparts of this part](#). The requirements are placed here for administrative convenience and apply only to facilities covered by subparts referring to this section.

(3) This section also contains requirements for an alternative work practice used to identify leaking equipment. This alternative work practice is placed here for administrative convenience and is available to all subparts in [40 CFR parts 60, 61, 63, and 65](#) that require monitoring of equipment with a [40 CFR part 60, appendix A-7, Method 21](#) monitor.

### **(b) *Flares.***

(1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.

(2) Flares shall be steam-assisted, air-assisted, or non-assisted.

(3) Flares shall be operated at all times when emissions may be vented to them.

(4) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Test Method 22 in appendix A of [part 60 of this chapter](#) shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.

(5) Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(6) An owner/operator has the choice of adhering to the heat content specifications in [paragraph \(b\)\(6\)\(ii\)](#) of this section, and the maximum tip velocity specifications in [paragraph \(b\)\(7\)](#) or [\(b\)\(8\)](#) of this section, or adhering to the requirements in [paragraph \(b\)\(6\)\(i\)](#) of this section.

(i)

(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity  $V_{\max}$ , as determined by the following equation:

$$V_{\max} = (X_{H_2} - K_1) * K_2$$

Where:

$V_{\max}$  = Maximum permitted velocity, m/sec.

$K_1$  = Constant, 6.0 volume-percent hydrogen.

$K_2$  = Constant, 3.9(m/sec)/volume-percent hydrogen.

$X_{H_2}$  = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in [§ 63.14](#)).

(B) The actual exit velocity of a flare shall be determined by the method specified in [paragraph \(b\)\(7\)\(i\)](#) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

$H_T$  = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

$K$  = Constant =

$$1.740 \times 10^{-7} \left( \frac{1}{\text{ppmv}} \right) \left( \frac{\text{g-mole}}{\text{scm}} \right) \left( \frac{\text{MJ}}{\text{kcal}} \right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

$C_i$  = Concentration of sample component  $i$  in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946-77 or 90 (Reapproved 1994) (incorporated by reference as specified in [§ 63.14](#)).

$H_i$  = Net heat of combustion of sample component  $i$ , kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in [§ 63.14](#)) if published values are not available or cannot be calculated.

$n$  = Number of sample components.

(7)

(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in [paragraphs \(b\)\(7\)\(ii\) and \(b\)\(7\)\(iii\)](#) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60 of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in [paragraph \(b\)\(7\)\(i\)](#) of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).



(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in [paragraph \(b\)\(7\)\(i\)](#) of this section, less than the velocity  $V_{\max}$ , as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity,  $V_{\max}$ , for flares complying with this paragraph shall be determined by the following equation:

$$\text{Log}_{10}(V_{\max}) = (H_T + 28.8)/31.7$$

Where:

$V_{\max}$  = Maximum permitted velocity, m/sec.

28.8 = Constant.

31.7 = Constant.

$H_T$  = The net heating value as determined in [paragraph \(b\)\(6\)](#) of this section.

(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity  $V_{\max}$ . The maximum permitted velocity,  $V_{\max}$ , for air-assisted flares shall be determined by the following equation:

$$V_{\max} = 8.71 + 0.708(H_T)$$

Where:

$V_{\max}$  = Maximum permitted velocity, m/sec.

8.71 = Constant.

0.708 = Constant.

$H_T$  = The net heating value as determined in [paragraph \(b\)\(6\)\(ii\)](#) of this section.

(c) ***Alternative work practice for monitoring equipment for leaks.*** [Paragraphs \(c\)](#), [\(d\)](#), and [\(e\)](#) of this section apply to all equipment for which the applicable subpart requires monitoring with a [40 CFR part 60, appendix A-7](#), Method 21 monitor, except for closed vent systems, equipment designated as leakless, and equipment identified in the applicable subpart as having no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. An owner or operator may use an optical gas imaging instrument instead of a [40 CFR part 60, appendix A-7](#), Method 21 monitor. Requirements in the existing subparts that are specific to the Method 21 instrument do not apply under this section. All other requirements in the applicable subpart that are not addressed in [paragraphs \(c\)](#), [\(d\)](#), and [\(e\)](#) of this section continue to apply. For example, equipment specification requirements, and non-Method 21 instrument recordkeeping and reporting requirements in the applicable subpart continue to apply. The terms defined in [paragraphs \(c\)\(1\)](#) through [\(5\)](#) of this section have meanings that

are specific to the alternative work practice standard in [paragraphs \(c\)](#), [\(d\)](#), and [\(e\)](#) of this section.

(1) **Applicable subpart** means the subpart in [40 CFR parts 60, 61, 63, and 65](#) that requires monitoring of equipment with a [40 CFR part 60, appendix A-7](#), Method 21 monitor.

(2) **Equipment** means pumps, valves, pressure relief valves, compressors, open-ended lines, flanges, connectors, and other equipment covered by the applicable subpart that require monitoring with a [40 CFR part 60, appendix A-7](#), Method 21 monitor.

(3) **Imaging** means making visible emissions that may otherwise be invisible to the naked eye.

(4) **Optical gas imaging instrument** means an instrument that makes visible emissions that may otherwise be invisible to the naked eye.

(5) **Repair** means that equipment is adjusted, or otherwise altered, in order to eliminate a leak.

(6) **Leak** means:

(i) Any emissions imaged by the optical gas instrument;

(ii) Indications of liquids dripping;

(iii) Indications by a sensor that a seal or barrier fluid system has failed; or

(iv) Screening results using a [40 CFR part 60, appendix A-7](#), Method 21 monitor that exceed the leak definition in the applicable subpart to which the equipment is subject.

(d) The alternative work practice standard for monitoring equipment for leaks is available to all subparts in [40 CFR parts 60, 61, 63, and 65](#) that require monitoring of equipment with a [40 CFR part 60, appendix A-7](#), Method 21 monitor.

(1) An owner or operator of an affected source subject to [40 CFR parts 60, 61, 63, or 65](#) can choose to comply with the alternative work practice requirements in [paragraph \(e\)](#) of this section instead of using the [40 CFR part 60, appendix A-7](#), Method 21 monitor to identify leaking equipment. The owner or operator must document the equipment, process units, and facilities for which the alternative work practice will be used to identify leaks.

(2) Any leak detected when following the leak survey procedure in [paragraph \(e\)\(3\)](#) of this section must be identified for repair as required in the applicable subpart.

(3) If the alternative work practice is used to identify leaks, re-screening after an attempted repair of leaking equipment must be conducted using either the alternative work practice or

the [40 CFR part 60, Appendix A-7](#), Method 21 monitor at the leak definition required in the applicable subparts to which the equipment is subject.

(4) The schedule for repair is as required in the applicable subpart.

(5) When this alternative work practice is used for detecting leaking equipment, choose one of the monitoring frequencies listed in Table 1 to [subpart A of this part](#) in lieu of the monitoring frequency specified for regulated equipment in the applicable subpart. Reduced monitoring frequencies for good performance are not applicable when using the alternative work practice.

(6) When this alternative work practice is used for detecting leaking equipment, the following are not applicable for the equipment being monitored:

(i) Skip period leak detection and repair;

(ii) Quality improvement plans; or

(iii) Complying with standards for allowable percentage of valves and pumps to leak.

(7) When the alternative work practice is used to detect leaking equipment, the regulated equipment in [paragraph \(d\)\(1\)\(i\)](#) of this section must also be monitored annually using a [40 CFR part 60, Appendix A-7](#), Method 21 monitor at the leak definition required in the applicable subpart. The owner or operator may choose the specific monitoring period (for example, first quarter) to conduct the annual monitoring. Subsequent monitoring must be conducted every 12 months from the initial period. Owners or operators must keep records of the annual Method 21 screening results, as specified in [paragraph \(i\)\(4\)\(vii\)](#) of this section.

(e) An owner or operator of an affected source who chooses to use the alternative work practice must comply with the requirements of [paragraphs \(e\)\(1\)](#) through [\(e\)\(5\)](#) of this section.

(1) **Instrument specifications.** The optical gas imaging instrument must comply with the requirements specified in [paragraphs \(e\)\(1\)\(i\)](#) and [\(e\)\(1\)\(ii\)](#) of this section.

(i) Provide the operator with an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check described in [paragraph \(e\)\(2\)](#) of this section. The detection sensitivity level depends upon the frequency at which leak monitoring is to be performed.

(ii) Provide a date and time stamp for video records of every monitoring event.

(2) **Daily instrument check.** On a daily basis, and prior to beginning any leak monitoring work, test the optical gas imaging instrument at the mass flow rate determined in [paragraph \(e\)\(2\)\(i\)](#) of this section in accordance with the procedure specified in [paragraphs \(e\)\(2\)\(ii\)](#) through [\(e\)\(2\)\(iv\)](#) of this section for each camera configuration used during monitoring (for

example, different lenses used), unless an alternative method to demonstrate daily instrument checks has been approved in accordance with [paragraph \(e\)\(2\)\(v\)](#) of this section.

(i) Calculate the mass flow rate to be used in the daily instrument check by following the procedures in [paragraphs \(e\)\(2\)\(i\)\(A\)](#) and [\(e\)\(2\)\(i\)\(B\)](#) of this section.

(A) For a specified population of equipment to be imaged by the instrument, determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, within the distance to be used in [paragraph \(e\)\(2\)\(iv\)\(B\)](#) of this section, at or below the standard detection sensitivity level.

(B) Multiply the standard detection sensitivity level, corresponding to the selected monitoring frequency in Table 1 of [subpart A of this part](#), by the mass fraction of detectable chemicals from the stream identified in [paragraph \(e\)\(2\)\(i\)\(A\)](#) of this section to determine the mass flow rate to be used in the daily instrument check, using the following equation.

$$E_{dic} = (E_{sds}) \sum_{i=1}^k x_i$$

Where:

$E_{dic}$  = Mass flow rate for the daily instrument check, grams per hour

$x_i$  = Mass fraction of detectable chemical(s)  $i$  seen by the optical gas imaging instrument, within the distance to be used in [paragraph \(e\)\(2\)\(iv\)\(B\)](#) of this section, at or below the standard detection sensitivity level,  $E_{sds}$ .

$E_{sds}$  = Standard detection sensitivity level from Table 1 to subpart A, grams per hour

$k$  = Total number of detectable chemicals emitted from the leaking equipment and seen by the optical gas imaging instrument.

(ii) Start the optical gas imaging instrument according to the manufacturer's instructions, ensuring that all appropriate settings conform to the manufacturer's instructions.

(iii) Use any gas chosen by the user that can be viewed by the optical gas imaging instrument and that has a purity of no less than 98 percent.

(iv) Establish a mass flow rate by using the following procedures:

(A) Provide a source of gas where it will be in the field of view of the optical gas imaging instrument.

(B) Set up the optical gas imaging instrument at a recorded distance from the outlet or leak orifice of the flow meter that will not be exceeded in the actual performance of the leak survey. Do not exceed the operating parameters of the flow meter.

(C) Open the valve on the flow meter to set a flow rate that will create a mass emission rate equal to the mass rate calculated in [paragraph \(e\)\(2\)\(i\)](#) of this section while observing the gas flow through the optical gas imaging instrument viewfinder. When an image of the gas emission is seen through the viewfinder at the required emission rate, make a record of the reading on the flow meter.

(v) Repeat the procedures specified in [paragraphs \(e\)\(2\)\(ii\)](#) through [\(e\)\(2\)\(iv\)](#) of this section for each configuration of the optical gas imaging instrument used during the leak survey.

(vi) To use an alternative method to demonstrate daily instrument checks, apply to the Administrator for approval of the alternative under [§ 63.177](#) or [§ 63.178](#), whichever is applicable.

(3) **Leak survey procedure.** Operate the optical gas imaging instrument to image every regulated piece of equipment selected for this work practice in accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and are subject to repair. All emissions visible to the naked eye are also considered to be leaks and are subject to repair.

(4) **Recordkeeping.** Keep the records described in [paragraphs \(e\)\(4\)\(i\)](#) through [\(e\)\(4\)\(vii\)](#) of this section:

(i) The equipment, processes, and facilities for which the owner or operator chooses to use the alternative work practice.

(ii) The detection sensitivity level selected from Table 1 to [subpart A of this part](#) for the optical gas imaging instrument.

(iii) The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, as specified in [paragraph \(e\)\(2\)\(i\)\(A\)](#) of this section.

(iv) The technical basis for the mass fraction of detectable chemicals used in the equation in [paragraph \(e\)\(2\)\(i\)\(B\)](#) of this section.

(v) The daily instrument check. Record the distance, per [paragraph \(e\)\(2\)\(iv\)\(B\)](#) of this section, and the flow meter reading, per [paragraph \(e\)\(2\)\(iv\)\(C\)](#) of this section, at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a

time and date stamp for each daily instrument check. The video record must be kept for 5 years.

(vi) **Recordkeeping requirements in the applicable subpart.** A video record must be used to document the leak survey results. The video record must include a time and date stamp for each monitoring event. A video record can be used to meet the recordkeeping requirements of the applicable subparts if each piece of regulated equipment selected for this work practice can be identified in the video record. The video record must be kept for 5 years.

(vii) The results of the annual Method 21 screening required in [paragraph \(h\)\(7\)](#) of this section. Records must be kept for all regulated equipment specified in [paragraph \(h\)\(1\)](#) of this section. Records must identify the equipment screened, the screening value measured by Method 21, the time and date of the screening, and calibration information required in the existing applicable subparts.

(5) **Reporting.** Submit the reports required in the applicable subpart. Submit the records of the annual Method 21 screening required in [paragraph \(h\)\(7\)](#) of this section to the Administrator via e-mail to [CCG-AWP@EPA.GOV](mailto:CCG-AWP@EPA.GOV).

[[59 FR 12430](#), Mar. 16, 1994, as amended at [63 FR 24444](#), May 4, 1998; [65 FR 62215](#), Oct. 17, 2000; [67 FR 16605](#), Apr. 5, 2002; [73 FR 78211](#), Dec. 22, 2008]

## **§ 63.12 State authority and delegations.**

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from -

(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;

(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals prior to initiating construction, reconstruction, modification, or operation of such source; or

(3) Requiring emission reductions in excess of those specified in [subpart D of this part](#) as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.

(b)

(1) Section 112(l) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements pursuant to section 112 for stationary sources located in that State. Because of the unique

nature of radioactive material, delegation of authority to implement and enforce standards that control radionuclides may require separate approval.

(2) [Subpart E of this part](#) establishes procedures consistent with section 112(l) for the approval of State rules or programs to implement and enforce applicable Federal rules promulgated under the authority of section 112. Subpart E also establishes procedures for the review and withdrawal of section 112 implementation and enforcement authorities granted through a section 112(l) approval.

(c) All information required to be submitted to the EPA under this part also shall be submitted to the appropriate state agency of any state to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain federal or state reporting requirement. Any information required to be submitted electronically by this part via the EPA's CEDRI may, at the discretion of the delegated authority, satisfy the requirements of this paragraph. The Administrator may permit all or some of the information to be submitted to the appropriate state agency only, instead of to the EPA and the state agency with the exception of federal electronic reporting requirements under this part. Sources may not be exempted from federal electronic reporting requirements.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [85 FR 73887](#), Nov. 19, 2020]

## **§ 63.13 Addresses of State air pollution control agencies and EPA Regional Offices.**

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted to the appropriate Regional Office of the U.S. Environmental Protection Agency indicated in the following list of EPA Regional offices. If a request, report, application, submittal, or other communication is required by this part to be submitted electronically via the EPA's CEDRI then such submission satisfies the requirements of this [paragraph \(a\)](#).

EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont)  
Director, Enforcement and Compliance Assurance Division, U.S. EPA Region I, 5 Post Office Square - Suite 100 (04-2), Boston, MA 02109-3912, Attn: Air Compliance Clerk.

EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Air and Waste Management Division, 26 Federal Plaza, New York, NY 10278.

EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, 1650 Arch Street, Philadelphia, PA 19103.

EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Director, Air, Pesticides and Toxics Management Division, Atlanta Federal Center, 61 Forsyth Street, Atlanta, GA 30303-3104.



EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, 77 West Jackson Blvd., Chicago, IL 60604-3507.

EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas); Director; Enforcement and Compliance Assurance Division; U.S. Environmental Protection Agency, 1201 Elm Street, Suite 500, Mail Code 6ECD, Dallas, Texas 75270-2102.

EPA Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air and Waste Management Division, 11201 Renner Boulevard, Lenexa, Kansas 66219.

EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming) Director, Air and Toxics Technical Enforcement Program, Office of Enforcement, Compliance and Environmental Justice, Mail Code 8ENF-AT, 1595 Wynkoop Street, Denver, CO 80202-1129.

EPA Region IX (Arizona, California, Hawaii, Nevada; the territories of American Samoa and Guam; the Commonwealth of the Northern Mariana Islands; the territories of Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Atoll, Palmyra Atoll, and Wake Islands; and certain U.S. Government activities in the freely associated states of the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau), Director, Air Division, 75 Hawthorne Street, San Francisco, CA 94105.

EPA Region X (Alaska, Idaho, Oregon, Washington), Director, Office of Air Quality, 1200 Sixth Avenue (OAQ-107), Seattle, WA 98101.

(b) All information required to be submitted to the Administrator under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The owner or operator of an affected source may contact the appropriate EPA Regional Office for the mailing addresses for those States whose delegation requests have been approved.

(c) If any State requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in this part, an owner or operator may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of this part for that communication.

[[59 FR 12430](#), Mar. 16, 1994, as amended at [63 FR 66061](#), Dec. 1, 1998; [67 FR 4184](#), Jan. 29, 2002; [68 FR 32601](#), May 30, 2003; [68 FR 35792](#), June 17, 2003; [73 FR 24871](#), May 6, 2008; [75 FR 69532](#), Nov. 12, 2010; [76 FR 49673](#), Aug. 11, 2011; [78 FR 37977](#), June 25, 2013; [84 FR 34069](#), July 17, 2019; [84 FR 44230](#), Aug. 23, 2019; [85 FR 73887](#), Nov. 19, 2020]

## **§ 63.14 Incorporations by reference.**

(a) The materials listed in this section are incorporated by reference into this part with the approval of the Director of the Federal Register under [5 U.S.C. 552\(a\)](#) and [1 CFR part 51](#). To enforce any edition other than that specified in this section, a document must be published in the Federal Register and the material must be available to the public. All approved materials

are available for inspection at the Air and Radiation Docket and Information Center (Air Docket) in the EPA Docket Center (EPA/DC) at Rm. 3334, EPA West Bldg., 1301 Constitution Ave. NW, Washington, DC. The EPA/DC Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number of the EPA/DC Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742. These approved materials are also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fedreg.legal@nara.gov](mailto:fedreg.legal@nara.gov) or go to [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html). In addition, these materials are available from the following sources:

(b) American Conference of Governmental Industrial Hygienists (ACGIH), Customer Service Department, 1330 Kemper Meadow Drive, Cincinnati, Ohio 45240, telephone number (513) 742-2020.

(1) Industrial Ventilation: A Manual of Recommended Practice, 22nd Edition, 1995, Chapter 3, “Local Exhaust Hoods” and Chapter 5, “Exhaust System Design Procedure.” IBR approved for [§§ 63.843\(b\)](#) and [63.844\(b\)](#).

(2) Industrial Ventilation: A Manual of Recommended Practice, 23rd Edition, 1998, Chapter 3, “Local Exhaust Hoods” and Chapter 5, “Exhaust System Design Procedure.” IBR approved for [§§ 63.1503](#), [63.1506\(c\)](#), [63.1512\(e\)](#), Table 2 to subpart RRR, Table 3 to subpart RRR, and appendix A to subpart RRR, and [§ 63.2984\(e\)](#).

(3) Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition, 2010. IBR approved for [§§ 63.1503](#), [63.1506\(c\)](#), [63.1512\(e\)](#), Table 2 to subpart RRR, Table 3 to subpart RRR, and appendix A to subpart RRR, and [§ 63.2984\(e\)](#).

(c) American Petroleum Institute (API), 1220 L Street NW., Washington, DC 20005.

(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition, February 1989, IBR approved for [§§ 63.111](#), [63.1402](#), [63.2406](#) and [63.7944](#).

Note 1 to paragraph (c)(1):

API Publication 2517 available through reseller HIS Markit at <https://global.ihs.com/>

(2) API Publication 2518, Evaporative Loss from Fixed-roof Tanks, Second Edition, October 1991, IBR approved for [§ 63.150\(g\)](#).

(3) API Manual of Petroleum Measurement Specifications (MPMS) Chapter 19.2 (API MPMS 19.2), Evaporative Loss From Floating-Roof Tanks, First Edition, April 1997, IBR approved for [§§ 63.1251](#) and [63.12005](#).

(d) American Society of Heating, Refrigerating, and Air-Conditioning Engineers at 1791 Tullie Circle, NE., Atlanta, GA 30329 [orders@ashrae.org](mailto:orders@ashrae.org).

(1) American Society of Heating, Refrigerating, and Air Conditioning Engineers Method 52.1, "Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992," IBR approved for §§ [63.11173\(e\)](#) and [63.11516\(d\)](#).

(2) [Reserved]

(e) American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990, Telephone (800) 843-2763, <http://www.asme.org>; also available from HIS, Incorporated, 15 Inverness Way East, Englewood, CO 80112, Telephone (877) 413-5184, <http://global.ihs.com>.

(1) ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], issued August 31, 1981, IBR approved for §§ [63.309\(k\)](#), [63.457\(k\)](#), [63.772\(e\)](#) and [\(h\)](#), [63.865\(b\)](#), [63.997\(e\)](#), [63.1282\(d\)](#) and [\(g\)](#), and [63.1625\(b\)](#), table 5 to subpart EEEE, §§ [63.3166\(a\)](#), [63.3360\(e\)](#), [63.3545\(a\)](#), [63.3555\(a\)](#), [63.4166\(a\)](#), [63.4362\(a\)](#), [63.4766\(a\)](#), [63.4965\(a\)](#), and [63.5160\(d\)](#), table 4 to subpart UUUU, table 3 to subpart YYYY, §§ [63.7822\(b\)](#), [63.7824\(e\)](#), [63.7825\(b\)](#), [63.8000\(d\)](#), [63.9307\(c\)](#), [63.9323\(a\)](#), [63.9621\(b\)](#) and [\(c\)](#), [63.11148\(e\)](#), [63.11155\(e\)](#), [63.11162\(f\)](#), [63.11163\(g\)](#), [63.11410\(j\)](#), [63.11551\(a\)](#), [63.11646\(a\)](#), and [63.11945](#), and table 4 to subpart AAAAA, table 5 to subpart DDDDD, table 4 to subpart JJJJJ, table 4 to subpart KKKKK, table 4 to subpart SSSSS, tables 4 and 5 of subpart UUUUU, table 1 to subpart ZZZZZ, and table 4 to subpart JJJJJJ.

(2) [Reserved]

(f) The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida 33830.

(1) Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991:

(i) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for § [63.606\(f\)](#), § [63.626\(f\)](#).

(ii) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P<sub>2</sub>O<sub>5</sub> or Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>, Method A - Volumetric Method, IBR approved for § [63.606\(f\)](#), § [63.626\(f\)](#).

(iii) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P<sub>2</sub>O<sub>5</sub> or Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>, Method B - Gravimetric Quimociac Method, IBR approved for § [63.606\(f\)](#), § [63.626\(f\)](#).

(iv) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus-P<sub>2</sub>O<sub>5</sub> or Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>, Method C - Spectrophotometric Method, IBR approved for § [63.606\(f\)](#), § [63.626\(f\)](#).

(v) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P<sub>2</sub>O<sub>5</sub>, Method A - Volumetric Method, IBR approved for [§ 63.606\(f\)](#), [§ 63.626\(f\)](#), and [\(g\)](#).

(vi) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P<sub>2</sub>O<sub>5</sub>, Method B - Gravimetric Quimociac Method, IBR approved for [§ 63.606\(f\)](#), [§ 63.626\(f\)](#), and [\(g\)](#).

(vii) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P<sub>2</sub>O<sub>5</sub>, Method C - Spectrophotometric Method, IBR approved for [§ 63.606\(f\)](#), [§ 63.626\(f\)](#), and [\(g\)](#).

(2) [Reserved]

(g) Association of Official Analytical Chemists (AOAC) International, Customer Services, Suite 400, 2200 Wilson Boulevard, Arlington, Virginia 22201-3301, Telephone (703) 522-3032, Fax (703) 522-5468.

(1) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for [§ 63.626\(g\)](#).

(2) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for [§ 63.626\(g\)](#).

(3) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, Sixteenth edition, 1995, IBR approved for [§ 63.626\(g\)](#).

(4) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for [§ 63.626\(g\)](#).

(5) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for [§ 63.626\(g\)](#).

(6) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for [§ 63.626\(g\)](#).

(7) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for [§ 63.626\(g\)](#).

(h) ASTM International, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959, Telephone (610) 832-9585, <http://www.astm.org>; also available from ProQuest, 789 East Eisenhower Parkway, Ann Arbor, MI 48106-1346, Telephone (734) 761-4700, <http://www.proquest.com>.

- (1) ASTM D95-05 (Reapproved 2010), Standard Test Method for Water in Petroleum Products and Bituminous Materials by Distillation, approved May 1, 2010, IBR approved for [§ 63.10005\(i\)](#) and table 6 to subpart DDDDD.
- (2) ASTM D240-09 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, approved July 1, 2009, IBR approved for table 6 to subpart DDDDD.
- (3) ASTM Method D388-05, Standard Classification of Coals by Rank, approved September 15, 2005, IBR approved for [§§ 63.7575](#), [63.10042](#), and [63.11237](#).
- (4) ASTM Method D396-10, Standard Specification for Fuel Oils, including Appendix X1, approved October 1, 2010, IBR approved for [§ 63.10042](#).
- (5) ASTM D396-10, Standard Specification for Fuel Oils, approved October 1, 2010, IBR approved for [§§ 63.7575](#) and [63.11237](#).
- (6) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for [§ 63.782](#).
- (7) ASTM D975-11b, Standard Specification for Diesel Fuel Oils, approved December 1, 2011, IBR approved for [§ 63.7575](#).
- (8) ASTM D1193-77, Standard Specification for Reagent Water, IBR approved for appendix A to part 63: Method 306, Sections 7.1.1 and 7.4.2.
- (9) ASTM D1193-91, Standard Specification for Reagent Water, IBR approved for appendix A to part 63: Method 306, Sections 7.1.1 and 7.4.2.
- (10) ASTM D1331-89, Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents, IBR approved for appendix A to part 63: Method 306B, Sections 6.2, 11.1, and 12.2.2.
- (11) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for appendix A to subpart II.
- (12) ASTM D1475-13, Standard Test Method for Density of Liquid Coatings, Inks, and Related Products, approved November 1, 2013, IBR approved for [§§ 63.3151\(b\)](#), [63.3941\(b\)](#) and [\(c\)](#), [63.3951\(c\)](#), [63.4141\(b\)](#) and [\(c\)](#), [63.4551\(c\)](#), [63.4741\(b\)](#) and [\(c\)](#), [63.4751\(c\)](#), and [63.4941\(b\)](#) and [\(c\)](#).
- (13) ASTM Method D1835-05, Standard Specification for Liquefied Petroleum (LP) Gases, approved April 1, 2005, IBR approved for [§§ 63.7575](#) and [63.11237](#).
- (14) ASTM D1945-03 (Reapproved 2010), Standard Test Method for Analysis of Natural Gas by Gas Chromatography, Approved January 1, 2010, IBR approved for [§§ 63.670\(j\)](#), [63.772\(h\)](#), and [63.1282\(g\)](#).

- (15) ASTM D1945-14, Standard Test Method for Analysis of Natural Gas by Gas Chromatography, Approved November 1, 2014, IBR approved for [§ 63.670\(j\)](#).
- (16) ASTM D1946-77, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for [§ 63.11\(b\)](#).
- (17) ASTM D1946-90 (Reapproved 1994), Standard Method for Analysis of Reformed Gas by Gas Chromatography, 1994, IBR approved for [§§ 63.11\(b\)](#), [63.987\(b\)](#), and [63.1412](#).
- (18) ASTM D1963-85 (Reapproved 1996), Standard Test Method for Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25 °C, approved November 29, 1985, IBR approved for [§ 63.3360\(c\)](#).
- (19) ASTM D2013/D2013M-09, Standard Practice for Preparing Coal Samples for Analysis, (Approved November 1, 2009), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (20) ASTM D2099-00, Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester, IBR approved for [§ 63.5350](#).
- (21) ASTM D2111-10 (Reapproved 2015), Standard Test Methods for Specific Gravity and Density of Halogenated Organic Solvents and Their Admixtures, approved June 1, 2015, IBR approved for [§§ 63.3360\(c\)](#), [63.3951\(c\)](#), [63.4141\(b\)](#) and [\(c\)](#), [63.4551\(c\)](#), and [63.4741\(a\)](#).
- (22) ASTM D2216-05, Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass, IBR approved for the definition of “Free organic liquids” in [§ 63.10692](#).
- (23) ASTM D2234/D2234M-10, Standard Practice for Collection of a Gross Sample of Coal, approved January 1, 2010, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (24) ASTM D2369-93, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A to subpart II.
- (25) ASTM D2369-95, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A to subpart II.
- (26) ASTM D2369-10 (Reapproved 2015)e1, Standard Test Method for Volatile Content of Coatings, approved June 1, 2015, IBR approved for [§§ 63.3151\(a\)](#), [63.3360\(c\)](#), [63.3961\(j\)](#), [63.4141\(a\)](#) and [\(b\)](#), [63.4161\(h\)](#), [63.4321\(e\)](#), [63.4341\(e\)](#), [63.4351\(d\)](#), [63.4541\(a\)](#), and [63.4561\(j\)](#), appendix A to subpart PPPP, and [§§ 63.4741\(a\)](#), [63.4941\(a\)](#) and [\(b\)](#), [63.4961\(j\)](#), and [63.8055\(b\)](#).
- (27) ASTM D2382-76, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for [§ 63.11\(b\)](#).



- (28) ASTM D2382-88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for [§ 63.11\(b\)](#).
- (29) ASTM D2697-86 (Reapproved 1998), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for [§§ 63.3521\(b\)](#), and [63.5160\(c\)](#).
- (30) ASTM D2697-03 (Reapproved 2014), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, approved July 1, 2014, IBR approved for [§§ 63.3161\(f\)](#), [63.3360\(c\)](#), [63.3941\(b\)](#), [63.4141\(b\)](#), [63.4741\(a\)](#) and [\(b\)](#), [63.4941\(b\)](#), and [63.8055\(b\)](#).
- (31) ASTM D2879-83, Standard Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, Approved November 28, 1983, IBR approved for [§§ 63.111](#), [63.1402](#), [63.2406](#), [63.7944](#), and [63.12005](#).
- (32) ASTM D2879-96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, (Approved 1996), IBR approved for [§§ 63.111](#), and [63.12005](#).
- (33) ASTM D2908-74, Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved June 27, 1974, IBR approved for [§ 63.1329\(c\)](#).
- (34) ASTM D2908-91, Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved December 15, 1991, IBR approved for [§ 63.1329\(c\)](#).
- (35) ASTM D2908-91(Reapproved 2001), Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved December 15, 1991, IBR approved for [§ 63.1329\(c\)](#).
- (36) ASTM D2908-91(Reapproved 2005), Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved December 1, 2005, IBR approved for [§ 63.1329\(c\)](#).
- (37) ASTM D2908-91(Reapproved 2011), Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved May 1, 2011, IBR approved for [§ 63.1329\(c\)](#).
- (38) ASTM D2986-95A, “Standard Practice for Evaluation of Air Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test,” approved September 10, 1995, IBR approved for [section 7.1.1](#) of Method 315 in appendix A to this part.
- (39) ASTM D3173-03 (Reapproved 2008), Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, (Approved February 1, 2008), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.



- (40) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for [§ 63.786\(b\)](#).
- (41) ASTM D3370-76, Standard Practices for Sampling Water, Approved August 27, 1976, IBR approved for [§ 63.1329\(c\)](#).
- (42) ASTM D3370-95a, Standard Practices for Sampling Water from Closed Conduits, Approved September 10, 1995, IBR approved for [§ 63.1329\(c\)](#).
- (43) ASTM D3370-07, Standard Practices for Sampling Water from Closed Conduits, Approved December 1, 2007, IBR approved for [§ 63.1329\(c\)](#).
- (44) ASTM D3370-08, Standard Practices for Sampling Water from Closed Conduits, Approved October 1, 2008, IBR approved for [§ 63.1329\(c\)](#).
- (45) ASTM D3370-10, Standard Practices for Sampling Water from Closed Conduits, Approved December 1, 2010, IBR approved for [§ 63.1329\(c\)](#).
- (46) ASTM D3588-98 (Reapproved 2003), Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels, (Approved May 10, 2003), IBR approved for [§§ 63.772\(h\)](#) and [63.1282\(g\)](#).
- (47) ASTM D3695-88, Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography, IBR approved for [§ 63.365\(e\)](#).
- (48) ASTM D3792-91, Standard Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for appendix A to subpart II.
- (49) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for [§ 63.782](#).
- (50) ASTM D3960-98, Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings, approved November 10, 1998, IBR approved for [§§ 63.3360\(c\)](#) and [63.8055\(b\)](#).
- (51) ASTM D4006-11, Standard Test Method for Water in Crude Oil by Distillation, including Annex A1 and Appendix X1, (Approved June 1, 2011), IBR approved for [§ 63.10005\(i\)](#) and table 6 to subpart DDDDD.
- (52) ASTM D4017-81, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A to subpart II.
- (53) ASTM D4017-90, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A to subpart II.

(54) ASTM D4017-96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A to subpart II.

(55) ASTM D4057-06 (Reapproved 2011), Standard Practice for Manual Sampling of Petroleum and Petroleum Products, including Annex A1, (Approved June 1, 2011), IBR approved for [§ 63.10005\(i\)](#) and table 6 to subpart DDDDD.

(56) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for [§ 63.782](#).

(57) ASTM D4084-07, Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), (Approved June 1, 2007), IBR approved for table 6 to subpart DDDDD.

(58) ASTM D4177-95 (Reapproved 2010), Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, including Annexes A1 through A6 and Appendices X1 and X2, (Approved May 1, 2010), IBR approved for [§ 63.10005\(i\)](#) and table 6 to subpart DDDDD.

(59) ASTM D4208-02 (Reapproved 2007), Standard Test Method for Total Chlorine in Coal by the Oxygen Bomb Combustion/Ion Selective Electrode Method, approved May 1, 2007, IBR approved for table 6 to subpart DDDDD.

(60) ASTM D4239-14e1, “Standard Test Method for Sulfur in the Analysis Sample of Coal and Coke Using High-Temperature Tube Furnace Combustion,” approved March 1, 2014, IBR approved for [§ 63.849\(f\)](#).

(61) ASTM D4256-89, Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for [§ 63.782](#).

(62) ASTM D4256-89 (Reapproved 94), Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for [§ 63.782](#).

(63) ASTM D4606-03 (Reapproved 2007), Standard Test Method for Determination of Arsenic and Selenium in Coal by the Hydride Generation/Atomic Absorption Method, (Approved October 1, 2007), IBR approved for table 6 to subpart DDDDD.

(64) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for [§ 63.11\(b\)](#).

(65) ASTM D4840-99 (Reapproved 2018)<sup>c</sup>, Standard Guide for Sampling Chain-of-Custody Procedures, approved August 15, 2018, IBR approved for appendix A to part 63.

(66) ASTM D4891-89 (Reapproved 2006), Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion, (Approved June 1, 2006), IBR approved for [§§ 63.772\(h\)](#) and [63.1282\(g\)](#).

(67) ASTM D5066-91 (Reapproved 2017), Standard Test Method for Determination of the Transfer Efficiency Under Production Conditions for Spray Application of Automotive Paints-Weight Basis, approved June 1, 2017, IBR approved for [§ 63.3161\(g\)](#).

(68) ASTM D5087-02, Standard Test Method for Determining Amount of Volatile Organic Compound (VOC) Released from Solventborne Automotive Coatings and Available for Removal in a VOC Control Device (Abatement), IBR approved for [§ 63.3165\(e\)](#) and appendix A to subpart III.

(69) ASTM D5192-09, Standard Practice for Collection of Coal Samples from Core, (Approved June 1, 2009), IBR approved for table 6 to subpart DDDDD.

(70) ASTM D5198-09, Standard Practice for Nitric Acid Digestion of Solid Waste, (Approved February 1, 2009), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(71) ASTM D5228-92, Standard Test Method for Determination of Butane Working Capacity of Activated Carbon, (Reapproved 2005), IBR approved for [§ 63.11092\(b\)](#).

(72) ASTM D5291-02, Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants, IBR approved for appendix A to subpart MMMM.

(73) ASTM D5790-95 (Reapproved 2012), Standard Test Method for Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry, Approved June 15, 2012, IBR approved for [§ 63.2485\(h\)](#) and Table 4 to subpart UUUU.

(74) ASTM D5864-11, Standard Test Method for Determining Aerobic Aquatic Biodegradation of Lubricants or Their Components, (Approved March 1, 2011), IBR approved for table 6 to subpart DDDDD.

(75) ASTM D5865-10a, Standard Test Method for Gross Calorific Value of Coal and Coke, (Approved May 1, 2010), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(76) ASTM D5954-98 (Reapproved 2006), Test Method for Mercury Sampling and Measurement in Natural Gas by Atomic Absorption Spectroscopy, (Approved December 1, 2006), IBR approved for table 6 to subpart DDDDD.

(77) ASTM D5965-02 (Reapproved 2013), Standard Test Methods for Specific Gravity of Coating Powders, approved June 1, 2013, IBR approved for [§§ 63.3151\(b\)](#) and [63.3951\(c\)](#).

(78) ASTM D6053-00, Standard Test Method for Determination of Volatile Organic Compound (VOC) Content of Electrical Insulating Varnishes, IBR approved for appendix A to subpart MMMM.

(79) ASTM D6093-97 (Reapproved 2003), Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for [§§ 63.3521](#) and [63.5160\(c\)](#).

(80) ASTM D6093-97 (Reapproved 2016), Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, approved December 1, 2016, IBR approved for [§§ 63.3161\(f\)](#), [63.3360\(c\)](#), [63.3941\(b\)](#), [63.4141\(b\)](#), [63.4741\(a\)](#) and [\(b\)](#), and [63.4941\(b\)](#).

(81) ASTM D6196-03 (Reapproved 2009), Standard Practice for Selection of Sorbents, Sampling, and Thermal Desorption Analysis Procedures for Volatile Organic Compounds in Air, Approved March 1, 2009, IBR approved for appendix A to this part: Method 325A and Method 325B.

(82) ASTM D6266-00a (Reapproved 2017), Standard Test Method for Determining the Amount of Volatile Organic Compound (VOC) Released from Waterborne Automotive Coatings and Available for Removal in a VOC Control Device (Abatement), approved July 1, 2017, IBR approved for [§ 63.3165\(e\)](#).

(83) ASTM D6323-98 (Reapproved 2003), Standard Guide for Laboratory Subsampling of Media Related to Waste Management Activities, (Approved August 10, 2003), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(84) ASTM D6348-03, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, Approved October 1, 2003, IBR approved for [§§ 63.457\(b\)](#), [63.997\(e\)](#), and [63.1349](#), table 4 to subpart DDDD, table 5 to subpart EEEE, table 4 to subpart UUUU, table 4 subpart ZZZZ, and table 8 to subpart HHHHHH.

(85) ASTM D6348-03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, Approved October 1, 2010, IBR approved for [§§ 63.1571\(a\)](#), [63.4751\(i\)](#), [63.4752\(e\)](#), [63.4766\(b\)](#), [63.7142\(a\)](#) and [\(b\)](#), tables 4 and 5 to subpart JJJJ, tables 4 and 6 to subpart KKKK, tables 1, 2, and 5 to subpart UUUU and appendix B to subpart UUUU.

(86) ASTM D6348-12e1, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, Approved February 1, 2012, IBR approved for [§§ 63.997\(e\)](#), [63.1571\(a\)](#), and [63.2354\(b\)](#), table 5 to subpart EEEE, table 4 to subpart UUUU, [§§ 63.7142\(a\)](#) and [\(b\)](#) and [63.8000\(d\)](#), and table 4 to subpart SSSS.

(87) ASTM D6350-98 (Reapproved 2003), Standard Test Method for Mercury Sampling and Analysis in Natural Gas by Atomic Fluorescence Spectroscopy, (Approved May 10, 2003), IBR approved for table 6 to subpart DDDDD.

(88) ASTM D6357-11, Test Methods for Determination of Trace Elements in Coal, Coke, and Combustion Residues from Coal Utilization Processes by Inductively Coupled Plasma Atomic Emission Spectrometry, (Approved April 1, 2011), IBR approved for table 6 to subpart DDDDD.

(89) ASTM D6376-10, “Standard Test Method for Determination of Trace Metals in Petroleum Coke by Wavelength Dispersive X-Ray Fluorescence Spectroscopy,” Approved July 1, 2010, IBR approved for [§ 63.849\(f\)](#).

(90) [Reserved]

(91) ASTM D6420-99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for [§§ 63.5799](#) and [63.5850](#).

(92) ASTM D6420-99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (Approved October 1, 2004), IBR approved for [§§ 63.457\(b\)](#), [63.772\(a\)](#), [63.772\(e\)](#), [63.1282\(a\)](#) and [\(d\)](#), and table 8 to subpart HHHHHHH.

(93) ASTM D6420-99 (Reapproved 2010), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, Approved October 1, 2010, IBR approved for [§§ 63.670\(j\)](#), Table 4 to subpart UUUU, 63.7142(b), and appendix A to this part: Method 325B.

(94) ASTM D6420-18, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, approved November 1, 2018, IBR approved for [§§ 63.987\(b\)](#), [63.997\(e\)](#), and [63.2354\(b\)](#), table 5 to subpart EEEE, and [§§ 63.2450\(j\)](#) and [63.8000\(d\)](#).

(95) ASTM D6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for [§ 63.9307\(c\)](#).

(96) ASTM D6522-00 (Reapproved 2005), Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, (Approved October 1, 2005), IBR approved for table 4 to subpart ZZZZ, table 5 to subpart DDDDDD, table 4 to subpart JJJJJ, and [§§ 63.772\(e\)](#) and [\(h\)](#) and 63.1282(d) and (g).

(97) ASTM D6522-11 Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, Approved December 1, 2011, IBR approved for [§ 63.1961\(a\)](#) and table 3 to subpart YYYY.

(98) ASTM D6721-01 (Reapproved 2006), Standard Test Method for Determination of Chlorine in Coal by Oxidative Hydrolysis Microcoulometry, (Approved April 1, 2006), IBR approved for table 6 to subpart DDDDD.

(99) ASTM D6722-01 (Reapproved 2006), Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by the Direct Combustion Analysis, (Approved April 1, 2006), IBR approved for Table 6 to subpart DDDDD and Table 5 to subpart JJJJJ.

(100) ASTM D6735-01 (Reapproved 2009), Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources - Impinger Method, IBR approved for [§ 63.7142\(b\)](#), tables 4 and 5 to subpart JJJJJ, and tables 4 and 6 to subpart KKKKK.

(101) ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, (Approved July 15, 2011), IBR approved for [§§ 63.7575](#) and [63.11237](#).

(102) ASTM D6784-02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), (Approved April 1, 2008), IBR approved for [§§ 63.2465\(d\)](#), [63.11646\(a\)](#), and [63.11647\(a\)](#) and [\(d\)](#) and tables 1, 2, 5, 11, 12t, and 13 to subpart DDDDD, tables 4 and 5 to subpart JJJJJ, tables 4 and 6 to subpart KKKKK, table 4 to subpart JJJJJJ, table 5 to subpart UUUUU, and appendix A to subpart UUUUU.

(103) ASTM D6883-04, Standard Practice for Manual Sampling of Stationary Coal from Railroad Cars, Barges, Trucks, or Stockpiles, (Approved June 1, 2004), IBR approved for table 6 to subpart DDDDD.

(104) ASTM D6886-18, Standard Test Method for Determination of the Weight Percent Individual Volatile Organic Compounds in Waterborne Air-Dry Coatings by Gas Chromatography, approved October 1, 2018, IBR approved for [§ 63.2354\(c\)](#).

(105) ASTM D7430-11ae1, Standard Practice for Mechanical Sampling of Coal, (Approved October 1, 2011), IBR approved for table 6 to subpart DDDDD.

(106) ASTM D7520-16, Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere, approved April 1, 2016, IBR approved for [§§ 63.1625\(b\)](#), table 3 to subpart LLLLL, [63.7823\(c\)](#) through [\(e\)](#), and [63.7833\(g\)](#).

(107) ASTM D7520-16, Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere, approved April 1, 2016, IBR approved for [§§ 63.1625\(b\)](#).



(108) ASTM E145-94 (Reapproved 2001), Standard Specification for Gravity-Convection and Forced-Ventilation Ovens, IBR approved for appendix A to subpart PPPP.

(109) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for [§ 63.786\(b\)](#).

(110) ASTM E260-91, General Practice for Packed Column Gas Chromatography, IBR approved for [§§ 63.750\(b\)](#) and [63.786\(b\)](#).

(111) ASTM E260-96, General Practice for Packed Column Gas Chromatography, IBR approved for [§§ 63.750\(b\)](#) and [63.786\(b\)](#).

(112) ASTM E515-95 (Reapproved 2000), Standard Test Method for Leaks Using Bubble Emission Techniques, IBR approved for [§ 63.425\(i\)](#).

(113) ASTM E711-87 (Reapproved 2004), Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter, (Approved August 28, 1987), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(114) ASTM E776-87 (Reapproved 2009), Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel, (Approved July 1, 2009), IBR approved for table 6 to subpart DDDDD.

(115) ASTM E871-82 (Reapproved 2006), Standard Test Method for Moisture Analysis of Particulate Wood Fuels, (Approved November 1, 2006), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(116) ASTM UOP539-12, Refinery Gas Analysis by GC, Copyright 2012 (to UOP), IBR approved for [§ 63.670\(j\)](#).

(i) Bay Area Air Quality Management District (BAAQMD), 939 Ellis Street, San Francisco, California 94109, <http://www.arb.ca.gov/DRDB/BA/CURHTML/ST/st30.pdf>.

(1) “BAAQMD Source Test Procedure ST-30 - Static Pressure Integrity Test, Underground Storage Tanks,” adopted November 30, 1983, and amended December 21, 1994, IBR approved for [§ 63.11120\(a\)](#).

(2) [Reserved]

(j) British Standards Institute, 389 Chiswick High Road, London W4 4AL, United Kingdom.

(1) BS EN 1593:1999, Non-destructive Testing: Leak Testing - Bubble Emission Techniques, IBR approved for [§ 63.425\(i\)](#).

(2) BS EN 14662-4:2005, Ambient air quality standard method for the measurement of benzene concentrations - Part 4: Diffusive sampling followed by thermal desorption and gas



chromatography, Published June 27, 2005, IBR approved for appendix A to this part: Method 325A and Method 325B.

(k) California Air Resources Board (CARB), 1001 I Street, P.O. Box 2815, Sacramento, CA 95812-2815, Telephone (916) 327-0900, <http://www.arb.ca.gov/>.

(1) Method 310, "Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds (ROC) in Aerosol Coating Products," amended May 25, 2018, IBR approved for [§ 63.8055\(b\)](#).

(2) Method 428, "Determination Of Polychlorinated Dibenzo-P-Dioxin (PCDD), Polychlorinated Dibenzofuran (PCDF), and Polychlorinated Biphenyle Emissions from Stationary Sources," amended September 12, 1990, IBR approved for [§ 63.849\(a\)\(13\)](#) and [\(14\)](#).

(3) Method 429, Determination of Polycyclic Aromatic Hydrocarbon (PAH) Emissions from Stationary Sources, Adopted September 12, 1989, Amended July 28, 1997, IBR approved for [§ 63.1625\(b\)](#).

(4) California Air Resources Board Vapor Recovery Test Procedure TP-201.1 - "Volumetric Efficiency for Phase I Vapor Recovery Systems," adopted April 12, 1996, and amended February 1, 2001 and October 8, 2003, IBR approved for [§ 63.11120\(b\)](#).

(5) California Air Resources Board Vapor Recovery Test Procedure TP-201.1E - "Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves," adopted October 8, 2003, IBR approved for [§ 63.11120\(a\)](#).

(6) California Air Resources Board Vapor Recovery Test Procedure TP-201.3 - "Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities," adopted April 12, 1996 and amended March 17, 1999, IBR approved for [§ 63.11120\(a\)](#).

(l) Composite Panel Association, 19465 Deerfield Avenue, Suite 306, Leesburg, VA 20176, Telephone (703)724-1128, and [www.compositepanel.org](http://www.compositepanel.org).

(1) ANSI A135.4-2012, Basic Hardboard, approved June 8, 2012, IBR approved for [§ 63.4781](#).

(2) [Reserved]

(m) Environmental Protection Agency. Air and Radiation Docket and Information Center, 1200 Pennsylvania Avenue NW., Washington, DC 20460, telephone number (202) 566-1745.

(1) *California Regulatory Requirements Applicable to the Air Toxics Program*, November 16, 2010, IBR approved for [§ 63.99\(a\)](#).

(2) New Jersey's *Toxic Catastrophe Prevention Act Program*, (July 20, 1998), IBR approved for [§ 63.99\(a\)](#).

(3) Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, Accidental Release Prevention Regulation, sections 1 through 5 and sections 7 through 14, effective January 11, 1999, IBR approved for [§ 63.99\(a\)](#).

(4) State of Delaware Regulations Governing the Control of Air Pollution (October 2000), IBR approved for [§ 63.99\(a\)](#).

(5) Massachusetts Department of Environmental Protection regulations at 310 CMR 7.26(10)-(16), Air Pollution Control, effective as of September 5, 2008, corrected March 6, 2009, and 310 CMR 70.00, Environmental Results Program Certification, effective as of December 28, 2007. IBR approved for [§ 63.99\(a\)](#).

(6)

(i) New Hampshire Regulations at Env-Sw 2100, Management and Control of Asbestos Disposal Sites Not Operated after July 9, 1981, effective February 16, 2010 (including a letter from Thomas S. Burack, Commissioner, Department of Environmental Services, State of New Hampshire, to Carol J. Holahan, Director, Office of Legislative Services, dated February 12, 2010, certifying that the enclosed rule, Env-Sw 2100, is the official version of this rule), IBR approved for [§ 63.99\(a\)](#).

(ii) New Hampshire Code of Administrative Rules: Chapter Env-A 1800, Asbestos Management and Control, effective as of May 5, 2017 (certified with June 23, 2017 letter from Clark B. Freise, Assistant Commissioner, Department of Environmental Services, State of New Hampshire), as follows: Revision Notes #1 and #2; Part Env-A 1801-1807, excluding Env-A 1801.02(e), Env-A 1801.07, Env-A 1802.02, Env-A 1802.04, Env-A 1802.07-1802.09, Env-A 1802.13, Env-A 1802.15-1802.17, Env-A 1802.25, Env-A 1802.31, Env-A 1802.37, Env-A 1802.40, Env-A 1802.44, and Env-A 1803.05-1803.09; and Appendices B, C, and D; IBR approved for [§ 63.99\(a\)](#).

(7) Maine Department of Environmental Protection regulations at Chapter 125, Perchloroethylene Dry Cleaner Regulation, effective as of June 2, 1991, last amended on June 24, 2009. IBR approved for [§ 63.99\(a\)](#).

(8) California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989," IBR approved for [§§ 63.11173\(e\)](#) and [63.11516\(d\)](#).

(9) California South Coast Air Quality Management District's "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002," Revision 0, IBR approved for [§§ 63.11173\(e\)](#) and [63.11516\(d\)](#).

- (10) Rhode Island Department of Environmental Management regulations at Air Pollution Control Regulation No. 36, Control of Emissions from Organic Solvent Cleaning, effective April 8, 1996, last amended October 9, 2008, IBR approved for [§ 63.99\(a\)](#).
- (11) Rhode Island Air Pollution Control, General Definitions Regulation, effective July 19, 2007, last amended October 9, 2008. IBR approved for [§ 63.99\(a\)](#).
- (12) Alaska Statute 42.45.045. Renewable energy grant fund and recommendation program, available at <http://www.legis.state.ak.us/basis/folio.asp>, IBR approved for [§ 63.6675](#).
- (13) Vermont Air Pollution Control Regulations, Chapter 5, Air Pollution Control, [section 5-253.11](#), Perchloroethylene Dry Cleaning, effective as of December 15, 2016. Incorporation by reference approved for [§ 63.99\(a\)](#).
- (n) U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>.
- (1) EPA-453/R-08-002, Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat, published September 2008, IBR approved for [§§ 63.3130\(c\)](#), [63.3161\(d\)](#) and [\(g\)](#), [63.3165\(e\)](#), and appendix A to subpart III.
- (2) EPA-453/R-01-005, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants - Background Information for Proposed Standards, Final Report, January 2001, IBR approved for [§ 63.7491\(g\)](#).
- (3) EPA-454/R-98-015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=2000D5T6.PDF>, IBR approved for [§§ 63.548\(e\)](#), [63.864\(e\)](#), [63.7525\(j\)](#), [63.8450\(e\)](#), [63.8600\(e\)](#), [63.9632\(a\)](#), and [63.11224\(f\)](#).
- (4) EPA-454/R-98-015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=2000D5T6.PDF>, IBR approved for [§§ 63.548\(e\)](#), [63.864\(e\)](#), [63.7525\(j\)](#), [63.8450\(e\)](#), [63.8600\(e\)](#), [63.9632\(a\)](#), [63.9804\(f\)](#), and [63.11224\(f\)](#).
- (5) EPA-454/R-99-005, Office of Air Quality Planning and Standards (OAQPS), Meteorological Monitoring Guidance for Regulatory Modeling Applications, February 2000, IBR approved for appendix A to this part: Method 325A.
- (6) EPA/600/R-12/531, EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards, May 2012, IBR approved for [§ 63.2163\(b\)](#).

(7) EPA-625/3-89-016, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989. IBR approved for [§ 63.1513\(d\)](#).

(8) SW-846-0011, Sampling for Selected Aldehyde and Ketone Emissions from Stationary Sources, Revision 0, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 4 to subpart DDDD.

(9) SW-846-3020A, Acid Digestion of Aqueous Samples And Extracts For Total Metals For Analysis By GFAA Spectroscopy, Revision 1, July 1992, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(10) SW-846-3050B, Acid Digestion of Sediments, Sludges, and Soils, Revision 2, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(11) SW-846-5030B, Purge-And-Trap For Aqueous Samples, Revision 2, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for [§ 63.2492\(b\)](#) and [\(c\)](#).

(12) SW-846-5031, Volatile, Nonpurgeable, Water-Soluble Compounds by Azeotropic Distillation, Revision 0, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for [§ 63.2492\(b\)](#) and [\(c\)](#).

(13) SW-846-7470A, Mercury In Liquid Waste (Manual Cold-Vapor Technique), Revision 1, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(14) SW-846-7471B, Mercury In Solid Or Semisolid Waste (Manual Cold-Vapor Technique), Revision 2, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(15) SW-846-8015C, Nonhalogenated Organics by Gas Chromatography, Revision 3, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for [§§ 63.11960](#), [63.11980](#), and table 10 to subpart HHHHHHH.

(16) SW-846-8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 2, December 1996, in EPA Publication No. SW-846, Test

Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for [§§ 63.1107\(a\)](#), [63.11960](#), [63.11980](#), and table 10 to subpart HHHHHHHH.

(17) SW-846-8260D, Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry, Revision 4, June 2018, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for [§ 63.2492\(b\)](#) and [\(c\)](#).

(18) SW-846-8270D, Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for [§§ 63.1107\(a\)](#), [63.11960](#), [63.11980](#), and table 10 to subpart HHHHHHHH.

(19) SW-846-8315A, Determination of Carbonyl Compounds by High Performance Liquid Chromatography (HPLC), Revision 1, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for [§§ 63.11960](#) and [63.11980](#), and table 10 to subpart HHHHHHHH.

(20) SW-846-5050, Bomb Preparation Method for Solid Waste, Revision 0, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition IBR approved for table 6 to subpart DDDDDD.

(21) SW-846-6010C, Inductively Coupled Plasma-Atomic Emission Spectrometry, Revision 3, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDDD.

(22) SW-846-6020A, Inductively Coupled Plasma-Mass Spectrometry, Revision 1, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDDD.

(23) SW-846-7060A, Arsenic (Atomic Absorption, Furnace Technique), Revision 1, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDDD.

(24) SW-846-7740, Selenium (Atomic Absorption, Furnace Technique), Revision 0, September 1986, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDDD.

(25) SW-846-9056, Determination of Inorganic Anions by Ion Chromatography, Revision 1, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDDD.

(26) SW-846-9076, Test Method for Total Chlorine in New and Used Petroleum Products by Oxidative Combustion and Microcoulometry, Revision 0, September 1994, in EPA

Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(27) SW-846-9250, Chloride (Colorimetric, Automated Ferricyanide AAI), Revision 0, September 1986, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(28) Method 200.8, Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma - Mass Spectrometry, Revision 5.4, 1994, IBR approved for table 6 to subpart DDDDD.

(29) Method 1631 Revision E, Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Absorption Fluorescence Spectrometry, Revision E, EPA-821-R-02-019, August 2002, IBR approved for table 6 to subpart DDDDD.

(o) 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>.

(1) ISO 6978-1:2003(E), Natural Gas - Determination of Mercury - Part 1: Sampling of Mercury by Chemisorption on Iodine, First edition, October 15, 2003, IBR approved for table 6 to subpart DDDDD.

(2) ISO 6978-2:2003(E), Natural gas - Determination of Mercury - Part 2: Sampling of Mercury by Amalgamation on Gold/Platinum Alloy, First edition, October 15, 2003, IBR approved for table 6 to subpart DDDDD.

(3) ISO 16017-2:2003(E): Indoor, ambient and workplace air - sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography - Part 2: Diffusive sampling, May 15, 2003, IBR approved for appendix A to this part: Method 325A and Method 325B.

(p) National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P.O. Box 133318, Research Triangle Park, NC 27709-3318 or at <http://www.ncasi.org>.

(1) NCASI Method DI/MEOH-94.03, Methanol in Process Liquids and Wastewaters by GC/FID, Issued May 2000, IBR approved for [§§ 63.457](#) and [63.459](#).

(2) NCASI Method CI/WP-98.01, Chilled Impinger Method For Use At Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol, 1998, Methods Manual, IBR approved for table 4 to subpart DDDD.

(3) NCASI Method DI/HAPS-99.01, Selected HAPs In Condensates by GC/FID, Issued February 2000, IBR approved for [§ 63.459\(b\)](#).



(4) NCASI Method IM/CAN/WP-99.02, Impinger/Canister Source Sampling Method for Selected HAPs and Other Compounds at Wood Products Facilities, January 2004, Methods Manual, IBR approved for table 4 to subpart DDDD.

(5) NCASI Method ISS/FP A105.01, Impinger Source Sampling Method for Selected Aldehydes, Ketones, and Polar Compounds, December 2005, Methods Manual, IBR approved for table 4 to subpart DDDD and [§§ 63.4751\(i\)](#) and [63.4752\(e\)](#).

(q) National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000 or (800) 553-6847; or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800.

(1) Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for [§ 63.1303\(e\)](#).

(2) “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, Third Edition. (A suffix of “A” in the method number indicates revision one (the method has been revised once). A suffix of “B” in the method number indicates revision two (the method has been revised twice).

(i) Method 0023A, “Sampling Method for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofuran Emissions from Stationary Sources,” Revision 2, dated August 2018, IBR approved for [§ 63.1208\(b\)](#).

(ii) Method 9071B, “n-Hexane Extractable Material (HEM) for Sludge, Sediment, and Solid Samples,” dated April 1998, IBR approved for [§ 63.7824\(e\)](#).

(iii) Method 9095A, “Paint Filter Liquids Test,” dated December 1996, IBR approved for [§§ 63.7700\(b\)](#) and [63.7765](#).

(iv) Method 9095B, “Paint Filter Liquids Test,” (revision 2), dated November 2004, IBR approved for the definition of “Free organic liquids” in [§§ 63.10692](#), [63.10885\(a\)](#), and the definition of “Free liquids” in [§ 63.10906](#).

(v) SW-846 74741B, Revision 2, “Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique),” February 2007, IBR approved for [§ 63.11647\(f\)](#).

(3) National Institute of Occupational Safety and Health (NIOSH) test method compendium, “NIOSH Manual of Analytical Methods,” NIOSH publication no. 94-113, Fourth Edition, August 15, 1994.

(i) NIOSH Method 2010, “Amines, Aliphatic,” Issue 2, August 15, 1994, IBR approved for [§ 63.7732\(g\)](#).

(ii) [Reserved]



(r) North American Electric Reliability Corporation, 1325 G Street, NW., Suite 600, Washington, DC 20005-3801, <http://www.nerc.com>, [http://www.nerc.com/files/EOP0002-3\\_1.pdf](http://www.nerc.com/files/EOP0002-3_1.pdf).

(1) North American Electric Reliability Corporation Reliability Standard EOP-002-3, Capacity and Energy Emergencies, adopted August 5, 2010, IBR approved for [§ 63.6640\(f\)](#).

(2) [Reserved]

(s) Technical Association of the Pulp and Paper Industry (TAPPI), 15 Technology Parkway South, Norcross, GA 30092, (800) 332-8686, <http://www.tappi.org>.

(1) TAPPI T 266, Determination of Sodium, Calcium, Copper, Iron, and Manganese in Pulp and Paper by Atomic Absorption Spectroscopy (Reaffirmation of T 266 om-02), Draft No. 2, July 2006, IBR approved for table 6 to subpart DDDDD.

(2) [Reserved]

(t) Texas Commission on Environmental Quality (TCEQ) Library, Post Office Box 13087, Austin, Texas 78711-3087, telephone number (512) 239-0028, [http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp\\_ado.pdf](http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp_ado.pdf).

(1) “Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources,” Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, January 31, 2003, IBR approved for [§§ 63.654\(c\)](#) and [\(g\)](#), [63.655\(i\)](#), [63.1086\(e\)](#), [63.1089](#), [63.2490\(d\)](#), [63.2525\(r\)](#), and [63.11920](#).

(2) [Reserved]

[[79 FR 11277](#), Feb. 27, 2014]

#### Editorial Note

**Editorial Notes:** 1. For Federal Register citations affecting [§ 63.14](#), see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

#### Editorial Note

**Editorial Notes:** 2. At [86 FR 66062](#), and at [86 FR 66121](#), Nov. 19, 2021, in [§ 63.14](#), paragraph (h) was amended by redesignating and adding new paragraphs; however the redesignations and additions could not be performed because (h)(117) and (118) do not exist. These amendments could not be incorporated due to inaccurate amendatory instructions.

## **[§ 63.15 Availability of information and confidentiality.](#)**

(a) *Availability of information.*

(1) With the exception of information protected through [part 2 of this chapter](#), all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.

(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by [part 2 of this chapter](#).

(b) *Confidentiality.*

(1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.

(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

## **§ 63.16 Performance Track Provisions.**

(a) Notwithstanding any other requirements in this part, an affected source at any major source or any area source at a Performance Track member facility, which is subject to regular periodic reporting under any subpart of this part, may submit such periodic reports at an interval that is twice the length of the regular period specified in the applicable subparts; provided, that for sources subject to permits under [40 CFR part 70](#) or [71](#) no interval so calculated for any report of the results of any required monitoring may be less frequent than once in every six months.

(b) Notwithstanding any other requirements in this part, the modifications of reporting requirements in [paragraph \(c\)](#) of this section apply to any major source at a Performance Track member facility which is subject to requirements under any of the [subparts of this part](#) and which has:

(1) Reduced its total HAP emissions to less than 25 tons per year;

(2) Reduced its emissions of each individual HAP to less than 10 tons per year; and

(3) Reduced emissions of all HAPs covered by each MACT standard to at least the level required for full compliance with the applicable emission standard.

(c) For affected sources at any area source at a Performance Track member facility and which meet the requirements of [paragraph \(b\)\(3\)](#) of this section, or for affected sources at any major source that meet the requirements of [paragraph \(b\)](#) of this section:

(1) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using add-on control technology, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is meeting the emission standard by continuing to use that control technology. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(2) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using pollution prevention, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions to levels at or below those required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(3) If the emission standard to which the affected source is subject is based on pollution prevention, and the affected source complies by using pollution prevention and reduces emissions by an additional 50 percent or greater than required by the applicable emission standard, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions by an additional 50 percent or greater than required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(4) Notwithstanding the provisions of paragraphs (c)(1) through (3), of this section, for sources subject to permits under [40 CFR part 70](#) or [71](#), the results of any required monitoring and recordkeeping must be reported not less frequently than once in every six months.

[[69 FR 21753](#), Apr. 22, 2004]

## **Table 1 to Subpart A of Part 63 - Detection Sensitivity Levels (grams per hour)**

<b>Monitoring frequency per subpart<sup>a</sup></b>	<b>Detection sensitivity level</b>
Bi-Monthly	60
Semi-Quarterly	85
Monthly	100

<sup>a</sup> When this alternative work practice is used to identify leaking equipment, the owner or operator must choose one of the monitoring frequencies listed in this table, in lieu of the monitoring frequency specified in the applicable subpart. Bi-monthly means every other month. Semi-quarterly means twice per quarter. Monthly means once per month.

[[73 FR 78213](#), Dec. 22, 2008]

Appendix C—40 C.F.R. Part 60 Subpart Dc: *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

## Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source: [72 FR 32759](#), June 13, 2007, unless otherwise noted.

### § 60.40c Applicability and delegation of authority.

- (a) Except as provided in [paragraphs \(d\), \(e\), \(f\), and \(g\)](#) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).
- (b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, [§ 60.48c\(a\)\(4\)](#) shall be retained by the Administrator and not transferred to a State.
- (c) Steam generating units that meet the applicability requirements in [paragraph \(a\)](#) of this section are not subject to the sulfur dioxide (SO<sub>2</sub>) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart ([§ 60.42c](#), [§ 60.43c](#), [§ 60.44c](#), [§ 60.45c](#), [§ 60.46c](#), or [§ 60.47c](#)) during periods of combustion research, as defined in [§ 60.41c](#).
- (d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under [§ 60.14](#).
- (e) Affected facilities (*i.e.* heat recovery steam generators and fuel heaters) that are associated with stationary combustion turbines and meet the applicability requirements of [subpart KKKK of this part](#) are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators, fuel heaters, and other affected facilities that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator, fuel heater, or other affected facility is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)
- (f) Any affected facility that meets the applicability requirements of and is subject to subpart AAAA or [subpart CCCC of this part](#) is not subject to this subpart.
- (g) Any facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing [subpart BBBB of this part](#) is not subject to this subpart.

(h) Affected facilities that also meet the applicability requirements under subpart J or [subpart Ja of this part](#) are subject to the PM and NO<sub>x</sub> standards under this subpart and the SO<sub>2</sub> standards under subpart J or [subpart Ja of this part](#), as applicable.

(i) Temporary boilers are not subject to this subpart.

[[72 FR 32759](#), June 13, 2007, as amended at [74 FR 5090](#), Jan. 28, 2009; [77 FR 9461](#), Feb. 16, 2012]

## **§ 60.41c Definitions.**

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

*Annual capacity factor* means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

*Coal* means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see [§ 60.17](#)), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

*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 (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

*Combined cycle system* means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

*Combustion research* means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.*, the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).



*Conventional technology* means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

*Distillate oil* means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see [§ 60.17](#)), diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see [§ 60.17](#)), kerosine, as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see [§ 60.17](#)), biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see [§ 60.17](#)), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see [§ 60.17](#)).

*Dry flue gas desulfurization technology* means a SO<sub>2</sub> control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

*Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

*Emerging technology* means any SO<sub>2</sub> control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under [§ 60.48c\(a\)\(4\)](#).

*Federally enforceable* means all limitations and conditions that are enforceable by the Administrator, including the requirements of [40 CFR parts 60](#) and [61](#), requirements within any applicable State implementation plan, and any permit requirements established under [40 CFR 52.21](#) or under [40 CFR 51.18](#) and [51.24](#).

*Fluidized bed combustion technology* means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

*Fuel pretreatment* means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

*Heat input* means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

*Heat transfer medium* means any material that is used to transfer heat from one point to another point.

*Maximum design heat input capacity* means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

*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 (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see [§ 60.17](#)); 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 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

*Noncontinental area* means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

*Oil* means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

*Potential sulfur dioxide emission rate* means the theoretical SO<sub>2</sub> emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

*Process heater* means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

*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 for Testing and Materials in ASTM D396 (incorporated by reference, see [§ 60.17](#)).

*Steam generating unit* means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel

and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

*Steam generating unit operating day* means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

*Temporary boiler* means a steam generating unit that combusts natural gas or distillate oil with a potential SO<sub>2</sub> emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit 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 steam generating unit is not a temporary boiler if any one of the following conditions exists:

- (1) The equipment is attached to a foundation.
- (2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler 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 in an attempt to circumvent the residence time requirements of this definition.

*Wet flue gas desulfurization technology* means an SO<sub>2</sub> control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

*Wet scrubber system* means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO<sub>2</sub>.

*Wood* means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[[72 FR 32759](#), June 13, 2007, as amended at [74 FR 5090](#), Jan. 28, 2009; [77 FR 9461](#), Feb. 16, 2012]

## **§ 60.42c Standard for sulfur dioxide (SO<sub>2</sub>).**

(a) Except as provided in [paragraphs \(b\), \(c\), and \(e\)](#) of this section, on and after the date on which the performance test is completed or required to be completed under [§ 60.8](#), whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO<sub>2</sub> emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO<sub>2</sub> emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of the emission limit is determined pursuant to [paragraph \(e\)\(2\)](#) of this section.

(b) Except as provided in [paragraphs \(c\) and \(e\)](#) of this section, on and after the date on which the performance test is completed or required to be completed under [§ 60.8](#), whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO<sub>2</sub> emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to [paragraph \(a\)](#) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO<sub>2</sub> emissions limit or the 90 percent SO<sub>2</sub> reduction requirement specified in [paragraph \(a\)](#) of this section and the emission limit is determined pursuant to [paragraph \(e\)\(2\)](#) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO<sub>2</sub> emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 50 percent (0.50) of the potential SO<sub>2</sub> emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO<sub>2</sub> reduction requirement specified in this paragraph and the emission limit determined pursuant to [paragraph \(e\)\(2\)](#) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under [§ 60.8](#), whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in [paragraphs \(c\)\(1\), \(2\), \(3\), or \(4\)](#) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of the emission limit determined pursuant to [paragraph \(e\)\(2\)](#) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

- (1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/h) or less;
- (2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.
- (3) Affected facilities located in a noncontinental area; or
- (4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under [§ 60.8](#), whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under [§ 60.8](#), whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of the following:

- (1) The percent of potential SO<sub>2</sub> emission rate or numerical SO<sub>2</sub> emission rate required under [paragraph \(a\)](#) or [\(b\)\(2\)](#) of this section, as applicable, for any affected facility that
  - (i) Combusts coal in combination with any other fuel;
  - (ii) Has a heat input capacity greater than 22 MW (75 MMBtu/h); and
  - (iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and
- (2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

$E_s$  = SO<sub>2</sub> emission limit, expressed in ng/J or lb/MMBtu heat input;

$K_a$  = 520 ng/J (1.2 lb/MMBtu);

$K_b$  = 260 ng/J (0.60 lb/MMBtu);

$K_c$  = 215 ng/J (0.50 lb/MMBtu);

$H_a$  = Heat input from the combustion of coal, except coal combusted in an affected facility subject to [paragraph \(b\)\(2\)](#) of this section, in Joules (J) [MMBtu];

$H_b$  = Heat input from the combustion of coal in an affected facility subject to [paragraph \(b\)\(2\)](#) of this section, in J (MMBtu); and

$H_c$  = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO<sub>2</sub> emission rate through fuel pretreatment is not credited toward the percent reduction requirement under [paragraph \(b\)\(2\)](#) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO<sub>2</sub> emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO<sub>2</sub> control) are equal to or less than the emission limits specified under [paragraph \(b\)\(2\)](#) of this section.

(g) Except as provided in [paragraph \(h\)](#) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under [paragraphs \(h\)\(1\), \(2\), \(3\), or \(4\)](#) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under [§ 60.48c\(f\)](#), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).



(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(4) Other fuels-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(i) The SO<sub>2</sub> emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

[[72 FR 32759](#), June 13, 2007, as amended at [74 FR 5090](#), Jan. 28, 2009; [77 FR 9462](#), Feb. 16, 2012]

### **§ 60.43c Standard for particulate matter (PM).**

(a) On and after the date on which the initial performance test is completed or required to be completed under [§ 60.8](#), whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under [§ 60.8](#), whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:



(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under [§ 60.8](#), whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this [paragraph \(c\)](#).

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)

(1) On and after the date on which the initial performance test is completed or is required to be completed under [§ 60.8](#), whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in [paragraphs \(e\)\(2\), \(e\)\(3\), and \(e\)\(4\)](#) of this section.

(2) As an alternative to meeting the requirements of [paragraph \(e\)\(1\)](#) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under [§ 60.8](#), whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under [§ 60.8](#), whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under [§ 60.43c](#) and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO<sub>2</sub> emissions is not subject to the PM limit in this section.

[[72 FR 32759](#), June 13, 2007, as amended at [74 FR 5091](#), Jan. 28, 2009; [77 FR 9462](#), Feb. 16, 2012]

## **§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.**

(a) Except as provided in [paragraphs \(g\) and \(h\)](#) of this section and [§ 60.8\(b\)](#), performance tests required under [§ 60.8](#) shall be conducted following the procedures specified in [paragraphs \(b\), \(c\), \(d\), \(e\), and \(f\)](#) of this section, as applicable. [Section 60.8\(f\)](#) does not apply to this section. The 30-day notice required in [§ 60.8\(d\)](#) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under [§ 60.8](#) shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO<sub>2</sub> emission limits under [§ 60.42c](#) shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under [paragraph \(b\)](#) of this section and [§ 60.8](#), compliance with the percent reduction requirements and SO<sub>2</sub> emission limits under [§ 60.42c](#) is based on the average percent reduction and the average SO<sub>2</sub> emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO<sub>2</sub> emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of [appendix A of this part](#) are used to determine the hourly SO<sub>2</sub> emission rate (E<sub>ho</sub>) and the 30-day average SO<sub>2</sub> emission rate (E<sub>ao</sub>). The hourly averages used

to compute the 30-day averages are obtained from the CEMS. Method 19 of [appendix A of this part](#) shall be used to calculate  $E_{ao}$  when using daily fuel sampling or Method 6B of [appendix A of this part](#).

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted  $E_{ho}$  ( $E_{hoO}$ ) is used in Equation 19-19 of Method 19 of [appendix A of this part](#) to compute the adjusted  $E_{ao}$  ( $E_{aoO}$ ). The  $E_{hoO}$  is computed using the following formula:

$$E_{hoO} = \frac{E_{ho} - E_w (1 - X_k)}{X_k}$$

Where:

$E_{hoO}$  = Adjusted  $E_{ho}$ , ng/J (lb/MMBtu);

$E_{ho}$  = Hourly  $SO_2$  emission rate, ng/J (lb/MMBtu);

$E_w$  =  $SO_2$  concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of [appendix A of this part](#), ng/J (lb/MMBtu). The value  $E_w$  for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure  $E_w$  if the owner or operator elects to assume  $E_w = 0$ .

$X_k$  = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of [appendix A of this part](#).

(2) The owner or operator of an affected facility that qualifies under the provisions of [§ 60.42c\(c\)](#) or [\(d\)](#) (where percent reduction is not required) does not have to measure the parameters  $E_w$  or  $X_k$  if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of [appendix A of this part](#).

(f) Affected facilities subject to the percent reduction requirements under [§ 60.42c\(a\)](#) or [\(b\)](#) shall determine compliance with the  $SO_2$  emission limits under [§ 60.42c](#) pursuant to [paragraphs \(d\)](#) or [\(e\)](#) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential  $SO_2$  emission rate is computed using the following formula:

$$\%P_s = 100 \left( 1 - \frac{\%R_g}{100} \right) \left( 1 - \frac{\%R_f}{100} \right)$$

Where:

$\%P_s$  = Potential SO<sub>2</sub> emission rate, in percent;

$\%R_g$  = SO<sub>2</sub> removal efficiency of the control device as determined by Method 19 of [appendix A of this part](#), in percent; and

$\%R_f$  = SO<sub>2</sub> removal efficiency of fuel pretreatment as determined by Method 19 of [appendix A of this part](#), in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in [paragraph \(f\)\(1\)](#) of this section are used, except as provided for in the following:

(i) To compute the  $\%P_s$ , an adjusted  $\%R_g$  ( $\%R_{gO}$ ) is computed from  $E_{aoO}$  from [paragraph \(e\)\(1\)](#) of this section and an adjusted average SO<sub>2</sub> inlet rate ( $E_{aiO}$ ) using the following formula:

$$\%R_{gO} = 100 \left( 1 - \frac{E_{aoO}}{E_{aiO}} \right)$$

Where:

$\%R_{gO}$  = Adjusted  $\%R_g$ , in percent;

$E_{aoO}$  = Adjusted  $E_{ao}$ , ng/J (lb/MMBtu); and

$E_{aiO}$  = Adjusted average SO<sub>2</sub> inlet rate, ng/J (lb/MMBtu).

(ii) To compute  $E_{aiO}$ , an adjusted hourly SO<sub>2</sub> inlet rate ( $E_{hiO}$ ) is used. The  $E_{hiO}$  is computed using the following formula:

$$E_{hiO} = \frac{E_{hi} - E_w (1 - X_k)}{X_k}$$

Where:

$E_{hiO}$  = Adjusted  $E_{hi}$ , ng/J (lb/MMBtu);

$E_{hi}$  = Hourly SO<sub>2</sub> inlet rate, ng/J (lb/MMBtu);

$E_w$  = SO<sub>2</sub> concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of [appendix A of this part](#), ng/J (lb/MMBtu). The value  $E_w$  for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure  $E_w$  if the owner or operator elects to assume  $E_w = 0$ ; and

$X_k$  = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of [appendix A of this part](#).

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under [§ 60.42c](#) based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under [§ 60.46c\(d\)\(2\)](#).

(h) For affected facilities subject to [§ 60.42c\(h\)\(1\)](#), [\(2\)](#), or [\(3\)](#) where the owner or operator seeks to demonstrate compliance with the SO<sub>2</sub> standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in [§ 60.48c\(f\)](#), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO<sub>2</sub> standards under [§ 60.42c\(c\)\(2\)](#) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO<sub>2</sub> emissions data in calculating %P<sub>s</sub> and E<sub>ho</sub> under [paragraphs \(d\)](#), [\(e\)](#), or [\(f\)](#) of this section, as applicable, whether or not the minimum emissions data requirements under [§ 60.46c\(f\)](#) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %P<sub>s</sub> or E<sub>ho</sub> pursuant to [paragraphs \(d\)](#), [\(e\)](#), or [\(f\)](#) of this section, as applicable.

[[72 FR 32759](#), June 13, 2007, as amended at [74 FR 5091](#), Jan. 28, 2009]

## **[§ 60.45c Compliance and performance test methods and procedures for particulate matter.](#)**

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under [§ 60.43c](#) shall conduct an initial performance test as required under [§ 60.8](#), and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in [paragraph \(c\)](#) of this section.

(1) Method 1 of [appendix A of this part](#) shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3A or 3B of appendix A-2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A-3 of this part or 17 of appendix A-6 of this part.

(3) Method 5, 5B, or 17 of [appendix A of this part](#) shall be used to measure the concentration of PM as follows:

(i) Method 5 of [appendix A of this part](#) may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of [appendix A of this part](#) may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of [appendix A of this part](#) may be used in Method 17 of [appendix A of this part](#) only if Method 17 of [appendix A of this part](#) is used in conjunction with a wet scrubber system. Method 17 of [appendix A of this part](#) shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of [appendix A of this part](#) may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of [appendix A of this part](#), the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at  $160 \pm 14$  °C ( $320 \pm 25$  °F).

(6) For determination of PM emissions, an oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of [appendix A of this part](#) by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of [appendix A of this part](#), the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O<sub>2</sub> or CO<sub>2</sub> measurements and PM measurements obtained under this section,



(ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of [appendix A of this part](#).

(8) Method 9 of appendix A-4 of this part shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under [§ 60.43c\(b\)\(2\)](#) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in [paragraphs \(c\)\(1\) through \(c\)\(14\)](#) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with [§ 60.13](#) of [subpart A of this part](#).

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under [§ 60.8](#) of [subpart A of this part](#) or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of [appendix A of this part](#) performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under [§ 60.8](#) of [subpart A of this part](#). Compliance with the PM emission limit shall be determined by using the CEMS specified in [paragraph \(d\)](#) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of [appendix A of this part, section 4.1](#).



(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in [paragraph \(c\)\(7\)\(i\)](#) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under [paragraph \(c\)\(7\)](#) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under [§ 60.13\(e\)\(2\)](#) of [subpart A of this part](#).

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of [paragraph \(c\)\(7\)](#) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in [appendix B of this part](#).

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in [appendix B of this part](#), PM and O<sub>2</sub> (or CO<sub>2</sub>) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and

(ii) For O<sub>2</sub> (or CO<sub>2</sub>), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in [appendix F of this part](#). Relative Response Audits must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of [appendix A of this part](#) to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in [§ 60.8](#), conducted to demonstrate compliance with this subpart, you must

submit relative accuracy test audit (*i.e.*, reference method) data and performance test (*i.e.*, compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (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.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under [§ 60.43c\(e\)\(4\)](#) shall follow the applicable procedures under [§ 60.48c\(f\)](#). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/h).

[[72 FR 32759](#), June 13, 2007, as amended at [74 FR 5091](#), Jan. 28, 2009; [76 FR 3523](#), Jan. 20, 2011; [77 FR 9463](#), Feb. 16, 2012]

## **§ 60.46c Emission monitoring for sulfur dioxide.**

(a) Except as provided in [paragraphs \(d\) and \(e\)](#) of this section, the owner or operator of an affected facility subject to the SO<sub>2</sub> emission limits under [§ 60.42c](#) shall install, calibrate, maintain, and operate a CEMS for measuring SO<sub>2</sub> concentrations and either O<sub>2</sub> or CO<sub>2</sub> concentrations at the outlet of the SO<sub>2</sub> control device (or the outlet of the steam generating unit if no SO<sub>2</sub> control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under [§ 60.42c](#) shall measure SO<sub>2</sub> concentrations and either O<sub>2</sub> or CO<sub>2</sub> concentrations at both the inlet and outlet of the SO<sub>2</sub> control device.

(b) The 1-hour average SO<sub>2</sub> emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under [§ 60.42c](#). Each 1-hour average SO<sub>2</sub> emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under [§ 60.13\(h\)\(2\)](#). Hourly SO<sub>2</sub> emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under [§ 60.13](#) shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of [appendix B of this part](#).

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of [appendix F of this part](#).

(3) For affected facilities subject to the percent reduction requirements under [§ 60.42c](#), the span value of the SO<sub>2</sub> CEMS at the inlet to the SO<sub>2</sub> control device shall be 125 percent of the maximum estimated hourly potential SO<sub>2</sub> emission rate of the fuel combusted, and the span

value of the SO<sub>2</sub> CEMS at the outlet from the SO<sub>2</sub> control device shall be 50 percent of the maximum estimated hourly potential SO<sub>2</sub> emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of [§ 60.42c](#), the span value of the SO<sub>2</sub> CEMS at the outlet from the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) shall be 125 percent of the maximum estimated hourly potential SO<sub>2</sub> emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) as required under [paragraph \(a\)](#) of this section, an owner or operator may elect to determine the average SO<sub>2</sub> emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) as required under [paragraph \(a\)](#) of this section, an owner or operator may elect to determine the average SO<sub>2</sub> emission rate by using Method 6B of [appendix A of this part](#). Fuel sampling shall be conducted pursuant to either [paragraph \(d\)\(1\)](#) or [\(d\)\(2\)](#) of this section. Method 6B of [appendix A of this part](#) shall be conducted pursuant to [paragraph \(d\)\(3\)](#) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according to the Method 19 of [appendix A of this part](#). Method 19 of [appendix A of this part](#) provides procedures for converting these measurements into the format to be used in calculating the average SO<sub>2</sub> input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of [appendix A of this part](#) may be used in lieu of CEMS to measure SO<sub>2</sub> at the inlet or outlet of the SO<sub>2</sub> control system. An initial stratification test is required to verify the adequacy of the Method 6B of [appendix A of this part](#) sampling location. The stratification test shall consist of three paired runs of a suitable SO<sub>2</sub> and CO<sub>2</sub> measurement train operated at the candidate location and a second similar train operated according to the procedures in [§ 3.2](#) and the applicable procedures in section 7 of Performance Specification 2 of [appendix B of this part](#). Method 6B of [appendix A of this part](#), Method 6A of [appendix A of this part](#), or a combination of Methods 6 and 3 of [appendix A of this part](#) or Methods 6C and 3A of [appendix A of this part](#) are suitable measurement techniques. If Method 6B of [appendix A of this part](#) is used for the second train, sampling time and timer operation may be adjusted for

the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of [appendix A of this part](#) 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of [paragraphs \(a\)](#) and [\(d\)](#) of this section shall not apply to affected facilities subject to [§ 60.42c\(h\) \(1\), \(2\), or \(3\)](#) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO<sub>2</sub> standards based on fuel supplier certification, as described under [§ 60.48c\(f\)](#), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to [paragraph \(a\)](#) of this section, or conducting as-fired fuel sampling pursuant to [paragraph \(d\)\(1\)](#) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

### **§ 60.47c Emission monitoring for particulate matter.**

(a) Except as provided in [paragraphs \(c\), \(d\), \(e\), and \(f\)](#) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under [§ 60.43c](#) shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in [§ 60.43c\(c\)](#) that is not required to use a COMS due to [paragraphs \(c\), \(d\), \(e\), or \(f\)](#) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in [§ 60.11](#) to demonstrate compliance with the applicable limit in [§ 60.43c](#) by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either [paragraphs \(a\)\(1\), \(a\)\(2\), or \(a\)\(3\)](#) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

(1) Except as provided in [paragraph \(a\)\(2\)](#) and [\(a\)\(3\)](#) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in [paragraph \(a\)](#) of this section according to the applicable schedule in [paragraphs \(a\)\(1\)\(i\) through \(a\)\(1\)\(iv\)](#) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in [paragraphs \(a\)\(2\)\(i\) and \(ii\)](#) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.*, 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.*, 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.*, 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in [paragraph \(a\)](#) of this section within 45 calendar days according to the requirements in [§ 60.45c\(a\)\(8\)](#).

(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not



necessarily identical, to the requirements in [paragraph \(a\)\(2\)](#) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of [appendix B of this part](#). The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO<sub>2</sub> or PM emissions and that are subject to an opacity standard in [§ 60.43c\(c\)](#) are not required to operate a COMS if they follow the applicable procedures in [§ 60.48c\(f\)](#).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in [§ 60.45c\(c\)](#). The CEMS specified in paragraph [§ 60.45c\(c\)](#) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) Owners and operators of an affected facility that is subject to an opacity standard in [§ 60.43c\(c\)](#) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO<sub>2</sub>, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in [paragraphs \(e\)\(1\)](#) through [\(4\)](#) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in [paragraphs \(e\)\(1\)\(i\)](#) through [\(iv\)](#) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in [§ 60.58b\(i\)\(3\)](#) of [subpart Eb of this part](#).

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in [§ 60.13\(h\)\(2\)](#).

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in [appendix F of this part](#).

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to [paragraph \(e\)](#) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An owner or operator of an affected facility that is subject to an opacity standard in [§ 60.43c\(c\)](#) is not required to operate a COMS provided that the affected facility meets the conditions in either [paragraphs \(f\)\(1\), \(2\), or \(3\)](#) of this section.

(1) The affected facility uses a fabric filter (baghouse) as the primary PM control device and, the owner or operator operates a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section [§ 60.48Da of this part](#).

(2) The affected facility uses an ESP as the primary PM control device, and the owner or operator uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the requirements in section [§ 60.48Da of this part](#).

(3) The affected facility burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the owner or operator operates the unit according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in [§§ 60.8 and 60.11](#) that



the owner or operator submit any deviations with the excess emissions report required under [§ 60.48c\(c\)](#).

[[72 FR 32759](#), June 13, 2007, as amended at [74 FR 5091](#), Jan. 28, 2009; [76 FR 3523](#), Jan. 20, 2011; [77 FR 9463](#), Feb. 16, 2012]

## **§ 60.48c Reporting and recordkeeping requirements.**

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by [§ 60.7 of this part](#). This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under [§ 60.42c](#), or [§ 60.43c](#).

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO<sub>2</sub> emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of [§ 60.42c\(a\)](#) or [\(b\)\(1\)](#), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits of [§ 60.42c](#), or the PM or opacity limits of [§ 60.43c](#), shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in [appendix B of this part](#).

(c) In addition to the applicable requirements in [§ 60.7](#), the owner or operator of an affected facility subject to the opacity limits in [§ 60.43c\(c\)](#) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in [paragraphs \(c\)\(1\)](#) through [\(3\)](#) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in [paragraphs \(c\)\(1\)\(i\)](#) through [\(iii\)](#) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in [paragraphs \(c\)\(2\)\(i\) through \(iv\)](#) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

(d) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under [§ 60.42c](#) shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under [§ 60.42c](#) shall keep records and submit reports as required under [paragraph \(d\)](#) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO<sub>2</sub> emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO<sub>2</sub> emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO<sub>2</sub> or diluent (O<sub>2</sub> or CO<sub>2</sub>) data have not been obtained by an approved method for at least 75 percent of the

operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of [appendix B of this part](#).

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under [paragraph \(f\)\(1\), \(2\), \(3\), or \(4\)](#) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in [§ 60.41c](#); and

(iii) The sulfur content or maximum sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)

(1) Except as provided under [paragraphs \(g\)\(2\)](#) and [\(g\)\(3\)](#) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of [paragraph \(g\)\(1\)](#) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in [§ 60.48c\(f\)](#) to demonstrate compliance with the SO<sub>2</sub> standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to

record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of [paragraph \(g\)\(1\)](#) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in [§ 60.42C](#) to use fuel certification to demonstrate compliance with the SO<sub>2</sub> standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under [§ 60.42c](#) or [§ 60.43c](#) shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[[72 FR 32759](#), June 13, 2007, as amended at [74 FR 5091](#), Jan. 28, 2009]

Appendix D—40 C.F.R. Part 63 Subpart ZZZZ: *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

# **Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

Source: [69 FR 33506](#), June 15, 2004, unless otherwise noted.

## **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 IIII](#), 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.

**§ 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 (CO<sub>2</sub>). If pollutant concentrations are to be corrected to 15 percent oxygen and CO<sub>2</sub> concentration is measured in lieu of oxygen concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> 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 CO<sub>2</sub> 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, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu).



$F_c$  = Ratio of the volume of CO<sub>2</sub> produced to the gross calorific value of the fuel from Method 19, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu)

(ii) Calculate the CO<sub>2</sub> correction factor for correcting measurement data to 15 percent O<sub>2</sub>, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

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:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 4})$$

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 F](#), 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(1)(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 or 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	<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</p>

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
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;	temperature is greater than or equal to 750 °F and less than or equal to 1250 °F. <sup>1</sup>
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	Comply with any operating limitations approved by the Administrator.
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.	

<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 . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at	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

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
	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	loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>1</sup>
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or  b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O <sub>2</sub>	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or  b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less 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 limitation, except during periods of startup . . .
----------------	--

**For each . . .**

**You must meet the following operating limitation, except during periods of 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  $\geq$ 250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and

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  $\geq$ 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.

2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst

3. 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  $\geq$ 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

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  $\geq$ 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

existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the

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 test; and

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>

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

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>

Comply with any operating limitations approved by the Administrator.

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
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concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.

<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 6707](#), Jan. 30, 2013]

### **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> b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; 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,	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
3. Non-Emergency, non-black start CI stationary RICE $100 \leq \text{HP} \leq 300$ HP	<p>whichever comes first.<sup>2</sup></p> <p>b. Inspect air cleaner 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.<sup>3</sup></p> <p>Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O<sub>2</sub>.</p>	
4. 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 or less at 15 percent O<sub>2</sub>; or</p> <p>b. Reduce CO emissions by 70 percent or more.</p>	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	<p>a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O<sub>2</sub>; or</p> <p>b. Reduce CO emissions by 70 percent or more.</p>	
6. Emergency stationary SI RICE and black start stationary SI RICE. <sup>1</sup>	<p>a. Change oil and filter every 500 hours of operation or annually, whichever comes first;<sup>2</sup></p> <p>b. Inspect spark plugs 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</p>	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	<p>operation or annually, whichever comes first, and replace as necessary.<sup>3</sup></p> <p>a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;<sup>2</sup></p> <p>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;</p> <p>c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.<sup>3</sup></p>	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	<p>a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;<sup>2</sup></p> <p>b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;</p> <p>c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.<sup>3</sup></p>	
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> .	



For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤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≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 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 $\leq 300$ HP	<ul style="list-style-type: none"> <li>a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;<sup>1</sup></li> <li>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;</li> <li>c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</li> </ul>	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.
2. Non-Emergency, non-black start CI stationary RICE $300 < \text{HP} \leq 500$	<ul style="list-style-type: none"> <li>a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O<sub>2</sub>; or</li> <li>b. Reduce CO emissions by 70 percent or more.</li> </ul>	
3. Non-Emergency, non-black start CI stationary RICE $> 500$ HP	<ul style="list-style-type: none"> <li>a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O<sub>2</sub>; or</li> <li>b. Reduce CO emissions by 70 percent or more.</li> </ul>	
4. Emergency stationary CI RICE and black start stationary CI RICE. <sup>2</sup>	<ul style="list-style-type: none"> <li>a. Change oil and filter every 500 hours of operation or annually, whichever comes first;<sup>1</sup></li> <li>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first,</li> </ul>	

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>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>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</p>	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
7. Non-emergency, non-black start 4SLB stationary RICE $\leq$ 500 HP	<p>as necessary.</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, 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	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	
10. Non-emergency, non-black start	a. Change oil and filter	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4SRB stationary RICE $\leq$ 500 HP	<p>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, 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>	
11. Non-emergency, non-black start 4SRB 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>	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10	a. Change oil and filter every 1,440 hours of operation or annually,	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
percent or more of the gross heat input on an annual basis	whichever comes first; <sup>1</sup> b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and 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	Reduce CO emissions and not using a	Conduct subsequent performance tests

For each . . .	Complying with the requirement to . . .	You must . . .
reconstructed 4SLB stationary RICE $\geq 250$ HP located at major sources; and new or reconstructed CI stationary RICE $> 500$ HP located at major sources	CEMS	semiannually. <sup>1</sup>
2. 4SRB stationary RICE $\geq 5,000$ HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually. <sup>1</sup>
3. Stationary RICE $> 500$ HP located at major sources and new or reconstructed 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ 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	a. reduce CO emissions	i. Select the sampling port		(a) For CO and O <sub>2</sub> measurement, ducts $\leq 6$



For each . ..	Complying with the requirement to ...	You must ...	Using ...	According to the following requirements ...
CI stationary RICE		location and the number/location of traverse points at the inlet and outlet of the control device; and	<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>(1) ASTM D6522-00 (Reapproved 2005)<sup>a b c</sup> (heated probe not necessary) or Method 10 of <a href="#">40</a></p>	<p>inches in diameter may be 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> must be made at the same time as the measurements for CO concentration.</p> <p>(c) The CO concentration must be at 15 percent O<sub>2</sub>, dry basis.</p>
		ii. Measure the O <sub>2</sub> at the inlet and outlet of the control device; and		
		iii. Measure the CO at the inlet and the outlet of the control device		

For each . ..	Complying with the requirement to ...	You must ...	Using ...	According to the following requirements ...
2. 4SRB stationary RICE	a. reduce formaldehyde emissions	<p>i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and</p> <p>ii. Measure O<sub>2</sub> at the inlet and outlet of the control device; and</p>	<p><a href="#">CFR part 60, appendix A-4</a></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>(a) For formaldehyde, O<sub>2</sub>, and moisture measurement, ducts ≤6 inches in diameter may be 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</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>.</p> <p>(a) Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for formaldehyde or THC concentration.</p>

For each . ..	Complying with the requirement to ...	You must ...	Using ...	According to the following requirements ...
		iii. Measure moisture content at the inlet and outlet of the control device; 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 THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formaldehyde at the inlet and the outlet of the control device	(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 be greater than or equal to 70 and less than or equal to 130	(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.
		v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of <a href="#">40 CFR part 60, appendix A-7</a>	(a) THC 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.
3. Stationary RICE	a. limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and		(a) For formaldehyde, CO, O <sub>2</sub> , and moisture 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 at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (3-

For each . ..	Complying with the requirement to ...	You must ...	Using ...	According to the following requirements ...
				<p>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</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.</p>
	<p>ii. Determine the O<sub>2</sub> concentration of the stationary RICE exhaust at the sampling port location; 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>(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.</p>
	<p>iii. Measure moisture content of the station-ary RICE exhaust at the sampling port location; and</p>		<p>(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></p>	<p>(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.</p>
	<p>iv. Measure formalde-hyde at the exhaust of the</p>		<p>(1) Method 320 or 323 of <a href="#">40 CFR part 63, appendix A</a>; or</p>	<p>(a) Formaldehyde concentration must be at 15 percent O<sub>2</sub>, dry basis.</p>

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		station-ary RICE; or	ASTM D6348-03 <sup>a</sup> , provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	Results of this test consist of the average of the three 1-hour or longer runs.
		v. measure CO at the exhaust of the station-ary RICE	(1) Method 10 of <a href="#">40 CFR part 60, appendix A-4</a> , ASTM Method D6522-00 (2005) <sup>a c</sup> , Method 320 of <a href="#">40 CFR part 63, appendix A</a> , or ASTM D6348-03 <sup>a</sup>	(a) CO 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.

<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 requirement to . . .	You have demonstrated initial compliance if . . .
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For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
<p>1. 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 oxidation catalyst, and using a CPMS</p>	<p>i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and  ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in <a href="#">§ 63.6625(b)</a>; and  iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</p>
<p>2. 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, using oxidation catalyst, and using a CPMS</p>	<p>i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and  ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in <a href="#">§ 63.6625(b)</a>; and  iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</p>
<p>3. 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 not using oxidation catalyst</p>	<p>i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and  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  iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p>
<p>4. Non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, and existing non-</p>	<p>a. Limit the concentration of CO, and not using</p>	<p>i. The average CO concentration determined from the initial performance test is less than or equal</p>

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
emergency stationary CI RICE >500 HP located at an area source of HAP	oxidation catalyst	<p>to the CO emission limitation; 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>
<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 ≥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>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</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>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> <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>

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
<p>9. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE <math>250 \leq \text{HP} \leq 500</math> located at a major source of HAP, and existing non-emergency 4SRB stationary RICE &gt;500 HP 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>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  ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in <a href="#">§ 63.6625(b)</a>; and  iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</p>
<p>10. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE <math>250 \leq \text{HP} \leq 500</math> located at a major source of HAP, and existing non-emergency 4SRB stationary RICE &gt;500 HP 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. 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  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  iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p>
<p>11. Existing non-emergency stationary RICE <math>100 \leq \text{HP} \leq 500</math> located at a major source of HAP, and existing non-emergency stationary CI RICE <math>300 &lt; \text{HP} \leq 500</math> located at an area source of HAP</p>	<p>a. Reduce CO emissions</p>	<p>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.</p>
<p>12. Existing non-emergency stationary RICE <math>100 \leq \text{HP} \leq 500</math> located at a major source of HAP, and existing non-emergency stationary CI RICE <math>300 &lt; \text{HP} \leq 500</math> located at an area source of HAP</p>	<p>a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust</p>	<p>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.</p>
<p>13. Existing non-emergency 4SLB</p>	<p>a. Install an</p>	<p>i. You have conducted an initial</p>

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
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	oxidation catalyst	<p>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 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>
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>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 . . .
<p>1. 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 ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE &gt;500 HP located at a major source of HAP</p>	<p>a. Reduce CO emissions and 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  ii. Collecting the catalyst inlet temperature data according to <a href="#">§ 63.6625(b)</a>; and  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  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 &gt;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, and new or reconstructed non-emergency CI stationary RICE &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  ii. Collecting the approved operating parameter (if any) data according to <a href="#">§ 63.6625(b)</a>; and  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 &gt;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, new or reconstructed non-emergency stationary CI RICE &gt;500</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  ii. Demonstrating that the catalyst</p>

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP		<p>achieves the required percent reduction of CO emissions over the 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>
6. Non-emergency 4SRB stationary RICE with a brake HP $\geq$ 5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
7. 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	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	<p>achieved, or to demonstrate that the average reduction of emissions of 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>
8. 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	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	<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>
9. Existing emergency and black start stationary RICE $\leq 500$ HP	a. Work or Management	i. Operating and maintaining the stationary RICE according to the

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
<p>located at a major source of HAP, existing non-emergency stationary 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>practices</p>	<p>manufacturer's emission-related operation and maintenance 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>



For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
<p>11. 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 not using oxidation catalyst</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 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>
<p>12. Existing limited use CI stationary RICE &gt;500 HP</p>	<p>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst</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 catalyst inlet temperature data according to <a href="#">§</a></p>

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
<p>13. Existing limited use CI stationary RICE &gt;500 HP</p>	<p>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst</p>	<p><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>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>
<p>14. Existing non-emergency 4SLB stationary RICE &gt;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</p>	<p>a. Install an oxidation catalyst</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 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</p>

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
<p>15. Existing non-emergency 4SRB stationary RICE &gt;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</p>	<p>a. Install NSCR</p>	<p>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 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 . . .
<p>1. Existing non-emergency, non-black start stationary RICE <math>100 \leq \text{HP} \leq 500</math> located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE <math>&gt;500</math> HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE <math>&gt;500</math> HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE <math>&gt;300</math> HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE <math>&gt;500</math> 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>Compliance report</p>	<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> <p>i. Semiannually according to the requirements in <a href="#">§ 63.6650(b)</a>.</p> <p>i. Semiannually according to the requirements in <a href="#">§ 63.6650(b)</a>.</p>

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
<p>2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis</p>	<p>Report</p>	<p>a. The fuel flow rate of each fuel and the heating values that were used in your 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>i. Annually, according to the requirements in <a href="#">§ 63.6650</a>.</p> <p>i. See item 2.a.i.</p> <p>i. See item 2.a.i.</p>
<p>3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE &gt;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</p>	<p>Compliance report</p>	<p>a. The results of the annual compliance demonstration, if conducted during the reporting period.</p>	<p>i. Semiannually according to the requirements in <a href="#">§ 63.6650(b)(1)-(5)</a>.</p>
<p>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></p>	<p>Report</p>	<p>a. The information in <a href="#">§ 63.6650(h)(1)</a></p>	<p>i. annually according to the requirements in <a href="#">§ 63.6650(h)(2)-(3)</a>.</p>

[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.	
§ 63.2	Definitions	Yes	Additional terms defined in <a href="#">§ 63.6675</a> .
§ 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.	
§ 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	Subpart ZZZZ does not contain opacity or visible emission standards.
§ 63.6(i)	Compliance extension procedures and criteria	Yes.	
§ 63.6(j)	Presidential compliance	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
	exemption		
§ 63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains 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	Yes.	



General provisions citation	Subject of citation	Applies to subpart	Explanation
	monitoring systems		
§ 63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§ 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.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.9(b)(1)-(5)	Initial notifications	Yes  Except that § <a href="#">63.9(b)</a> only applies as specified in § <a href="#">63.6645</a> .	Except that § <a href="#">63.9(b)(3)</a> is reserved.
§ 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  Except that § <a href="#">63.9(g)</a> only applies as specified in § <a href="#">63.6645</a> .	If alternative is in use.
§ 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.  Except that § <a href="#">63.9(h)</a> only applies as specified in § <a href="#">63.6645</a> .

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.9(i)	Adjustment of submittal deadlines	Yes.	
§ 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

General provisions citation	Subject of citation	Applies to subpart	Explanation
			require COMS.
§ 63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§ 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: (X)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
	Pre-Sample Calibration	Stack Gas Sample	Post-Sample Cal. Check	Repeatability Check							
Run #	1 1	2 2	3 3	4 4	Time	Scrub. OK	Flow- Rate				
Gas	O <sub>2</sub> CO	O <sub>2</sub> CO	O <sub>2</sub> CO	O <sub>2</sub> CO							
Sample Cond. Phase											
"											
"											
"											
"											
Measurement Data Phase											
"											
"											
"											
"											
"											
"											
"											
"											
Mean Refresh Phase											
"											
"											
"											
"											

[78 FR 6721, Jan. 30, 2013]

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



## Subpart III - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Source: [71 FR 39172](#), July 11, 2006, unless otherwise noted.

### What This Subpart Covers

### § 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 (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 AEC 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 AEC 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 AEC 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 AECs 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 NO<sub>x</sub> or PM at the control device inlet,

$C_o$  = concentration of NO<sub>x</sub> or PM at the control device outlet, and



R = percent reduction of NO<sub>x</sub> or PM emissions.

(2) You must normalize the NO<sub>x</sub> or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O<sub>2</sub>) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO<sub>2</sub>) 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<sub>adj</sub> = Calculated NO<sub>x</sub> or PM concentration adjusted to 15 percent O<sub>2</sub>.

C<sub>d</sub> = Measured concentration of NO<sub>x</sub> or PM, uncorrected.

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

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

(3) If pollutant concentrations are to be corrected to 15 percent O<sub>2</sub> and CO<sub>2</sub> concentration is measured in lieu of O<sub>2</sub> concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> correction factor as described in [paragraphs \(d\)\(3\)\(i\)](#) through [\(iii\)](#) of this section.

(i) Calculate the fuel-specific F<sub>o</sub> 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<sub>o</sub> = Fuel factor based on the ratio of O<sub>2</sub> volume to the ultimate CO<sub>2</sub> volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O<sub>2</sub>, percent/100.

F<sub>d</sub> = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu).

$F_c$  = Ratio of the volume of CO<sub>2</sub> produced to the gross calorific value of the fuel from Method 19, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu).

(ii) Calculate the CO<sub>2</sub> correction factor for correcting measurement data to 15 percent O<sub>2</sub>, 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<sub>adj</sub> = 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 AECs pursuant to the requirements of [40 CFR 1039.665](#) must report the use of AECs 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 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)

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
(25≤HP<50)					
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)	1.3 (1.0)		9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)	1.3 (1.0)		9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)	1.3 (1.0)		9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (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 (11≤HP<25)	2008 +	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (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:

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to <a href="#">§ 60.4202(d)</a> <sup>1</sup>
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (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]

Maximum engine power	Model year(s)	NMHC + NO <sub>x</sub>	CO	PM
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)

Maximum engine power	Model year(s)	NMHC + NO <sub>x</sub>	CO	PM
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)
	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 III 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: ±2 percent of point.

<sup>2</sup> Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

## Table 7 to Subpart III of Part 60 - Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥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 ≥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 ≥ 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 ≤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 at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the

Each	Complying with the requirement to	You must	Using	According to the following requirements
				<p>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 O<sub>2</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>(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>iii. If necessary, measure moisture content at the inlet and outlet of the control device; and</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>(c) Measurements to determine moisture content must be made at the same time as the measurements for NO<sub>x</sub> concentration.</p>
		<p>iv. Measure NO<sub>x</sub> at the inlet and outlet of the control device.</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-</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>

Each	Complying with the requirement to	You must	Using	According to the following requirements
			03 (incorporated by reference, see <a href="#">§ 60.17</a> )	
	b. Limit the concentration of NO <sub>x</sub> in the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and number/location of traverse points at the exhaust of the stationary internal combustion engine;		(a) For NO <sub>x</sub> , O <sub>2</sub> , and moisture 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 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 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> .
		ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location;	(1) 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 measurement for NO <sub>x</sub> concentration.

Each	Complying with the requirement to	You must	Using	According to the following requirements
		<p>iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and</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>(c) Measurements to determine moisture content must be made at the same time as the measurement for NO<sub>x</sub> concentration.</p>
		<p>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.</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>	<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>c. Reduce PM emissions by 60 percent or more</p>	<p>i. Select the sampling port location and the number of traverse points;</p>	<p>(1) Method 1 or 1A of <a href="#">40 CFR part 60, appendix A-1</a></p>	<p>(a) Sampling sites must be located at the inlet and outlet of the control device.</p>
		<p>ii. Measure O<sub>2</sub> at the inlet and outlet of the control device;</p>	<p>(2) Method 3, 3A, or 3B of <a href="#">40 CFR part 60, appendix A-2</a></p>	<p>(b) Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for PM concentration.</p>
		<p>iii. If necessary, measure moisture content at the inlet and outlet of the control device; and</p>	<p>(3) Method 4 of <a href="#">40 CFR part 60, appendix A-3</a></p>	<p>(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.</p>
		<p>iv. Measure PM at the inlet and outlet of the control device.</p>	<p>(4) Method 5 of <a href="#">40 CFR part 60, appendix A-3</a></p>	<p>(d) PM concentration must be at 15 percent O<sub>2</sub>, dry basis. Results of this test consist of the</p>

Each	Complying with the requirement to	You must	Using	According to the following requirements
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	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>	average of the three 1-hour or longer runs.  (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 internal combustion engine exhaust at the sampling port location;	(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 of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of <a href="#">40 CFR part 60, appendix A-3</a>	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine.	(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.

[[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	
§ 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 III.
§ 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 F—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 5 ppm difference
Diluent (O <sub>2</sub> & CO <sub>2</sub> )	> 15% of average audit value or 5 ppm difference

### RAA

Pollutant	> 15% of the three-run average or > 7.5 % of the applicable standard
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Diluent (O <sub>2</sub> & CO <sub>2</sub> )	> 15% of the three-run average or > 7.5 % of the applicable standard
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- 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 G—40 C.F.R. Part 63 Subpart JJJJJ: *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*

## **Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources**

**Source:** [76 FR 15591](#), Mar. 21, 2011, unless otherwise noted.

### **What This Subpart Covers**

#### **§ 63.11193 Am I subject to this subpart?**

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in [§ 63.11237](#) that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in [§ 63.2](#), except as specified in [§ 63.11195](#).

#### **§ 63.11194 What is the affected source of this subpart?**

(a) This subpart applies to each new, reconstructed, or existing affected source as defined in [paragraphs \(a\)\(1\)](#) and [\(2\)](#) of this section.

(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers within a subcategory, as listed in [§ 63.11200](#) and defined in [§ 63.11237](#), located at an area source.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in [§ 63.11200](#) and as defined in [§ 63.11237](#), located at an area source.

(b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010.

(c) An affected source is a new source if you commenced construction of the affected source after June 4, 2010, and the boiler meets the applicability criteria at the time you commence construction.

(d) An affected source is a reconstructed source if the boiler meets the reconstruction criteria as defined in [§ 63.2](#), you commenced reconstruction after June 4, 2010, and the boiler meets the applicability criteria at the time you commence reconstruction.

(e) An existing dual-fuel fired boiler meeting the definition of gas-fired boiler, as defined in [§ 63.11237](#), that meets the applicability requirements of this subpart after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel.

(f) 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 part 71 as a result of this subpart. You may, however, be required to obtain a title V permit due to another reason or reasons. See [40 CFR 70.3\(a\)](#) and [\(b\)](#) or [71.3\(a\)](#) and [\(b\)](#). Notwithstanding the exemption from title V permitting for area sources under this subpart, you must continue to comply with the provisions of this subpart.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7506](#), Feb. 1, 2013]

## **§ 63.11195 Are any boilers not subject to this subpart?**

The types of boilers listed in [paragraphs \(a\)](#) through [\(k\)](#) of this section are not subject to this subpart and to any requirements in this subpart.

(a) Any boiler specifically listed as, or included in the definition of, an affected source in another standard(s) under this part.

(b) Any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act.

(c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by [subpart EEE of this part](#) (e.g., hazardous waste boilers).

(d) A boiler that is used specifically for research and development. This exemption does not include boilers that solely or primarily provide steam (or heat) to a process or for heating at a research and development facility. This exemption does not prohibit the use of the steam (or heat) generated from the boiler during research and development, however, the boiler must be concurrently and primarily engaged in research and development for the exemption to apply.

(e) A gas-fired boiler as defined in this subpart.

(f) A hot water heater as defined in this subpart.

(g) Any boiler 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 is provided by regulated gas streams that are subject to another standard.

(h) Temporary boilers as defined in this subpart.

(i) Residential boilers as defined in this subpart.

(j) Electric boilers as defined in this subpart.

(k) An electric utility steam generating unit (EGU) as defined in this subpart.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7506](#), Feb. 1, 2013; [81 FR 63125](#), Sept. 14, 2016]

## **§ 63.11196 What are my compliance dates?**

(a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in [paragraphs \(a\)\(1\)](#) through [\(3\)](#) of this section.

(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.

(2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.

(3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.

(b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011.

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in [§ 63.11195\(b\)](#) for commercial and industrial solid waste incineration units covered by [40 CFR part 60, subpart CCCC](#) or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch as specified in [§ 60.2145\(a\)\(2\)](#) and [\(3\)](#) of subpart CCCC or [§ 60.2710\(a\)\(2\)](#) and [\(3\)](#) of subpart DDDD.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7506](#), Feb. 1, 2013]

### **Emission Limits, Work Practice Standards, Emission Reduction Measures, and Management Practices**

## **§ 63.11200 What are the subcategories of boilers?**

The subcategories of boilers, as defined in [§ 63.11237](#) are:

(a) Coal.

(b) Biomass.

(c) Oil.

(d) Seasonal boilers.

(e) Oil-fired boilers with heat input capacity of equal to or less than 5 million British thermal units (Btu) per hour.

(f) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.

(g) Limited-use boilers.

[[78 FR 7506](#), Feb. 1, 2013]

## **§ 63.11201 What standards must I meet?**

(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.

(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.

(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in [§ 63.11237](#), during which time you must comply only with Table 2 to this subpart.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7506](#), Feb. 1, 2013]

### **General Compliance Requirements**

## **§ 63.11205 What are my general requirements for complying with this subpart?**

(a) 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 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) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to [§ 63.11211\(c\)](#) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in [paragraphs \(c\)\(1\)](#) through [\(3\)](#) 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 [paragraphs \(c\)\(1\)\(i\)](#) through [\(vi\)](#) 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 [§ 63.11224](#).

(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).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of [§ 63.8\(c\)\(1\)\(ii\)](#), [\(c\)\(3\)](#), and [\(c\)\(4\)\(ii\)](#);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of [§ 63.8\(d\)](#); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of [§ 63.10\(c\)](#) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i).

(2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7506](#), Feb. 1, 2013]

### **Initial Compliance Requirements**

## **§ 63.11210 What are my initial compliance requirements and by what date must I conduct them?**

(a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to [§ 63.11212](#) and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to [§ 63.11213](#) and Table 5 to this subpart.

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after the compliance date that is specified in [§ 63.11196](#) and according to the applicable provisions in [§ 63.7\(a\)\(2\)](#), except as provided in [paragraph \(k\)](#) of this section.

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in [§ 63.11196](#) and according to the applicable provisions in [§ 63.7\(a\)\(2\)](#), except as provided in [paragraph \(j\)](#) of this section.

(d) For new or reconstructed affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 days after startup of the source, whichever is later, according to [§ 63.7\(a\)\(2\)\(ix\)](#).

(e) For new or reconstructed oil-fired boilers that commenced construction or reconstruction on or before September 14, 2016, that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a particulate matter (PM) emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce PM or sulfur dioxide emissions, you are not subject to the PM emission limit in Table 1 of this subpart until September 14, 2019, providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within 60 days of burning the new fuel. On and after

September 14, 2019, you are subject to the PM emission limit in Table 1 of this subpart and you must demonstrate compliance with the PM emission limit in Table 1 no later than March 12, 2020.

(f) For new or reconstructed boilers that combust only ultra-low-sulfur liquid fuel as defined in [§ 63.11237](#), you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in [§ 63.11237](#), you must conduct a performance test within 60 days of burning the new fuel.

(g) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in [§ 63.11223](#) no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

(h) For affected boilers that ceased burning solid waste consistent with [§ 63.11196\(d\)](#) and for which your initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch as specified in [§ 60.2145\(a\)\(2\)](#) and [\(3\)](#) of subpart CCCC or [§ 60.2710\(a\)\(2\)](#) and [\(3\)](#) of subpart DDDD. 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 affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within subpart JJJJJ or the boiler becoming subject to subpart JJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes must be submitted according to [§ 63.11225\(g\)](#).

(j) For boilers located at existing major sources of HAP that limit their potential to emit (*e.g.*, make a physical change or take a permit limit) such that the existing major source becomes an area source, you must comply with the applicable provisions as specified in [paragraphs \(j\)\(1\) through \(3\)](#) of this section.

(1) Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source.

(2) Any new or reconstructed boiler at the existing source must demonstrate compliance with subpart JJJJJ within 180 days of the later of March 21, 2011 or startup.

(3) Notification of such changes must be submitted according to [§ 63.11225\(g\)](#).

(k) For existing affected boilers that have not operated on solid fossil fuel, biomass, or liquid fuel between the effective date of the rule and the compliance date that is specified for your

source in [§ 63.11196](#), you must comply with the applicable provisions as specified in [paragraphs \(k\)\(1\)](#) through [\(3\)](#) of this section.

(1) You must complete the initial compliance demonstration, if subject to the emission limits in Table 1 to this subpart, as specified in [paragraphs \(a\)](#) and [\(b\)](#) of this section, no later than 180 days after the re-start of the affected boiler on solid fossil fuel, biomass, or liquid fuel and according to the applicable provisions in [§ 63.7\(a\)\(2\)](#).

(2) You must complete the initial performance tune-up, if subject to the tune-up requirements in [§ 63.11223](#), by following the procedures described in [§ 63.11223\(b\)](#) no later than 30 days after the re-start of the affected boiler on solid fossil fuel, biomass, or liquid fuel.

(3) You must complete the one-time energy assessment, if subject to the energy assessment requirements specified in Table 2 to this subpart, no later than the compliance date specified in [§ 63.11196](#).

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7507](#), Feb. 1, 2013; [81 FR 63125](#), Sept. 14, 2016]

## **§ 63.11211 How do I demonstrate initial compliance with the emission limits?**

(a) For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to [§ 63.11212](#) and Table 4 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler according to [§ 63.11213](#) and Table 5 to this subpart, establishing operating limits according to [§ 63.11222](#), Table 6 to this subpart and [paragraph \(b\)](#) of this section, as applicable, and conducting CMS performance evaluations according to [§ 63.11224](#). For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under [§ 63.11213](#) and Table 5 to this subpart.

(b) You must establish parameter operating limits according to [paragraphs \(b\)\(1\)](#) through [\(4\)](#) of this section.

(1) For a wet scrubber, you must establish the minimum scrubber liquid flow rate and minimum scrubber pressure drop as defined in [§ 63.11237](#), as your operating limits during the three-run performance stack test. If you use a wet scrubber and you conduct separate performance stack tests for PM and mercury emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. If you conduct multiple performance stack tests, you must set the minimum scrubber liquid flow rate and

pressure drop operating limits at the highest minimum values established during the performance stack tests.

(2) For an electrostatic precipitator operated with a wet scrubber, you must establish the minimum total secondary electric power (secondary voltage and secondary current), as defined in [§ 63.11237](#), as your operating limits during the three-run performance stack test.

(3) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in [§ 63.11237](#), as your operating limit during the three-run performance stack test.

(4) The operating limit for boilers 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 [§ 63.11224](#), and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(c) If you elect to demonstrate compliance with an applicable mercury emission limit through fuel analysis, you must conduct fuel analyses according to [§ 63.11213](#) and Table 5 to this subpart and follow the procedures in [paragraphs \(c\)\(1\)](#) through [\(3\)](#) of this section.

(1) If you burn more than one fuel type, you must determine the fuel type, or mixture, you could burn in your boiler that would result in the maximum emission rates of mercury.

(2) You must determine the 90th percentile confidence level fuel mercury concentration of the composite samples analyzed for each fuel type using Equation 1 of this section.

$$P_{90} = \text{mean} + (\text{SD} * t) \quad (\text{Eq. 1})$$

Where:

$P_{90}$  = 90th percentile confidence level mercury concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel mercury concentration in the fuel samples analyzed according to [§ 63.11213](#), in units of pounds per million Btu.

SD = Standard deviation of the mercury concentration in the fuel samples analyzed according to [§ 63.11213](#), in units of pounds per million Btu.

t = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable mercury emission limit, the emission rate that you calculate for your boiler using Equation 1 of this section must be less than the applicable mercury emission limit.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7508](#), Feb. 1, 2013]

## **§ 63.11212 What stack tests and procedures must I use for the performance tests?**

- (a) You must conduct all performance tests according to [§ 63.7\(c\)](#), [\(d\)](#), [\(f\)](#), and [\(h\)](#). You must also develop a site-specific test plan according to the requirements in [§ 63.7\(c\)](#).
- (b) You must conduct each stack test according to the requirements in Table 4 to this subpart. Boilers that use a CEMS for carbon monoxide (CO) are exempt from the initial CO performance testing in Table 4 to this subpart and the oxygen concentration operating limit requirement specified in Table 3 to this subpart.
- (c) You must conduct performance stack tests at the representative operating load conditions while burning the type of fuel or mixture of fuels that have the highest emissions potential for each regulated pollutant, and you must demonstrate initial compliance and establish your operating limits based on these performance stack tests. For subcategories with more than one emission limit, these requirements could result in the need to conduct more than one performance stack test. Following each performance stack test and until the next performance stack test, you must comply with the operating limit for operating load conditions specified in Table 3 to this subpart.
- (d) You must conduct a minimum of three separate test runs for each performance stack test required in this section, as specified in [§ 63.7\(e\)\(3\)](#) and in accordance with the provisions in Table 4 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 of appendix A-7 to [part 60 of this chapter](#) to convert the measured PM concentrations and the measured mercury concentrations that result from the performance test to pounds per million Btu heat input emission rates.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7508](#), Feb. 1, 2013]

## **§ 63.11213 What fuel analyses and procedures must I use for the performance tests?**

- (a) You must conduct fuel analyses according to the procedures in [paragraphs \(b\)](#) and [\(c\)](#) of this section and Table 5 to this subpart, as applicable. 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 in Table 1 of this subpart.



(b) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in Table 5 to this subpart. Each composite sample must consist of a minimum of three samples collected at approximately equal intervals during a test run period.

(c) Determine the concentration of mercury in the fuel in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 5 to this subpart.

## **§ 63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?**

(a) If you own or operate an existing or new coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must conduct a performance tune-up according to [§ 63.11210\(c\)](#) or [\(g\)](#), as applicable, and [§ 63.11223\(b\)](#). If you own or operate an existing coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted an initial tune-up of the boiler.

(b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to [§ 63.11210\(c\)](#) or [\(g\)](#), as applicable, and [§ 63.11223\(b\)](#). If you own or operate an existing biomass-fired boiler or existing oil-fired boiler, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted an initial tune-up of the boiler.

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 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.

(d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7508](#), Feb. 1, 2013; [81 FR 63126](#), Sept. 14, 2016]



## Continuous Compliance Requirements

### § 63.11220 When must I conduct subsequent performance tests or fuel analyses?

(a) If your boiler has a heat input capacity of 10 million Btu per hour or greater, you must conduct all applicable performance (stack) tests according to [§ 63.11212](#) on a triennial basis, except as specified in [paragraphs \(b\)](#) through [\(e\)](#) of this section. Triennial performance tests must be completed no more than 37 months after the previous performance test.

(b) For new or reconstructed boilers that commenced construction or reconstruction on or before September 14, 2016, when demonstrating initial compliance with the PM emission limit, if your boiler's performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you do not need to conduct further performance tests for PM until September 14, 2021, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the provisions as specified in [paragraphs \(b\)\(1\)](#) through [\(4\)](#) of this section.

(1) A performance test for PM must be conducted by September 14, 2021.

(2) If your performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you may choose to conduct performance tests for PM every fifth year. Each such performance test must be conducted no more than 61 months after the previous performance test.

(3) If you intend to burn a new type of fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in [§ 63.11237](#), you must conduct a performance test within 60 days of burning the new fuel type.

(4) If your performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests on a triennial basis as specified in [paragraph \(a\)](#) of this section.

(c) For new or reconstructed boilers that commenced construction or reconstruction after September 14, 2016, when demonstrating initial compliance with the PM emission limit, if your boiler's performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you may choose to conduct performance tests for PM every fifth year, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the provisions as specified in [paragraphs \(c\)\(1\)](#) through [\(3\)](#) of this section.

(1) Each such performance test must be conducted no more than 61 months after the previous performance test.

(2) If you intend to burn a new type of fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in [§ 63.11237](#), you must conduct a performance test within 60 days of burning the new fuel type.

(3) If your performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests on a triennial basis as specified in [paragraph \(a\)](#) of this section.

(d) If you demonstrate compliance with the mercury emission limit based on fuel analysis, you must conduct a fuel analysis according to [§ 63.11213](#) for each type of fuel burned as specified in [paragraphs \(d\)\(1\)](#) through [\(3\)](#) of this section. If you plan to burn a new type of fuel or fuel mixture, you must conduct a fuel analysis before burning the new type of fuel or mixture in your boiler. You must recalculate the mercury emission rate using Equation 1 of [§ 63.11211](#). The recalculated mercury emission rate must be less than the applicable emission limit.

(1) For existing boilers and new or reconstructed boilers that commenced construction or reconstruction on or before September 14, 2016, when demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, you do not need to conduct further fuel analysis sampling until September 14, 2017, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the provisions as specified in [paragraphs \(d\)\(1\)\(i\)](#) and [\(ii\)](#) of this section.

(i) Fuel analysis sampling for mercury must be conducted by September 14, 2017.

(ii) If your fuel analysis results show that the mercury constituents in the fuel or fuel mixture are equal to or less than half of the mercury emission limit, you may choose to conduct fuel analysis sampling for mercury every 12 months.

(2) For new or reconstructed boilers that commenced construction or reconstruction after September 14, 2016, when demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, you may choose to conduct fuel analysis sampling for mercury every 12 months, but must continue to comply with all applicable operating limits and monitoring requirements.

(3) When demonstrating compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are greater than half of the mercury emission limit, you must conduct quarterly sampling.

(e) For existing affected boilers that have not operated on solid fossil fuel, biomass, or liquid fuel since the previous compliance demonstration and more than 3 years have passed since the previous compliance demonstration, you must complete your subsequent compliance demonstration no later than 180 days after the re-start of the affected boiler on solid fossil fuel, biomass, or liquid fuel.

[[81 FR 63127](#), Sept. 14, 2016]

## **§ 63.11221 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 [§ 63.11205\(c\)](#).

(b) You must operate the monitoring system and collect data at all required intervals at all times the affected source 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](#)), repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality 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 collected 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 quality control activities in calculations used to report emissions or operating levels. Any such periods must be reported according to the requirements in [§ 63.11225](#). You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan), failure to collect required data is a deviation of the monitoring requirements.

[[78 FR 7508](#), Feb. 1, 2013, as amended at [81 FR 63127](#), Sept. 14, 2016]

## **§ 63.11222 How do I demonstrate continuous compliance with the emission limits?**

(a) You must demonstrate continuous compliance with each emission limit and operating limit in Tables 1 and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart and to [paragraphs \(a\)\(1\) through \(4\)](#) 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 63.11196, whichever date comes first, you must continuously monitor the operating parameters. Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. Operating limits are confirmed or reestablished during performance tests.

(2) If you have an applicable mercury or PM emission limit, you must keep records of the type and amount of all fuels burned in each boiler during the reporting period. If you have an applicable mercury emission limit, you must demonstrate that all fuel types and mixtures of fuels burned would result in lower emissions of mercury than the applicable emission limit (if you demonstrate compliance through fuel analysis), or result in lower fuel input of mercury than the maximum values calculated during the last performance stack test (if you demonstrate compliance through performance stack testing).

(3) If you have an applicable mercury emission limit and you plan to burn a new type of fuel, you must determine the mercury concentration for any new fuel type in units of pounds per million Btu, using the procedures in Equation 1 of § 63.11211 based on supplier data or your own fuel analysis, and meet the requirements in paragraphs (a)(3)(i) or (ii) of this section.

(i) The recalculated mercury emission rate must be less than the applicable emission limit.

(ii) If the mercury concentration is higher than mercury fuel input 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 § 63.11212 to demonstrate that the mercury emissions do not exceed the emission limit.

(4) 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 alarm and operate and maintain the fabric filter system such that the alarm does not sound 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 alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 and 3 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in § 63.11225.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [81 FR 63127](#), Sept. 14, 2016]

## **§ 63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?**

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to [paragraph \(b\)](#) of this section and keep records as required in [§ 63.11225\(c\)](#) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(b) Except as specified in [paragraphs \(c\)](#) through [\(f\)](#) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in [paragraphs \(b\)\(1\)](#) through [\(7\)](#) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

(2) 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.

(3) 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, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.

(5) 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.

(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in [paragraphs \(b\)\(6\)\(i\)](#) through [\(iii\)](#) 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.

(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.

(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, 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 use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in [paragraphs \(b\)\(1\) through \(7\)](#) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in [paragraph \(b\)\(1\)](#) of this section and inspection of the system controlling the air-to-fuel ratio specified in [paragraph \(b\)\(3\)](#) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio 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.

(d) Seasonal boilers must conduct a tune-up every 5 years as specified in [paragraphs \(b\)\(1\) through \(7\)](#) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed seasonal boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in [paragraph \(b\)\(1\)](#) of this section and inspection of the system controlling the air-to-fuel ratio specified in [paragraph \(b\)\(3\)](#) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Seasonal boilers are not subject to the emission limits in Table 1 to this subpart or the operating limits in Table 3 to this subpart.

(e) Oil-fired boilers with a heat input capacity of equal to or less than 5 million Btu per hour must conduct a tune-up every 5 years as specified in [paragraphs \(b\)\(1\) through \(7\)](#) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed oil-fired boiler with a heat input capacity of equal to or less than 5 million Btu per hour, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in [paragraph \(b\)\(1\)](#) of this section and inspection of the system controlling the air-to-fuel ratio specified in [paragraph \(b\)\(3\)](#) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.



(f) Limited-use boilers must conduct a tune-up every 5 years as specified in [paragraphs \(b\)\(1\) through \(7\)](#) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed limited-use boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in [paragraph \(b\)\(1\)](#) of this section and inspection of the system controlling the air-to-fuel ratio specified in [paragraph \(b\)\(3\)](#) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Limited-use boilers are not subject to the emission limits in Table 1 to this subpart, the energy assessment requirements in Table 2 to this subpart, or the operating limits in Table 3 to this subpart.

(g) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7509](#), Feb. 1, 2013; [81 FR 63127](#), Sept. 14, 2016]

## **§ 63.11224 What are my monitoring, installation, operation, and maintenance requirements?**

(a) If your boiler is subject to a CO emission limit in Table 1 to this subpart, you must either install, operate, and maintain a CEMS for CO and oxygen according to the procedures in [paragraphs \(a\)\(1\) through \(6\)](#) of this section, or install, calibrate, operate, and maintain an oxygen analyzer system, as defined in [§ 63.11237](#), according to the manufacturer's recommendations and [paragraphs \(a\)\(7\) and \(d\)](#) of this section, as applicable, by the compliance date specified in [§ 63.11196](#). Where a certified CO CEMS is used, the CO level shall be monitored at the outlet of the boiler, after any add-on controls or flue gas recirculation system and before release to the atmosphere. Boilers that use a CO CEMS are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in [§ 63.11211\(a\) of this subpart](#). Oxygen monitors and oxygen trim systems must be installed to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location.

(1) Each CO CEMS must be installed, operated, and maintained according to the applicable procedures under Performance Specification 4, 4A, or 4B at [40 CFR part 60, appendix B](#), and each oxygen CEMS must be installed, operated, and maintained according to Performance Specification 3 at [40 CFR part 60, appendix B](#). Both the CO and oxygen CEMS must also be installed, operated, and maintained according to the site-specific monitoring plan developed according to [paragraph \(c\)](#) of this section.



(2) You must conduct a performance evaluation of each CEMS according to the requirements in [§ 63.8\(e\)](#) and according to Performance Specifications 3 and 4, 4A, or 4B at [40 CFR part 60, appendix B](#).

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) every 15 minutes. You must have CEMS data values from a minimum of four successive cycles of operation representing each of 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, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in [§ 63.8\(g\)\(2\)](#).

(5) You must calculate hourly averages, corrected to 3 percent oxygen, from each hour of CO CEMS data in parts per million CO concentrations and determine the 10-day rolling average of all recorded readings, except as provided in [§ 63.11221\(c\)](#). Calculate a 10-day rolling average from all of the hourly averages collected for the 10-day operating period using Equation 2 of this section.

$$\text{10-day average} = \frac{\sum_{i=1}^n Hpvi}{n} \quad (\text{Eq. 2})$$

Where:

$Hpvi$  = the hourly parameter value for hour  $i$

$n$  = the number of valid hourly parameter values collected over 10 boiler operating days

(6) For purposes of collecting CO data, you must operate the CO CEMS as specified in [§ 63.11221\(b\)](#). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in [§ 63.11221\(c\)](#). Periods when CO data are unavailable may constitute monitoring deviations as specified in [§ 63.11221\(d\)](#).

(7) You must operate the oxygen analyzer system at or above the minimum oxygen level that is established as the operating limit according to Table 6 to this subpart when firing the fuel or fuel mixture utilized during the most recent CO performance stack test. Operation of oxygen trim systems to meet these requirements shall not be done in a manner which compromises furnace safety.

(b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under [§ 63.8\(f\)](#).

(c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in [paragraphs \(c\)\(1\)](#) through [\(4\)](#) of this section. 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, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses [paragraphs \(c\)\(1\)\(i\)](#) 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.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected 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.

(iii) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).

(2) In your site-specific monitoring plan, you must also address [paragraphs \(c\)\(2\)\(i\)](#) through [\(iii\)](#) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of [§ 63.8\(c\)\(1\)](#), [\(3\)](#), and [\(4\)\(ii\)](#).

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of [§ 63.8\(d\)](#).

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of [§ 63.10\(c\)](#), [\(e\)\(1\)](#), 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.

(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each CPMS according to the procedures in [paragraphs \(d\)\(1\)](#) through [\(4\)](#) of this section.

(1) The CPMS must complete a minimum of one cycle of operation every 15 minutes. You must have data values from a minimum of four successive cycles of operation representing each of 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, to have a valid hour of data.

(2) You must calculate hourly arithmetic averages from each hour of CPMS data in units of the operating limit and determine the 30-day rolling average of all recorded readings, except as provided in [§ 63.11221\(c\)](#). Calculate a 30-day rolling average from all of the hourly averages collected for the 30-day operating period using Equation 3 of this section.

$$\text{30-day average} = \frac{\sum_{i=1}^n Hpvi}{n} \quad (\text{Eq. 3})$$

Where:

$Hpvi$  = the hourly parameter value for hour  $i$

$n$  = the number of valid hourly parameter values collected over 30 boiler operating days

(3) For purposes of collecting data, you must operate the CPMS as specified in [§ 63.11221\(b\)](#). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in [§ 63.11221\(c\)](#). Periods when CPMS data are unavailable may constitute monitoring deviations as specified in [§ 63.11221\(d\)](#).

(4) Record the results of each inspection, calibration, and validation check.

(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in [paragraphs \(e\)\(1\) through \(8\)](#) of this section by the compliance date specified in [§ 63.11196](#).

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 of [40 CFR part 60, appendix B](#).

(2) You must conduct a performance evaluation of each COMS according to the requirements in [§ 63.8](#) and according to Performance Specification 1 of [40 CFR part 60, appendix B](#).

(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.

(7) You must calculate and record 6-minute averages from the opacity monitoring data and determine and record the daily block average of recorded readings, except as provided in [§ 63.11221\(c\)](#).

(8) For purposes of collecting opacity data, you must operate the COMS as specified in [§ 63.11221\(b\)](#). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in [§ 63.11221\(c\)](#). Periods when COMS data are unavailable may constitute monitoring deviations as specified in [§ 63.11221\(d\)](#).

(f) If you 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 \(f\)\(1\) through \(8\)](#) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with EPA-454/R-98-015 (incorporated by reference, see [§ 63.14](#)).

(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.

(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(6) The bag leak detection system must be equipped with an audible or visual alarm system that will activate automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard or seen by plant operating personnel.

(7) For positive pressure fabric filter systems that do not duct all compartments or cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.

(8) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7510](#), Feb. 1, 2013]

## **§ 63.11225 What are my notification, reporting, and recordkeeping requirements?**

(a) You must submit the notifications specified in [paragraphs \(a\)\(1\)](#) through [\(5\)](#) of this section to the administrator.

(1) You must submit all of the notifications in [§§ 63.7\(b\); 63.8\(e\)](#) and [\(f\)](#); and [63.9\(b\)](#) through [\(e\)](#), [\(g\)](#), and [\(h\)](#) that apply to you by the dates specified in those sections except as specified in [paragraphs \(a\)\(2\)](#) and [\(4\)](#) of this section.

(2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.

(3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.

(4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in [§ 63.11196](#) unless you own or operate a new boiler subject only to a requirement to conduct a biennial or 5-year tune-up or you must conduct a performance stack test. If you own or operate a new boiler subject to a requirement to conduct a tune-up, you are not required to prepare and submit a Notification of Compliance Status for the tune-up. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with [paragraphs \(a\)\(4\)\(i\)](#) and [\(vi\)](#) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in [paragraphs \(a\)\(4\)\(i\)](#) through [\(v\)](#) of this section, as applicable, and signed by a responsible official.

(i) You must submit the information required in [§ 63.9\(h\)\(2\)](#), except the information listed in [§ 63.9\(h\)\(2\)\(i\)\(B\), \(D\), \(E\), and \(F\)](#). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in [paragraph \(e\)](#) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in [§ 63.13](#).

(ii) “This facility complies with the requirements in [§ 63.11214](#) to conduct an initial tune-up of the boiler.”

(iii) “This facility has had an energy assessment performed according to [§ 63.11214\(c\)](#).”

(iv) For units that install bag leak detection systems: “This facility complies with the requirements in [§ 63.11224\(f\)](#).”

(v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”

(vi) The notification must be submitted electronically using 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 Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in [§ 63.13](#).

(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in [paragraphs \(b\)\(1\)](#) through [\(4\)](#) of this section. You must submit the report by March 15 if you had any instance described by [paragraph \(b\)\(3\)](#) of this section. For boilers that are subject only to the energy assessment requirement and/or a requirement to conduct a biennial or 5-year tune-up according to [§ 63.11223\(a\)](#) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in [paragraphs \(b\)\(1\)](#) and [\(2\)](#) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) “This facility complies with the requirements in [§ 63.11223](#) to conduct a biennial or 5-year tune-up, as applicable, of each boiler.”



(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”

(iii) “This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.”

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under § 241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of § 241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.

(1) As required in § 63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by § 63.11214 and § 63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under § 241.3(d)(1). 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 satisfies the definition of processing in § 241.2 and each of the legitimacy criteria in § 241.3(d)(1) 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, you must keep records documenting that the material is a listed non-waste under § 241.4(a).



(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used. For each new oil-fired boiler that meets the requirements of [§ 63.11210\(e\)](#) or [\(f\)](#), you must keep records, on a monthly basis, of the type of fuel combusted.

(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.

(vi) For each boiler that meets the definition of limited-use boiler, 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 records of fuel use for the days the boiler is operating.

(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in [§ 63.11205\(a\)](#), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(6) You must keep the records of all inspection and monitoring data required by [§§ 63.11221](#) and [63.11222](#), and the information identified in [paragraphs \(c\)\(6\)\(i\)](#) through [\(vi\)](#) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable).

(7) If you use a bag leak detection system, you must keep the records specified in [paragraphs \(c\)\(7\)\(i\) through \(iii\)](#) of this section.

(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(e)

(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 associated fuel analyses, following the procedure specified in either [paragraph \(e\)\(1\)\(i\)](#) 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 ([https://www3.epa.gov/ttn/chief/ert/ert\\_info.html](https://www3.epa.gov/ttn/chief/ert/ert_info.html)) at the time of the test, 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 the use of the EPA's ERT or an alternate 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/OAQPS/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 \(e\)\(2\)\(i\)](#) 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 submitted 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 storage media must be clearly marked as CBI and mailed 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 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 EPA's 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](#).

(f) 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, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategory 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.

(g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel

change that results in the boiler meeting the definition of gas-fired boiler, as defined in [§ 63.11237](#), or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify:

- (1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.
- (2) The date upon which the fuel switch, physical change, or permit limit occurred.

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7511](#), Feb. 1, 2013; [81 FR 63127](#), Sept. 14, 2016]

## **§ 63.11226 [Reserved]**

### **Other Requirements and Information**

## **§ 63.11235 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.

## **§ 63.11236 Who implements and enforces this subpart?**

(a) This subpart can be implemented and enforced by 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 has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of 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 [paragraphs \(c\)](#) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are specified in [paragraphs \(c\)\(1\)](#) through [\(5\)](#) of this section.

- (1) Approval of an alternative non-opacity emission standard and work practice standards in [§ 63.11223\(a\)](#).

(2) Approval of alternative opacity emission standard under [§ 63.6\(h\)\(9\)](#).

(3) Approval of major change to test methods under [§ 63.7\(e\)\(2\)\(ii\)](#) and [\(f\)](#). A “major change to test method” is defined in [§ 63.90](#).

(4) Approval of a major change to monitoring under [§ 63.8\(f\)](#). A “major change to monitoring” is defined in [§ 63.90](#).

(5) Approval of major change to recordkeeping and reporting under [§ 63.10\(f\)](#). A “major change to recordkeeping/reporting” is defined in [§ 63.90](#).

[[76 FR 15591](#), Mar. 21, 2011, as amended at [78 FR 7513](#), Feb. 1, 2013]

## **§ 63.11237 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 all valid hours of data from 10 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

*30-day rolling average* means the arithmetic mean of all valid hours of data from 30 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

*Annual capacity factor* means the ratio between the actual heat input to a boiler from the fuels burned during a calendar year and the potential heat input to the boiler 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.

*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.

*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* means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and 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.

*Biomass subcategory* includes any boiler that burns any biomass and is not in the coal subcategory.

*Boiler* means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam and/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, process heaters, and autoclaves are excluded from the definition of *Boiler*.

*Boiler system* means the boiler and associated components, such as, feedwater systems, combustion air systems, fuel systems (including burners), blowdown systems, combustion control systems, steam systems, and condensate return systems, directly connected to and serving the energy use systems.

*Calendar year* means the period between January 1 and December 31, inclusive, for a given year.

*Coal* means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in 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 subcategory* includes any boiler that burns any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis.

*Commercial boiler* means a boiler used in commercial establishments such as 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.

*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 and periods when the unit is not operating.

## *Deviation*

(1) 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.

*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 [§ 63.14](#)).

*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 are included in this definition. A dry scrubber is a dry control system.

*Electric boiler* means a boiler in which electric heating serves as the source of heat. Electric boilers that burn gaseous or liquid fuel during periods of electrical power curtailment or failure are included in this definition.

*Electric utility steam generating unit (EGU)* means a fossil fuel-fired combustion unit of more than 25 megawatts 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 megawatts electrical 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, 2015.



*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 with less than 0.3 trillion Btu per year (TBtu/year) heat input capacity 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) 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, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour energy assessment.

(2) The energy assessment for facilities with affected boilers with 0.3 to 1.0 TBtu/year heat input capacity 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) and any on-site energy use system(s) accounting for at least 33 percent of the affected boiler(s) energy (*e.g.*, steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour energy assessment.

(3) The energy assessment for facilities with affected boilers with greater than 1.0 TBtu/year heat input capacity will be up to 24 on-site technical labor hours in length for the first TBtu/year plus 8 on-site technical labor hours for every additional 1.0 TBtu/year 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) and any on-site energy use system(s) accounting for at least 20 percent of the affected boiler(s) energy (*e.g.*, steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.

(4) The on-site energy use system(s) serving as the basis for the percent of affected boiler(s) energy production, as applicable, 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 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*

(1) Includes the following systems located on the site of the affected boiler that use energy provided by the boiler:

(i) 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

(ii) Other systems that use steam, hot water, process heat, or electricity, provided by the affected boiler.

(2) Energy use systems are only those systems using energy clearly produced by affected boilers.

*Equivalent* means the following only as this term is used in Table 5 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 mercury using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing this metal. 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 mercury concentration mathematically adjusted to a dry basis.

(6) An equivalent mercury determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for mercury and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 5 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 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 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 fuels* includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, hydrogen, and biogas.

*Gas-fired boiler* includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

*Heat input* means heat derived from combustion of fuel in a boiler 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.

*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 fuel and hot water 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 million Btu per hour heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on-demand hot water.

*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.

*Industrial boiler* means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

*Institutional boiler* means a boiler used in institutional establishments such as, but not limited to, medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, and governmental buildings to provide electricity, steam, and/or hot water.

*Limited-use boiler* means any boiler that burns any amount of solid or liquid fuels and has a federally enforceable annual capacity factor of no more than 10 percent.

*Liquid fuel* includes, but is not limited to, distillate oil, residual oil, any form of liquid fuel derived from petroleum, used oil meeting the specification in [40 CFR 279.11](#), liquid biofuels, biodiesel, and vegetable oil.

*Load fraction* means the actual heat input of a boiler 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 that co-fire natural 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).

*Minimum activated carbon injection rate* means load fraction multiplied by the lowest hourly average activated carbon injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

*Minimum oxygen level* means the lowest hourly average oxygen level measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable carbon monoxide emission limit.

*Minimum scrubber liquid flow rate* means the lowest hourly average scrubber liquid flow rate (*e.g.*, to the particulate matter scrubber) measured according to Table 6 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 6 to this subpart during the most recent performance stack 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 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits; or
- (2) For fluidized bed combustion, 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 6 to this subpart during the most recent performance stack 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 by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see [§ 63.14](#)); or
- (3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions (*i.e.*, a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals). 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<sub>3</sub>H<sub>8</sub>.

*Oil subcategory* includes any boiler that burns any liquid fuel and is not in either the biomass or coal subcategories. Gas-fired boilers that burn liquid fuel only during periods of gas curtailment, gas supply interruptions, startups, or for periodic testing are not included in this definition. Periodic testing on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

*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 unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

*Oxygen analyzer system* means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location. This definition includes oxygen trim systems.

*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 carbon monoxide 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.

*Performance testing* means the collection of data resulting from the execution of a test method used (either by stack testing or fuel analysis) to demonstrate compliance with a relevant emission standard.

*Period of gas curtailment or supply interruption* means a period of time during which the supply of gaseous fuel to an affected boiler 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.

*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. Process heaters include units that heat water/water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

*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.
  - (vii) 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.

*Regulated gas stream* means an offgas stream that is routed to a boiler 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](#).

*Seasonal boiler* means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory.

*Shutdown* means the period in which cessation of operation of a boiler is initiated for any purpose. Shutdown begins when the boiler no longer supplies useful thermal energy (such as steam or hot water) for heating, cooling, or process purposes or generates electricity, or when no fuel is being fed to the boiler, whichever is earlier. Shutdown ends when the boiler no longer supplies useful thermal energy (such as steam or hot water) for heating, cooling, or process purposes or generates electricity, and no fuel is being combusted in the boiler.

*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 for the purpose of supplying useful thermal energy (such as steam or hot water) 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 (such as steam or hot water) from the boiler is supplied for heating and/or producing electricity, or for any other purpose, or

(2) The period in which operation of a boiler is initiated for any purpose. Startup begins with either the first-ever firing of fuel in a boiler for the purpose of supplying useful thermal energy (such as steam or hot water) for heating, cooling or process purposes or producing electricity, or the firing of fuel in a boiler for any purpose after a shutdown event. Startup ends 4 hours after when the boiler supplies useful thermal energy (such as steam or hot water) for heating, cooling, or process purposes or generates electricity, whichever is earlier.

*Temporary boiler* means any gaseous or liquid fuel boiler 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 is not a temporary boiler if any one of the following conditions exists:

- (1) The equipment is attached to a foundation.
- (2) The boiler 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 that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.
- (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, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

*Tune-up* means adjustments made to a boiler in accordance with the procedures outlined in [§ 63.11223\(b\)](#).

*Ultra-low-sulfur liquid fuel* means a distillate oil that has less than or equal to 15 parts per million (ppm) sulfur.

*Useful thermal energy* means energy (*i.e.*, steam or hot water) that meets the minimum operating temperature, flow, and/or pressure required by any energy use system that uses energy provided by the affected boiler.

*Vegetable oil* means oils extracted from vegetation.

*Voluntary Consensus Standards (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, 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.standards.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 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 Air Resources Board (CARB) and Texas Commission on Environmental Quality (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.

*Wet scrubber* means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler 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, which is promulgated pursuant to section 112(h) of the Clean Air Act.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7513, Feb. 1, 2013; 81 FR 63128, Sept. 14, 2016]

## **Table 1 to Subpart JJJJJ of Part 63 - Emission Limits**

As stated in § 63.11201, you must comply with the following applicable emission limits:

If your boiler is in this subcategory . . .	For the following pollutants . . .	You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown . . .
1. New coal-fired boilers with heat input capacity of 30 million British thermal units per hour (MMBtu/hr) or greater that do not meet the definition of limited-use boiler	a. PM (Filterable) b. Mercury c. CO	3.0E-02 pounds(lb) per million British thermal units (MMBtu) of heat input. 2.2E-05 lb per MMBtu of heat input.

If your boiler is in this subcategory . . .	For the following pollutants . . .	You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown . . .
2. New coal-fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of limited-use boiler	a. PM (Filterable) b. Mercury c. CO	420 parts per million (ppm) by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average). 4.2E-01 lb per MMBtu of heat input. 2.2E-05 lb per MMBtu of heat input. 420 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).
3. New biomass-fired boilers with heat input capacity of 30 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler	PM (Filterable)	3.0E-02 lb per MMBtu of heat input.
4. New biomass fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler	PM (Filterable)	7.0E-02 lb per MMBtu of heat input.
5. New oil-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler	PM (Filterable)	3.0E-02 lb per MMBtu of heat input.
6. Existing coal-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of limited-use boiler	a. Mercury b. CO	2.2E-05 lb per MMBtu of heat input. 420 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).

[78 FR 7517, Feb. 1, 2013, as amended at 81 FR 63130, Sept. 14, 2016]

## **Table 2 to Subpart JJJJJ of Part 63 - Work Practice Standards, Emission Reduction Measures, and Management Practices**

As stated in § 63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

If your boiler is in this subcategory . . .	You must meet the following . . .
1. Existing or new coal-fired, new biomass-fired, or new oil-fired boilers (units with heat input capacity of 10 MMBtu/hr or greater)	Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.
2. Existing coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in <a href="#">§ 63.11214</a> , and conduct a tune-up of the boiler biennially as specified in <a href="#">§ 63.11223</a> .
3. New coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct a tune-up of the boiler biennially as specified in <a href="#">§ 63.11223</a> .
4. Existing oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in <a href="#">§ 63.11214</a> , and conduct a tune-up of the boiler biennially as specified in <a href="#">§ 63.11223</a> .
5. New oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct a tune-up of the boiler biennially as specified in <a href="#">§ 63.11223</a> .
6. Existing biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in <a href="#">§ 63.11214</a> , and conduct a tune-up of the boiler biennially as specified in <a href="#">§ 63.11223</a> .
7. New biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct a tune-up of the boiler biennially as specified in <a href="#">§ 63.11223</a> .
8. Existing seasonal boilers	Conduct an initial tune-up as specified in <a href="#">§ 63.11214</a> ,

If your boiler is in this subcategory . . .	You must meet the following . . .
	and conduct a tune-up of the boiler every 5 years as specified in <a href="#">§ 63.11223</a> .
9. New seasonal boilers	Conduct a tune-up of the boiler every 5 years as specified in <a href="#">§ 63.11223</a> .
10. Existing limited-use boilers	Conduct an initial tune-up as specified in <a href="#">§ 63.11214</a> , and conduct a tune-up of the boiler every 5 years as specified in <a href="#">§ 63.11223</a> .
11. New limited-use boilers	Conduct a tune-up of the boiler every 5 years as specified in <a href="#">§ 63.11223</a> .
12. Existing oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr	Conduct an initial tune-up as specified in <a href="#">§ 63.11214</a> , and conduct a tune-up of the boiler every 5 years as specified in <a href="#">§ 63.11223</a> .
13. New oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr	Conduct a tune-up of the boiler every 5 years as specified in <a href="#">§ 63.11223</a> .
14. Existing coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up	Conduct an initial tune-up as specified in <a href="#">§ 63.11214</a> , and conduct a tune-up of the boiler every 5 years as specified in <a href="#">§ 63.11223</a> .
15. New coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up	Conduct a tune-up of the boiler every 5 years as specified in <a href="#">§ 63.11223</a> .
16. Existing coal-fired, biomass-fired, or oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater), not including limited-use boilers	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. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. 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 1 year between January 1, 2008, and the compliance date specified in <a href="#">§ 63.11196</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 (1) to



If your boiler is in this subcategory . . .	You must meet the following . . .
	<p>(4) appropriate for the on-site technical hours listed in <a href="#">§ 63.11237</a>:</p> <p>(1) A visual inspection of the boiler system,</p> <p>(2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,</p> <p>(3) An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator,</p> <p>(4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,</p> <p>(5) A list of major energy conservation measures that are within the facility's control,</p> <p>(6) A list of the energy savings potential of the energy conservation measures identified, and</p> <p>(7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.</p>

[78 FR 7518, Feb. 1, 2013, as amended at [81 FR 63129](#), Sept. 14, 2016]

### **Table 3 to Subpart JJJJJ of Part 63 - Operating Limits for Boilers With Emission Limits**

As stated in [§ 63.11201](#), you must comply with the applicable operating limits:

If you demonstrate compliance with applicable emission limits using . . .	You must meet these operating limits except during periods of startup and shutdown . . .
1. Fabric filter control	<p>a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR</p> <p>b. Install and operate a bag leak detection system according to <a href="#">§ 63.11224</a> and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period.</p>
2. Electrostatic precipitator control	<p>a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR</p>



If you demonstrate compliance with applicable emission limits using . . .	You must meet these operating limits except during periods of startup and shutdown . . .
	<p>b. Maintain the 30-day rolling average total secondary electric power of the electrostatic precipitator at or above the minimum total secondary electric power as defined in <a href="#">§ 63.11237</a>.</p>
3. Wet scrubber control	<p>Maintain the 30-day rolling average pressure drop across the wet scrubber at or above the minimum scrubber pressure drop as defined in <a href="#">§ 63.11237</a> and the 30-day rolling average liquid flow rate at or above the minimum scrubber liquid flow rate as defined in <a href="#">§ 63.11237</a>.</p>
4. Dry sorbent or activated carbon injection control	<p>Maintain the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent injection rate or minimum activated carbon injection rate as defined in <a href="#">§ 63.11237</a>. When your boiler operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (e.g., actual heat input divided by the heat input during the performance stack test; for 50 percent load, multiply the injection rate operating limit by 0.5).</p>
5. Any other add-on air pollution control type.	<p>This option is for boilers that operate dry control systems. Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average).</p>
6. Fuel analysis	<p>Maintain the fuel type or fuel mixture (annual average) such that the mercury emission rate calculated according to <a href="#">§ 63.11211(c)</a> are less than the applicable emission limit for mercury.</p>
7. Performance stack testing	<p>For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test.</p>
8. Oxygen analyzer system	<p>For boilers subject to a CO emission limit that demonstrate compliance with an oxygen analyzer system as specified in <a href="#">§ 63.11224(a)</a>, maintain the 30-day rolling average oxygen level at or above the minimum oxygen level as defined in <a href="#">§ 63.11237</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="#">§ 63.11224(a)(7)</a>.</p>

[78 FR 7519, Feb. 1, 2013]

## **Table 4 to Subpart JJJJJ of Part 63 - Performance (Stack) Testing Requirements**

As stated in [§ 63.11212](#), you must comply with the following requirements for performance (stack) test for affected sources:

To conduct a performance test for the following pollutant. . .	You must. . .	Using. . .
1. Particulate Matter	<p>a. Select sampling ports location and the number of traverse points</p> <p>b. Determine velocity and volumetric flow-rate of the stack gas</p> <p>c. Determine oxygen and carbon dioxide concentrations of the stack gas</p> <p>d. Measure the moisture content of the stack gas</p> <p>e. Measure the particulate matter emission concentration</p> <p>f. Convert emissions concentration to lb/MMBtu emission rates</p>	<p>Method 1 in appendix A-1 to <a href="#">part 60 of this chapter</a>.</p> <p>Method 2, 2F, or 2G in appendix A-2 to <a href="#">part 60 of this chapter</a>.</p> <p>Method 3A or 3B in appendix A-2 to <a href="#">part 60 of this chapter</a>, or ASTM D6522-00 (Reapproved 2005),<sup>a</sup> or ANSI/ASME PTC 19.10-1981.<sup>a</sup></p> <p>Method 4 in appendix A-3 to <a href="#">part 60 of this chapter</a>.</p> <p>Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A-3 and A-6 to <a href="#">part 60 of this chapter</a> and a minimum 1 dscm of sample volume per run.</p> <p>Method 19 F-factor methodology in appendix A-7 to <a href="#">part 60 of this chapter</a>.</p>
2. Mercury	<p>a. Select sampling ports location and the number of traverse points</p> <p>b. Determine velocity and volumetric flow-rate of the stack gas</p> <p>c. Determine oxygen and carbon dioxide concentrations of the stack gas</p> <p>d. Measure the moisture content of the stack gas</p> <p>e. Measure the mercury emission concentration</p>	<p>Method 1 in appendix A-1 to <a href="#">part 60 of this chapter</a>.</p> <p>Method 2, 2F, or 2G in appendix A-2 to <a href="#">part 60 of this chapter</a>.</p> <p>Method 3A or 3B in appendix A-2 to <a href="#">part 60 of this chapter</a>, or ASTM D6522-00 (Reapproved 2005),<sup>a</sup> or ANSI/ASME PTC 19.10-1981.<sup>a</sup></p> <p>Method 4 in appendix A-3 to <a href="#">part 60 of this chapter</a>.</p> <p>Method 29, 30A, or 30B in appendix A-8 to <a href="#">part 60 of this chapter</a> or Method 101A in appendix B to <a href="#">part 61 of this chapter</a> or ASTM Method D6784-02.<sup>a</sup> Collect a minimum 2 dscm of sample volume</p>

To conduct a performance test for the following pollutant. . .	You must. . .	Using. . .
3. Carbon Monoxide	<ul style="list-style-type: none"> <li>f. Convert emissions concentration to lb/MMBtu emission rates</li> <li>a. Select the sampling ports location and the number of traverse points</li> <li>b. Determine oxygen and carbon dioxide concentrations of the stack gas</li> <li>c. Measure the moisture content of the stack gas</li> <li>d. Measure the carbon monoxide emission concentration</li> </ul>	<p>with Method 29 of 101A per run. Use a minimum run time of 2 hours with Method 30A.</p> <p>Method 19 F-factor methodology in appendix A-7 to <a href="#">part 60 of this chapter</a>.</p> <p>Method 1 in appendix A-1 to <a href="#">part 60 of this chapter</a>.</p> <p>Method 3A or 3B in appendix A-2 to <a href="#">part 60 of this chapter</a>, or ASTM D6522-00 (Reapproved 2005),<sup>a</sup> or ANSI/ASME PTC 19.10-1981.<sup>a</sup></p> <p>Method 4 in appendix A-3 to <a href="#">part 60 of this chapter</a>.</p> <p>Method 10, 10A, or 10B in appendix A-4 to <a href="#">part 60 of this chapter</a> or ASTM D6522-00 (Reapproved 2005)<sup>a</sup> and a minimum 1 hour sampling time per run.</p>

<sup>a</sup> Incorporated by reference, see [§ 63.14](#).

## **Table 5 to Subpart JJJJJ of Part 63 - Fuel Analysis Requirements**

As stated in [§ 63.11213](#), you must comply with the following requirements for fuel analysis testing for affected sources:

To conduct a fuel analysis for the following pollutant . . .	You must. . .	Using . . .
1. Mercury	<ul style="list-style-type: none"> <li>a. Collect fuel samples</li> <li>b. Compose fuel samples</li> <li>c. Prepare composited</li> </ul>	<p>Procedure in <a href="#">§ 63.11213(b)</a> or ASTM D2234/D2234M<sup>a</sup> (for coal) or ASTM D6323<sup>a</sup> (for biomass) or equivalent.</p> <p>Procedure in <a href="#">§ 63.11213(b)</a> or equivalent.</p> <p>EPA SW-846-3050B<sup>a</sup> (for solid samples) or EPA</p>

To conduct a fuel analysis for the following pollutant ...	You must ...	Using ...
	fuel samples  d. Determine heat content of the fuel type e. Determine moisture content of the fuel type f. Measure mercury concentration in fuel sample g. Convert concentrations into units of lb/MMBtu of heat content	SW-846-3020A <sup>a</sup> (for liquid samples) or ASTM D2013/D2013M <sup>a</sup> (for coal) or ASTM D5198 <sup>a</sup> (for biomass) or equivalent.  ASTM D5865 <sup>a</sup> (for coal) or ASTM E711 <sup>a</sup> (for biomass) or equivalent.  ASTM D3173 <sup>a</sup> or ASTM E871 <sup>a</sup> or equivalent.  ASTM D6722 <sup>a</sup> (for coal) or EPA SW-846-7471B <sup>a</sup> (for solid samples) or EPA SW-846-7470A <sup>a</sup> (for liquid samples) or equivalent.

<sup>a</sup> Incorporated by reference, see [§ 63.14](#).

## Table 6 to Subpart JJJJJ of Part 63 - Establishing Operating Limits

As stated in [§ 63.11211](#), you must comply with the following requirements for establishing operating limits:

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 or mercury	a. Wet scrubber operating parameters	Establish site-specific minimum scrubber pressure drop and minimum scrubber liquid flow rate operating limits according to <a href="#">§ 63.11211(b)</a>	Data from the pressure drop and liquid flow rate monitors and the PM or mercury performance stack tests	(a) You must collect pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance stack tests;  (b) Determine the average pressure drop and liquid flow rate for each individual test run

If you have an applicable emission limit for ...	And your operating limits are based on ...	You must ...	Using ...	According to the following requirements
	b. Electrostatic precipitator operating parameters	Establish a site-specific minimum total secondary electric power operating limit according to <a href="#">§ 63.11211(b)</a>	Data from the secondary electric power monitors and the PM or mercury performance stack tests	<p>in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.</p> <p>(a) You must collect secondary electric power data every 15 minutes during the entire period of the performance stack tests;</p> <p>(b) Determine the average total secondary electric power for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.</p>
2. Mercury	Dry sorbent or activated carbon injection rate operating parameters	Establish a site-specific minimum sorbent or activated carbon injection rate operating limit according to <a href="#">§ 63.11211(b)</a>	Data from the sorbent or activated carbon injection rate monitors and the mercury performance stack tests	<p>(a) You must collect sorbent or activated carbon injection rate data every 15 minutes during the entire period of the performance stack tests;</p> <p>(b) Determine the average sorbent or activated carbon injection rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.</p> <p>(c) When your unit</p>

If you have an applicable emission limit for ...	And your operating limits are based on ...	You must ...	Using ...	According to the following requirements
3. CO	Oxygen	Establish a unit-specific limit for minimum oxygen level	Data from the oxygen analyzer system specified in <a href="#">§ 63.11224(a)</a>	<p>operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction, as defined in <a href="#">§ 63.11237</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 stack tests;</p> <p>(b) Determine the average hourly oxygen concentration for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.</p>
4. Any pollutant for which compliance is demonstrated by a performance stack test	Boiler operating load	Establish a unit-specific limit for maximum operating load according to <a href="#">§ 63.11212(c)</a>	Data from the operating load monitors (fuel feed monitors or steam generation monitors)	<p>(a) You must collect operating load data (fuel feed rate 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 hourly averages using all of the 15-minute readings taken during each performance test.</p> <p>(c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110</p>

If you have an applicable emission limit for ...	And your operating limits are based on ...	You must ...	Using ...	According to the following requirements
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percent) as your operating limit.

[[78 FR 7520](#), Feb. 1, 2013, as amended at [81 FR 63130](#), Sept. 14, 2016]

## Table 7 to Subpart JJJJJ of Part 63 - Demonstrating Continuous Compliance

As stated in [§ 63.11222](#), you must show continuous compliance with the emission limitations for affected sources according to the following:

If you must meet the following operating limits ...	You must demonstrate continuous compliance by ...
1. Opacity	a. Collecting the opacity monitoring system data according to <a href="#">§ 63.11224(e)</a> and <a href="#">§ 63.11221</a> ; and b. Reducing the opacity monitoring data to 6-minute averages; and c. Maintaining opacity to less than or equal to 10 percent (daily block average).
2. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to <a href="#">§ 63.11224(f)</a> and operating the fabric filter such that the requirements in <a href="#">§ 63.11222(a)(4)</a> are met.
3. Wet Scrubber Pressure Drop and Liquid Flow Rate	a. Collecting the pressure drop and liquid flow rate monitoring system data according to <a href="#">§§ 63.11224</a> and <a href="#">63.11221</a> ; 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 minimum pressure drop and minimum liquid flow rate according to <a href="#">§ 63.11211</a> .
4. Dry Scrubber Sorbent or Activated Carbon Injection Rate	a. Collecting the sorbent or activated carbon injection rate monitoring system data for the dry scrubber according to <a href="#">§§ 63.11224</a> and <a href="#">63.11221</a> ; and b. Reducing the data to 30-day rolling averages; and c. Maintaining the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent or activated carbon injection rate according to <a href="#">§ 63.11211</a> .
5. Electrostatic Precipitator Total	a. Collecting the total secondary electric power monitoring system data for the electrostatic precipitator according to <a href="#">§§ 63.11224</a> and <a href="#">63.11221</a> ;



If you must meet the following operating limits . . .	You must demonstrate continuous compliance by . . .
Secondary Electric Power	<p>and</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average total secondary electric power at or above the minimum total secondary electric power according to <a href="#">§ 63.11211</a>.</p>
6. Fuel Pollutant Content	<p>a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to <a href="#">§ 63.11213</a> as applicable; and</p> <p>b. Keeping monthly records of fuel use according to <a href="#">§§ 63.11222(a)(2)</a> and <a href="#">63.11225(b)(4)</a>.</p>
7. Oxygen content	<p>a. Continuously monitoring the oxygen content of flue gas according to <a href="#">§ 63.11224</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="#">§ 63.11224(a)(7)</a>); and</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average oxygen content at or above the minimum oxygen level established during the most recent CO performance test.</p>
8. CO emissions	<p>a. Continuously monitoring the CO concentration in the combustion exhaust according to <a href="#">§§ 63.11224</a> and <a href="#">63.11221</a>; and</p> <p>b. Correcting the data to 3 percent oxygen, and reducing the data to 1-hour averages; and</p> <p>c. Reducing the data from the hourly averages to 10-day rolling averages; and</p> <p>d. Maintaining the 10-day rolling average CO concentration at or below the applicable emission limit in Table 1 to this subpart.</p>
9. Boiler operating load	<p>a. Collecting operating load data (fuel feed rate or steam generation data) every 15 minutes; and</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average at or below the operating limit established during the performance test according to <a href="#">§ 63.11212(c)</a> and Table 6 to this subpart.</p>

[78 FR 7521, Feb. 1, 2013]

## [Table 8 to Subpart JJJJJJ of Part 63 - Applicability of General Provisions to Subpart JJJJJJ](#)

As stated in [§ 63.11235](#), you must comply with the applicable General Provisions according to the following:

General provisions cite	Subject	Does it apply?
§ 63.1	Applicability	Yes.
§ 63.2	Definitions	Yes. Additional terms defined in <a href="#">§ 63.11237</a> .
§ 63.3	Units and Abbreviations	Yes.
§ 63.4	Prohibited Activities and Circumvention	Yes.
§ 63.5	Preconstruction Review and Notification Requirements	No
§ 63.6(a), (b)(1)-(b)(5), (b)(7), (c), (f)(2)-(3), (g), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes.
§ 63.6(e)(1)(i)	General Duty to minimize emissions	No. <i>See</i> <a href="#">§ 63.11205</a> for general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP	No.
§ 63.6(e)(3)	SSM Plan	No.
§ 63.6(f)(1)	SSM exemption	No.
§ 63.6(h)(1)	SSM exemption	No.
§ 63.6(h)(2) to (9)	Determining compliance with opacity emission standards	Yes.
§ 63.7(a), (b), (c), (d), (e)(2)-(e)(9), (f), (g), and (h)	Performance Testing Requirements	Yes.
§ 63.7(e)(1)	Performance testing	No. <i>See</i> <a href="#">§ 63.11210</a> .
§ 63.8(a), (b), (c)(1), (c)(1)(ii), (c)(2) to (c)(9), (d)(1) and (d)(2), (e), (f), and (g)	Monitoring Requirements	Yes.
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No.
§ 63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS	No.
§ 63.8(d)(3)	Written procedures for CMS	Yes, except for the last sentence, which refers to an SSM plan. SSM plans are not required.
§ 63.9	Notification Requirements	Yes, excluding the

General provisions cite	Subject	Does it apply?
		information required in <a href="#">§ 63.9(h)(2)(i)(B), (D), (E) and (F)</a> . See <a href="#">§ 63.11225</a> .
§ 63.10(a) and (b)(1)	Recordkeeping and Reporting Requirements	Yes.
§ 63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups or shutdowns	No.
§ 63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. See <a href="#">§ 63.11225</a> for recordkeeping of (1) occurrence and duration and (2) 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 SSM	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)	Recording nature and cause of malfunctions	No. See <a href="#">§ 63.11225</a> for malfunction recordkeeping requirements.
§ 63.10(c)(11)	Recording corrective actions	No. See <a href="#">§ 63.11225</a> for malfunction recordkeeping requirements.
§ 63.10(c)(12) and (13)	Recordkeeping for sources with CMS	Yes.
§ 63.10(c)(15)	Allows use of SSM plan	No.
§ 63.10(d)(1) and (2)	General reporting requirements	Yes.
§ 63.10(d)(3)	Reporting opacity or visible emission observation results	No.
§ 63.10(d)(4)	Progress reports under an extension of compliance	Yes.
§ 63.10(d)(5)	SSM reports	No. See <a href="#">§ 63.11225</a> for

General provisions cite	Subject	Does it apply?
		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 15591](#), Mar. 21, 2011, as amended at [78 FR 7521](#), Feb. 1, 2013]