



# ARKANSAS

## ENERGY & ENVIRONMENT

December 8, 2022

Via email to: doreen.watters@resolutefp.com & First Class Mail

Doreen Watters  
Operations Support Tech  
Resolute Glenwood LLC  
229 South Spur 8  
Glenwood, AR 71943

Re: Notice of Final Permitting Decision; Permit No. 0189-AOP-R12

Dear Ms. Watters,

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:

Resolute Glenwood LLC  
229 South Spur 8  
Glenwood, AR 71943

Permit Number: 0189-AOP-R12

Permitting Decision: approval with permit conditions as set forth in final Permit No. 0189-AOP-R12

Accessing the Permitting Decision:

<https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/Air/0189-AOP-R12.pdf>.

Accessing the Statement of Basis:

<https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/Air/0189-AOP-R12-SOB.pdf>.

Rule 26.903 of the Rules of the Arkansas Operating Air Permit Program do not require a public notice or public comment period for Administrative Amendments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dw", with a long horizontal flourish extending to the right.

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  
cc: [jpost@gbmcassoc.com](mailto:jpost@gbmcassoc.com)

**CERTIFICATE OF SERVICE**

I, Natasha Oates, hereby certify that the final permit decision notice has been mailed by first class mail to Resolute Glenwood LLC, 229 South Spur 8, Glenwood, AR, 71943, on this 8th day of December, 2022.

*Natasha Oates*

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Natasha Oates, AA, Office of Air Quality



**DIVISION OF ENVIRONMENTAL QUALITY**

**OPERATING AIR PERMIT**

**PERMIT NUMBER: 0189-AOP-R12**

**IS ISSUED TO:**

Resolute Glenwood LLC  
229 South Spur 8  
Glenwood, AR 71943  
Pike County  
**AFIN: 55-00017**

PURSUANT TO THE RULES OF THE ARKANSAS OPERATING AIR PERMIT PROGRAM, RULE 26: THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

May 5, 2021 AND May 4, 2026

THE PERMITTEE 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

December 8, 2022

Date

Resolute Glenwood LLC  
Permit #: 0189-AOP-R12  
AFIN: 55-00017

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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
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO <sub>x</sub>	Nitrogen Oxide
NSPS	New Source Performance Standards
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter Equal To Or Smaller Than Ten Microns
PM <sub>2.5</sub>	Particulate Matter Equal To Or Smaller Than 2.5 Microns
SNAP	Significant New Alternatives Program (SNAP)
SO <sub>2</sub>	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

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**SECTION I: FACILITY INFORMATION**

PERMITTEE: Resolute Glenwood LLC

AFIN: 55-00017

PERMIT NUMBER: 0189-AOP-R12

FACILITY ADDRESS: 229 South Spur 8  
Glenwood, AR 71943

MAILING ADDRESS: 229 South Spur 8  
Glenwood, AR 71943

COUNTY: Pike County

CONTACT NAME: Doreen Watters

CONTACT POSITION: Operations Support Tech

TELEPHONE NUMBER: (870) 356-4846

REVIEWING ENGINEER: Jesse Smith

UTM North South (Y): Zone 15: 3799654.56 m

UTM East West (X): Zone 15: 448203.03 m

## SECTION II: INTRODUCTION

### Summary of Permit Activity

Resolute Glenwood LLC owns and operates a lumber sawmill located in Glenwood, Pike County, Arkansas (formerly Conifex Glenwood LLC). This modification adds an air curtain burner and an engine to power the burner (SN-20 and SN-21). Emissions increased as follows: 10 tpy PM/PM<sub>10</sub>, 1.3 tpy SO<sub>2</sub>, 8.6 tpy VOC, 21.8 tpy CO, 9.3 tpy NO<sub>x</sub>, 3.79E-03 tpy Lead, and 3.07 tpy Total HAP.

### Process Description

Logs are received at the facility and stored in the log yard until processed. For processing, logs are placed in the log deck until needed in the sawmill. Once demanded for production, logs are placed on the bucking system infeed deck to be cut to the most desirable length. The logs are then processed through the debarker. The bark and smaller chips are removed. The debarked logs move through the sawmill to be cut to the optimum size which realizes the best yield for each log. The wood that is undesirable for boards is sent to the chipping machine to be converted to chips. After the logs are cut into boards, the boards are mechanically sorted by dimension and stacked. The debarking and sawmill cutting activities occur in fully enclosed buildings with only openings for the conveyors that route the logs through the process.

Bark from the debarker is mechanically conveyed to the Bark Pile. Chips from the sawmill and sawmill chippers are mechanically conveyed to the Chip Bin/Slab. Trucks haul these materials offsite. Sawdust from the sawmill is conveyed to the sawdust shed and then transferred to the sawdust bin and to each kiln's fuel bin for use as lumber drying kiln fuel. The Debarker, Sawmill, Bark Pile, Chip Bins, Kiln Fuel Shed, Sawdust Bins, Kiln #3 Fuel Bin, Kiln #4 Fuel Bin, and byproduct conveyance are included as Group A-13 Insignificant Activities.

The rough, green lumber is transferred by forklift from a sawmill to a storage area to be held until it is sold as green lumber or sent to one of two direct sawdust fired dual path kilns (DPKs), DPK #3 (SN-04) and DPK #4 (SN-04A) for drying. The hot gas stream from the gasifier/burners may be diverted to the DPK Abort Stacks (SN-18 for DPK #3 and SN-19 for DPK #4) for startup, unplanned shutdowns, or temporary idling. After the lumber is dried in the kilns, it is stacked outside or placed in a cooling shed. After cooling, the lumber is planed and trimmed at the planer mill. The shavings and dust from the planer mill are conveyed by the planer mill cyclone before being routed to the Planer Mill Shavings Bin Cyclone/Baghouse (SN-05), which drops the shavings into the bin and the baghouse controls emissions from the cyclone exhaust. From the shavings bin, the wood waste is gravity fed into trucks (SN-05A) and hauled offsite. The finished lumber is stacked into predetermined amounts, bundled, and stored ready for shipping by truck or rail.

Wood waste or clean lumber generated in the process may be gathered and sent to a curtain burner (SN-20) to be disposed of. The curtain burner is driven by a Tier 4 Final certified diesel engine (SN-21).



### 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 of the Arkansas Operating Air Permit Program, Rule 26, effective March 14, 2016
40 C.F.R. §52.21 – <i>Prevention of Significant Deterioration of Air Quality</i>
40 C.F.R. §63 Subpart DDDD – <i>National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products</i>
40 C.F.R. §60 Subpart CCCC – <i>Standards of Performance for Commercial and Industrial Solid Waste Incineration Units</i>
40 C.F.R. §60 Subpart IIII – <i>Standards of Performance for Stationary Compression Ignition Internal Combustion Engines</i>

### Emission Summary

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

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	70.8	74.0
		PM <sub>10</sub>	33.8	34.6
		PM <sub>2.5</sub>	See Note*	
		SO <sub>2</sub>	3.4	9.4
		VOC	115.3	360.3
		CO	45.5	102.7
		NO <sub>x</sub>	21.6	35.8
		Lead	8.83E-03	1.909E-02
		HAPs	Methanol**	5.04

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Formaldehyde**	2.33	6.40
		Acrolein**	0.59	0.72
		Chlorine	0.16	0.34
		Arsenic	4.059E-03	8.729E-03
		Beryllium	2.02E-05	4.37E-04
		Manganese	0.31	0.66
		Total HAP <sup>a</sup>	14.94	40.47
	Air Contaminants ***	Acetone	0.14	0.18
01	Wood Waste Boiler (265.61 MMBtu/hr)	Sources removed in 2017		
02	Dry Kiln #1			
03	Dry Kiln #2			
04	Dry Kiln #3	Source is converted to a DPK		
04	DPK #3 (36 MMBtu/hr wood fired gasifier)	PM	2.0	-
	14 MBF/hr maximum capacity	PM <sub>10</sub>	1.5	-
SO <sub>2</sub>		0.9	-	
VOC		53.2	-	
CO		9.2	-	
NO <sub>x</sub>		4.0	-	
Lead		1.73E-03	-	
Methanol**		2.52	-	
Formaldehyde**		0.91	-	
Acrolein**		0.06	-	
Chlorine		0.03	-	
Arsenic		7.92E-04	-	
Beryllium		3.96E-05	-	
Manganese		0.06	-	
Total HAP <sup>a</sup>	5.30	-		
	Acetone	0.01	-	
04A	DPK #4 (36 MMBtu/hr wood fired gasifier)	PM	2.0	-
	14 MBF/hr maximum capacity	PM <sub>10</sub>	1.5	-
SO <sub>2</sub>		0.9	-	
VOC		53.2	-	
CO		9.2	-	
NO <sub>x</sub>		4.0	-	
Lead		1.73E-03	-	
19	DPK #4 Abort Stack (operating emissions)	Methanol**	2.52	-
		Formaldehyde**	0.91	-

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Acrolein**	0.06	-
		Chlorine	0.03	-
		Arsenic	7.92E-04	-
		Beryllium	3.96E-05	-
		Manganese	0.06	-
		Total HAP <sup>a</sup>	5.30	-
		Acetone	0.01	-
04, 04A, 18, & 19	Combined Kiln Annual Limits and Abort Stacks (operating emissions)	PM		13.0
		PM <sub>10</sub>		9.7
		SO <sub>2</sub>		7.9
		VOC		351.5
		CO		80.5
		NO <sub>x</sub>		25.9
		Lead		1.52E-02
		Methanol**	N/A	16.65
		Formaldehyde**		6.02
		Acrolein**		0.37
		Chlorine		0.25
		Arsenic		6.94E-03
		Beryllium		3.47E-04
		Manganese		0.51
		Total HAP <sup>a</sup>		37.30
		Acetone		0.06
05	Planer Mill Shavings Bin Cyclone	PM	0.2	0.5
		PM <sub>10</sub>	0.2	0.5
05A	Planer Mill Shavings Bin Loadout	PM	0.1	0.1
		PM <sub>10</sub>	0.1	0.1
17	Haul Roads	PM	48.7	49.6
		PM <sub>10</sub>	13.3	13.5
18	DPK #3 Abort Stack (startup emissions)	PM	3.0	0.4
		PM <sub>10</sub>	2.7	0.4
		SO <sub>2</sub>	0.3	0.1
		VOC	0.2	0.1
		CO	1.6	0.2
		NO <sub>x</sub>	2.1	0.3
		Lead	4.40E-04	5.27E-05
		Formaldehyde**	0.04	0.01
		Acrolein**	0.04	0.01
		Chlorine	0.01	0.01
		Arsenic	2.05E-04	2.46E-05

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Beryllium	1.00E-05	1.20E-06
		Manganese	0.02	0.01
		Total HAP <sup>a</sup>	0.35	0.05
		Acetone	0.01	0.01
19	DPK #4 Abort Stack (startup emissions)	PM	3.0	0.4
		PM <sub>10</sub>	2.7	0.4
		SO <sub>2</sub>	0.3	0.1
		VOC	0.2	0.1
		CO	1.6	0.2
		NO <sub>x</sub>	2.1	0.3
		Lead	4.40E-04	5.27E-05
		Formaldehyde**	0.04	0.01
		Acrolein**	0.04	0.01
		Chlorine	0.01	0.01
		Arsenic	2.05E-04	2.46E-05
		Beryllium	1.00E-05	1.20E-06
		Manganese	0.02	0.01
		Total HAP <sup>a</sup>	0.35	0.05
		Acetone	0.01	0.01
SN-20	Curtain Burner	PM	11.7	9.9
		PM <sub>10</sub>	11.7	9.9
		SO <sub>2</sub>	0.9	0.8
		VOC	8.1	6.9
		CO	23.4	19.8
		NO <sub>x</sub>	9.0	7.6
		Lead	4.49E-03	3.79E-03
		Formaldehyde	0.42	0.35
		Acrolein	0.38	0.32
		Chlorine	0.08	0.07
		Arsenic	2.059E-03	1.739E-03
		Beryllium	1.030E-04	8.694E-05
		Manganese	0.15	0.13
		Total HAP	3.63	3.06
		Acetone	0.1	0.1
SN-21	Curtain Burner Engine	PM	0.1	0.1
		PM <sub>10</sub>	0.1	0.1
		SO <sub>2</sub>	0.1	0.5
		VOC	0.4	1.7
		CO	0.5	2.0
		NO <sub>x</sub>	0.4	1.7

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EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Acrolein	0.01	0.01
		Formaldehyde	0.01	0.01
		Total HAP	0.01	0.01

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

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

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

<sup>a</sup>Includes all speciated HAPs (methanol, formaldehyde, acrolein, chlorine, arsenic, beryllium, and manganese)

### SECTION III: PERMIT HISTORY

The initial permit for the facility, Permit No. 189-A, was issued in June of 1986. This permit required the permittee to not exceed 1.0 pound of particulates per hour from the cyclone and 15.5 gallons of VOCs per hour in the coatings area.

Permit No. 189-AR-1, was issued to the facility in March of 1997, to incorporate emissions from unpermitted sources and new boiler emissions. The facility modifications were as follows:

- to replace the existing boiler with a Wellons wood-fired boiler (SN-01). The facility proposed to replace an existing wood-fired boiler with a new Wellons wood-fired boiler rated at 125,000 lb/hr. This boiler is equipped with an electric cogeneration capability;
- to increase the lumber processing rate in the planer mill;
- to increase the lumber processing rate in the drying kilns;
- to include the air pollutants emissions from the wood waste boiler (SN-01), emissions from the kilns (SN-02, SN-03, and SN-04), and the emissions from the other sources (SN-05, SN-05A, SN-06, SN-11, SN-12, and SN-14);
- to address its major source status, and to show it had not circumvented/not been subject to Prevention of Significant Deterioration (PSD) review in the past. The facility was determined to have been below 250 tpy for all pollutants prior to this modification. This modification increased the permitted VOC emission limit to greater than 250 tpy, which triggered PSD “major source” status for the facility at this time.

Permit No.189-AOP-R0 (issued on June 8, 1999) was the first Operating Permit issued to Bean Lumber Company, Inc. - Glenwood Plant under Regulation 26. The permit application included one new Dry Kiln (SN-04A) and changed the designations of the sawdust emission sources, adding a Sawdust Bin Loadout (SN-05A). The facility is classified under SIC code 2421. Total particulates were 136.1 tpy, lower than the previous permit limit because of revised emission factors. PM<sub>10</sub> emission rates were quantified for the first time at 84.1 tpy, using recent AP-42 factors. Total HAPs were less than 2 tpy, with speciated heavy metals included in the particulates at less than 1 tpy.

Permit No. 189-AOP-R1 was issued to Bean Lumber Company on December 14, 1999. This modification was issued in order to account for several changes since the issuance of permit 189-AOP-R0. These changes included an increase in the lumber throughput in the woodshop (SN-11) from 16.2 MM to 60 MM board feet of lumber per year, and the replacement of the 30,000 gallon above ground fuel storage tank (formerly SN-10) with a new, double compartment tank (SN-10). The new tank stores 10,000 gallons of diesel fuel for over the road use in one compartment, and 4,000 gallons of non tax fuel for use in fork lifts and off road equipment in the other compartment. The increase in woodshop throughput resulted in PM emissions increasing by 1.9 tpy. The emissions from the new tank were 0.2 tpy of VOC, which is below PSD significant levels. Additionally several administrative changes were made to the source description for SN-08, SN-09, and SN-10. Additionally, the throughput at Drying Kiln #4 (SN-04A) was limited to 25.8 million board feet per year in order to avoid PSD review. Emission

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limits in this permitting action were quantified at: 138.0 tpy of PM, 84.4 tpy of PM<sub>10</sub>, 8.0 tpy of SO<sub>2</sub>, 280.5 tpy of VOC, 231.0 tpy of CO, and 212.5 tpy of NO<sub>x</sub>.

Permit No. 189-AOP-R2 was issued to Bean Lumber Company on May 1, 2001. This modification was issued in order to allow for the inclusion of lower emission rates calculated from stack test data for the wood-waste boiler (SN-01), as well as to allow for changes in compliance mechanisms for various other permitted limits. Due to the new boiler emission limits, this permitting action resulted in a decrease in emissions from the boiler of: 75.4 tpy PM<sub>10</sub>, 84.1 tpy PM, 0.3 tpy SO<sub>2</sub>, and 70.7 tpy VOC. Additionally, the allowable throughput of the lumber drying kilns was increased in this modification to 148,258 thousand board feet (MBF) per year, which increases VOC emissions from the kilns by 28.0 tpy. This resulted in a net VOC emissions decrease of 42.7 tpy in this modification. As a result of the new, lower VOC emission limit, this facility was no longer considered a major source for the purposes of Prevention of Significant Deterioration (PSD) applicability.

Permit No. 189-AOP-R3 was issued to Bean Lumber Company on October 10, 2001. This modification was issued in order to allow for an expansion of the capacity of the Wellons wood-waste boiler. The capacity of the boiler was increased from 125,000 lb/hr of steam to 155,000 lb/hr steam. Additionally, a new curve saw was installed in the saw mill at this time. PM emissions from the boiler were recalculated based on the revised 0.1 lb/MMBtu NSPS limit found in 40 C.F.R. § 60 Subpart Db. Due to these changes, as well as changes to other published emission factors, emissions from the facility increased with this modification by: 104.8 tpy PM, 94.6 tpy PM<sub>10</sub>, 1.7 tpy SO<sub>2</sub>, 0.7 tpy VOC, 6.7 tpy CO, and 25.2 tpy NO<sub>x</sub>.

Permit No. 189-AOP-R4 was issued to Bean Lumber Company on May 10, 2005. This was the first renewal of the Title V Operating Air Permit for this facility. Changes to the facility permitted with this renewal and modification included an increase in the allowable lumber drying throughput from 148,258,000 board feet per year to 185,000,000 board feet per year and a change in the lumber treatment chemicals from CCA to Copper Azole. There were also changes to emission factors used to permit the wood-waste boiler (SN-01) and the drying kilns (SN-02 through SN-04A). As a result of the increase in dried lumber throughput, this facility was classified as a major source with respect to federal Prevention of Significant Deterioration (PSD) regulations. The changes with this modification resulted in the following emission increases: 18.9 tons per year (tpy) of SO<sub>2</sub>, 99.9 tpy of VOC, 24.51 tpy methanol, 3.51 tpy benzene, 5.71 tpy formaldehyde, 3.42 tpy acetone, as well as small increases in various other hazardous air pollutants (HAPs).

Permit No. 189-AOP-R5 was issued on June 13, 2016. The Title V permit was renewed with permit modifications. The permit ownership and name was changed from Bean Lumber Company, Inc. to Caddo River, LLC. Two natural gas-fired boilers (SN-15 and SN-16) were authorized for construction, the hours of operation for existing wood-fired boiler (SN-01) was increased to 8,760 hr/yr, haul road emissions were added, and the following sources were removed: SN-11, SN-12, and SN-14. Also, a requirement to submit an application at least six months before re-start of SN-01 and obtain a final permit was included as a condition of the Title V renewal, refer to Specific Condition #15 of Permit No. 189-AOP-R5.

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Overall, annual permitted emission limits increased by 6.7 tpy PM, 2.1 tpy SO<sub>2</sub>, 10.6 tpy VOC, 48 tpy CO, 45.4 tpy NO<sub>x</sub>, 22.1 tpy hydrogen chloride, 2.32 tpy methanol, 1.75 tpy total chargeable non-criteria air pollutants (NCAPs), and 17.11 tpy total other NCAPs. While the annual permitted emission limit decreased by PM<sub>10</sub> by 50.3 tpy.

Permit No. 189-AOP-R6 was issued on February 8, 2017. This significant modification was issued to Caddo in order to construct a continuous, direct-fired lumber drying kiln (SN-04A). This project was determined by the applicant to be major modification pursuant to *Prevention of Significant Deterioration*. Caddo also requested the recently permitted two natural gas-fired boilers (SN-15 and SN-16) be removed from the permit because the facility decided to forego the construction of those two units. Overall, permitted emissions decreased by 0.6 tpy PM/PM<sub>10</sub>, 4.4 tpy VOC, 14.4 tpy CO, and 3.9 tpy NO<sub>x</sub>. Permitted SO<sub>2</sub> and HAPs increased by 3.0 tpy and 10.27 tpy, respectively.

Permit No. 0189-AOP-R7 was issued on June 28, 2017. This administrative amendment was issued to Caddo to add a Chip Transfer cyclone to the Insignificant Activities List. Overall, there were no changes to the permitted emissions.

Permit No. 0189-AOP-R8 was issued on January 29, 2018. With this permitting action, Caddo converted the existing Dry Kiln # 3 from a steam heated batch kiln to a direct fired dual path kiln, DPK # 3 (SN-04). The project also included a new Kiln # 3 Fuel Bin as an insignificant activity, and added a baghouse to the Planer Mill Shavings operation (SN-05). The facility also requested to remove the existing Wood Waste Boiler (SN-01), Dry Kiln # 1 (SN-02), Dry Kiln # 2 (SN-03), and Bark Bin (Insignificant activity A-13). The total permitted emission increases included 7.7 tpy of VOC, 0.0153 tpy of Lead, 8.92 tpy of total chargeable NCAPs, and 28.03 tpy of total other NCAPs. The total permitted emission decreases included 116.0 tpy of PM, 69.3 tpy of PM<sub>10</sub>, 25.3 tpy of SO<sub>2</sub>, 190.4 tpy of CO, 252.7 tpy of NO<sub>x</sub>, and 19.03 tpy of Methanol. This modification was a major modification under PSD, the review is below.

This submission addresses the Dry Kiln #4 (SN-04A) conversion project, the Planer Mill Shavings Bin Cyclone (SN-05) replacement project, and the Dry Kiln #3 (SN-04) conversion project. These proposed projects constitute physical changes and thus require review to determine if a major modification will occur as defined by 40 CFR §52.21(b)(2) as incorporated by §19.903(B) of ADEQ Regulation 19.

The emission factor proposed for the VOC as C emission limits (3.8 lb/MBf) is accepted by the Arkansas Department of Environmental Quality (ADEQ) for permitting similarly designed direct fired continuous kilns drying similar wood species. Therefore Caddo River proposes it as BACT. Furthermore, startup and shutdown events will be minimized as much as practical.

Permit No. 0189-AOP-R9 was issued on February 20, 2019. This minor modification was to update both emission calculations and visual emission compliance methods for the planer mill shavings bin loadout (SN-05A). Annual permitted emissions decreased by 0.1 tons per year (tpy) of PM and 0.1 tpy of PM<sub>10</sub> with this modification.



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Permit No. 0189-AOP-R10 was issued on May 5, 2021. This renewal updated emissions on Planer Mill Shavings Bin Cyclone/Baghouse (SN-05) and Haul Roads (SN-17), combined operating emissions from the DPK Abort Stacks (SN-18 and SN-19) with DPK #3 and #4 (SN-04 and SN04A) emissions, added two diesel tanks, nine oil tanks, thirty one oil drums, and four oil totes to the Insignificant Activities list under Group A-3, and added the debarker, bucking saw, chippers, and saw mill to the Insignificant Activities list under Group A-13. Annual permitted emissions increase by 8.4 tons per year (tpy) of PM and 5.2 tpy of PM10 with this renewal. HAP and other emissions are set at 6.04 tpy of formaldehyde, 0.39 tpy of acrolein, 0.27 tpy of chlorine, 6.99E03 tpy of arsenic, 3.50E-04 tpy of beryllium, 0.53 tpy of manganese, 37.4 tpy of total HAP, and 0.08 tpy of acetone with this renewal.

Permit No. 0189-AOP-R11 was issued on November 1, 2021. This administrative amendment modified the list of Group A-13 insignificant Activities to include all the existing and future storage piles onsite. There were no permitted emission changes as a result of this amendment.

**SECTION IV: SPECIFIC CONDITIONS**

SN-04, SN-04A, SN-18, and SN-19  
 DPK #3, DPK #4, and Abort Stacks

Source Description

The green lumber is dried via one of the two DPKs, DPK #3 (SN-04) and DPK #4 (SN-04A). Each kiln is equipped with a 36 MMBtu/hr wood fired gasifier. Under normal operation the hot gas stream from the gasifier on the DPKs is blown into the drying chamber, located at the center of each DPK. There are periods however, when the hot gas stream from the gasifier is diverted to the DPK abort stacks. These periods include startup, unplanned shutdowns, and temporary idling of the DPK for operational, maintenance, and safety reasons. Apart from startup events (when diesel fuel is used as a starter fluid), combustion emissions exhausted to the abort stacks are not known to be different than those from the DPK under normal operation.

Specific Conditions

- The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with these BACT limits by compliance with Specific Conditions #2, #7, and #8. [Rule 19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
04	DPK #3 (36 MMBtu/hr wood fired gasifier)	VOC	53.2	351.5*
18	DPK #3 Abort Stack (operating emissions)			
04A	DPK #4 (36 MMBtu/hr wood fired gasifier)	VOC	53.2	
19	DPK #4 Abort Stack (operating emissions)			
18	DPK #3 Abort Stack (startup emissions)	VOC	0.2	0.1
19	DPK #4 Abort Stack (startup emissions)	VOC	0.2	0.1

\* Total annual limits for both kilns, and associated abort stack operating emissions, are bubbled together.

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2. The permittee shall comply with the following BACT determination for SN-04, SN-04A, SN-18, and SN-19. Compliance with the emission limits set forth in the following table shall be demonstrated through compliance with good combustion practices, proper kiln design, operation, and maintenance. [Rule 19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	BACT Determination	BACT Limit
04	DPK #3	Good Combustion Practices; and Proper Kiln Design, Operation, and Maintenance	3.8 lb VOC/MBF
18	DPK #3 Abort Stack (operating emissions)		
04A	DPK #4		
19	DPK #4 Abort Stack (operating emissions)		
18	DPK #3 Abort Stack (startup emissions)	Good Combustion Practices	VOC: 0.017 lb/MMBtu (wood) 0.252 lb/1000 gal (diesel)
19	DPK #4 Abort Stack (startup emissions)		

3. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #7 and #8. [Rule 19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
04	DPK #3 (36 MMBtu/hr wood fired gasifier)	PM <sub>10</sub>	1.5	9.7* 7.9* 80.5* 25.9* 1.52E-02*
18	DPK #3 Abort Stack (operating emissions)	SO <sub>2</sub>	0.9	
		CO	9.2	
04A	DPK #4 (36 MMBtu/hr wood fired gasifier)	NO <sub>x</sub>	4.0	
		Lead	1.73E-03	
19	DPK #4 Abort Stack (operating emissions)	PM <sub>10</sub>	1.5	
		SO <sub>2</sub>	0.9	
		CO	9.2	
		NO <sub>x</sub>	4.0	
		Lead	1.73E-03	

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SN	Description	Pollutant	lb/hr	tpy
18	DPK #3 Abort Stack (startup emissions)	PM <sub>10</sub>	2.7	0.4
		SO <sub>2</sub>	0.3	0.1
		CO	1.6	0.2
		NO <sub>x</sub>	2.1	0.3
		Lead	4.40E-04	5.27E-05
19	DPK #4 Abort Stack (startup emissions)	PM <sub>10</sub>	2.7	0.4
		SO <sub>2</sub>	0.3	0.1
		CO	1.6	0.2
		NO <sub>x</sub>	2.1	0.3
		Lead	4.40E-04	5.27E-05

\* Total annual limits for both kilns are bubbled together.

4. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #7 and #8. [Rule 18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
04	DPK # 3 (36 MMBtu/hr wood fired gasifier)	PM	2.0	
		Methanol**	2.52	
		Formaldehyde**	0.91	
		Acrolein**	0.06	
18	DPK #3 Abort Stack (operating emissions)	Chlorine	0.03	
		Arsenic	7.92E-04	13.0*
		Beryllium	3.96E-05	16.65*
		Manganese	0.06	6.02*
		Total HAP <sup>a</sup>	5.30	0.37*
		Acetone	0.01	0.25*
04A	DPK # 4 (36 MMBtu/hr wood fired gasifier)	PM	2.0	6.94E-03*
		Methanol**	2.52	3.47E-04*
		Formaldehyde**	0.91	0.51*
		Acrolein**	0.06	37.30*
19	DPK #4 Abort Stack (operating emissions)	Chlorine	0.03	0.06*
		Arsenic	7.92E-04	
		Beryllium	3.96E-05	
		Manganese	0.06	
		Total HAP <sup>a</sup>	5.30	
		Acetone	0.01	

SN	Description	Pollutant	lb/hr	tpy
18	DPK #3 Abort Stack (startup emissions)	PM	3.0	0.4
		Formaldehyde**	0.04	0.01
		Acrolein**	0.04	0.01
		Chlorine	0.01	0.01
		Arsenic	2.05E-04	2.46E-05
		Beryllium	1.00E-05	1.20E-06
		Manganese	0.02	0.01
		Total HAP <sup>a</sup>	0.35	0.05
		Acetone	0.01	0.01
19	DPK #4 Abort Stack (startup emissions)	PM	3.0	0.4
		Formaldehyde**	0.04	0.01
		Acrolein**	0.04	0.01
		Chlorine	0.01	0.01
		Arsenic	2.05E-04	2.46E-05
		Beryllium	1.00E-05	1.20E-06
		Manganese	0.02	0.01
		Total HAP <sup>a</sup>	0.35	0.05
		Acetone	0.01	0.01

\* Total annual limits for both kilns are bubbled together.

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

<sup>a</sup>Includes all speciated HAPs (methanol, formaldehyde, acrolein, chlorine, arsenic, beryllium, and manganese)

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

SN	Limit	Regulatory Citation
04	20%	Rule 19.503 and 40 C.F.R. § 52 Subpart E
04A		
18		
19		

6. Weekly observations of the opacity from SN-04 and SN-04A shall be conducted by a person trained but not necessarily certified in EPA Reference Method 9. During startup operations, the permittee shall conduct observations of the opacity from SN-18 and SN-19 by a person trained but not necessarily certified in EPA Reference Method 9. If visible emissions in excess of the permitted levels are detected, the permittee shall immediately take action to identify the cause of the visible emissions in excess of the permit limit, implement corrective action, and perform an EPA Reference Method 9 test

to verify emissions are not in excess of the permitted level. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated monthly, kept on site, and made available to Department personnel upon request. [Rule 19.705 and 40 C.F.R. § 52 Subpart E]

- a. The date and time of the observation.
  - b. If visible emissions which appeared to be above the permitted limit were detected.
  - c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
  - d. The name of the person conducting the opacity observations.
7. The permittee shall not exceed a combined throughput of 185,000,000 board feet of lumber through the direct fired dual path kilns (SN-04 and SN-04A) per rolling 12-month period. [Rule 19.705 and 40 C.F.R. § 52 Subpart E]
  8. The permittee shall not exceed the limits specified in the following table. [Rule 19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

SN	Diesel fuel usage limit as starter fluid	Wood throughput limit for gasifier/burner during startup	Operating Hour Limits for each Abort Stack during startup
18	1,200 gallons per rolling 12-months	2000 lb per hour	240 hours per rolling 12-months
19	1,200 gallons per rolling 12-months	2000 lb per hour	240 hours per rolling 12-months

9. The permittee shall maintain monthly records to demonstrate compliance with Specific Conditions #7 and #8. The permittee shall update these records by the 15<sup>th</sup> day of the month following the month to which the records pertain. The 12-month rolling totals and each individual month's data shall be maintained on-site, made available to Department personnel upon request, and submitted in accordance with General Provision 7. [Rule 19.705 and 40 C.F.R. § 52 Subpart E]
10. The permittee shall test SN-04 for PM and CO using EPA Reference Method 5 with EPA Reference Method 202 and EPA Reference Method 10, respectively. This test shall take place in accordance with Plantwide Condition 3. Testing shall be conducted with the source operating at least at 90% of its permitted capacity as listed in the following table. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not

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exceed operation at 10% above the tested rate. [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]

SN	Permitted Capacity of gasifier/burner	Permitted Capacity of DP Kiln
SN-04 (DPK#3)	8,000 lb of sawdust per hour	14,000 BF of lumber per hour

11. The dry kilns (SN-04 and SN-04A) are all considered affected sources under 40 C.F.R. §63, Subpart DDDD, *NESHAP for Plywood and Composite Wood Products*. Under 40 C.F.R. §63, Subpart DDDD, the kilns at Resolute Glenwood LLC are not subject to the compliance options or work practice requirements specified in 40 C.F.R. §63.2240. Resolute Glenwood LLC is not required to comply with the compliance options, work practice requirements, performance testing, monitoring, SSM plans, and recordkeeping or reporting requirements of 40 C.F.R. §63, Subpart DDDD or any other requirements in 40 C.F.R. §63, Subpart A for the kilns, except for the initial notification requirements of 40 C.F.R. §63.9(b). [Rule 19.304 and 40 C.F.R. §§ 63.2231 and 63.2252]

SN-05 and SN-05A  
 Planer Mill Shavings Bin Cyclone/Baghouse and Loadout

Source Description

After the lumber is dried, it is placed in a cooling shed or outside. The lumber is then planed and trimmed in the planer mill. The shavings and dust from the planer mill are sent to the planer mill cyclone/baghouse (SN-05).

From the planer mill cyclone/baghouse (SN-05) shavings are sent to the planer mill shavings bin. From the planer mill shavings bin, the wood residue is loaded into trucks (SN-05A) and hauled offsite. SN-05A consists of non-point emissions from the bin loadout.

Specific Conditions

12. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions #16 and #17. [Rule 19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
05	Planer Mill Shavings Bin Cyclone/Baghouse	PM <sub>10</sub>	0.2	0.5
05A	Planer Mill Shavings Bin Loadout	PM <sub>10</sub>	0.1	0.1

13. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions #16 and #17. [Rule 18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
05	Planer Mill Shavings Bin Cyclone/Baghouse	PM	0.2	0.5
05A	Planer Mill Shavings Bin Cyclone/Baghouse Loadout	PM	0.1	0.1

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

SN	Limit	Regulatory Citation
05	5%	Rule 18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311
05A	20%	Rule 19.503 and 40 C.F.R. § 52 Subpart E



15. Weekly observations of the opacity from SN-05 and SN-05A shall be conducted by a person trained but not necessarily certified in EPA Reference Method 9. If visible emissions in excess of the permitted levels are detected, the permittee shall immediately take action to identify the cause of the visible emissions in excess of the permit limit, implement corrective action, and perform an EPA Reference Method 9 test to verify emissions are not in excess of the permitted level. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated monthly, kept on site, and made available to Department personnel upon request. [Rule 19.705 and 40 C.F.R. § 52 Subpart E]
  - a. The date and time of the observation.
  - b. If visible emissions which appeared to be above the permitted limit were detected.
  - c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
  - d. The name of the person conducting the opacity observations.
16. The permittee shall not exceed a throughput of 50,000 tons of wood residue (sawdust and shavings) loadout at SN-05A per rolling 12 month period. [Rule 19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
17. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #16. The permittee shall update these records by the 15<sup>th</sup> 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, made available to Department personnel upon request, and submitted in accordance with General Provision 7. [Rule 19.705 and 40 C.F.R. § 52 Subpart E]

SN-17  
Haul Roads

Source Description

Operations in this area include road traffic within the facility boundaries. Logs, lumber, chips, sawdust, shavings, dry trim, and fuel are all shipped into or out of the mill by truck or by rail. Haul roads are either covered in gravel or paved at the facility.

Specific Conditions

18. The permittee shall not exceed the emission rates set forth in the following table. [Rule 19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
17	Haul Roads	PM <sub>10</sub>	13.3	13.5

19. 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]

SN	Description	Pollutant	lb/hr	tpy
17	Haul Roads	PM	48.7	49.6

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

SN-20 and SN-21  
 Curtain Burner and Curtain Burner Engine

Source Description

Wood waste or clean lumber generated by the facility may be gathered and sent to a curtain burner (SN-20) to be disposed of. The curtain burner is driven by a 58.8 hp Tier 4 Final certified diesel engine (SN-21).

Specific Conditions

21. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition #24. [Rule 19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
SN-20	Curtain Burner	PM <sub>10</sub>	11.7	9.9
		SO <sub>2</sub>	0.9	0.8
		VOC	8.1	6.9
		CO	23.4	19.8
		NO <sub>x</sub>	9.0	7.6
		Lead	4.49E-03	3.79E-03
SN-21	Curtain Burner Engine	PM <sub>10</sub>	0.1	0.1
		SO <sub>2</sub>	0.1	0.5
		VOC	0.4	1.7
		CO	0.5	2.0
		NO <sub>x</sub>	0.4	1.7

22. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition #24. [Rule 18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
SN-20	Curtain Burner	PM	11.7	9.9
		Formaldehyde	0.42	0.35

SN	Description	Pollutant	lb/hr	tpy
		Acrolein	0.38	0.32
		Chlorine	0.08	0.07
		Arsenic	2.059E-03	1.739E-03
		Beryllium	1.030E-04	8.694E-05
		Manganese	0.15	0.13
		Total HAP	3.63	3.06
		Acetone	0.1	0.1
SN-21	Curtain Burner Engine	PM	0.1	0.1
		Acrolein	0.01	0.01
		Formaldehyde	0.01	0.01
		Total HAP	0.01	0.01

23. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions #29 and #30.

SN	Limit	Regulatory Citation
SN-20 and SN-21	10%	Rule 19.304 and 40 C.F.R. § 60.2250 (a)
SN-20 and SN-21 During Startup	35%	Rule 19.304 and 40 C.F.R. § 60.2250 (a)

24. The permittee shall not exceed a throughput of 15,200 tons of waste incinerated at SN-20 per rolling 12 month period.
25. The permittee shall keep and maintain the manufacturer's specification for SN-20 stating the maximum hourly throughput rate of the unit, and the permittee shall record the hours the unit is operated. Using the hourly throughput and the recorded hours of operation, the permittee shall calculate the total throughput of waste incinerated to show compliance with Specific Condition #24. The permittee may track actual waste incinerated (tons) as an alternative. The permittee may establish a relationship between volume and weight and prepare a report containing the data and method by which the relationship was established; once the relationship is established, the permittee may track volume of actual waste and calculate waste incinerated (tons) as an alternative. The report must be provided to the Department 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]

26. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #24 and #25. 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, made available to Division of Environmental Quality personnel upon request, and submitted in accordance with General Provision #7.

40 C.F.R. Part 60 Subpart CCCC

27. The permittee is subject to 40 C.F.R. Part 60 Subpart CCCC as an industrial solid waste incineration (CISWI) unit. A CISWI unit means any distinct operating unit of any commercial or industrial facility that combusts, or has combusted in the preceding 6 months, any solid waste. [Rule 19.501 and 40 C.F.R. § 60.2015 (a)]
28. The permittee may only burn either 100 percent wood waste, 100 percent clean lumber, or 100 percent mixture of only wood waste, clean lumber, and/or yard waste. Clean lumber means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Wood waste means untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, and shavings. Wood waste does not include (1) Grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public land or (2) construction, renovation, or demolition wastes or clean lumber. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote. Yard waste is grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands. Yard waste does not include construction, renovation, or demolition wastes and clean wood. [Rule 19.501 and 40 C.F.R. § 60.2245 (b)]
29. Within 60 days after the air curtain incinerator reaches the charge rate at which it will operate, but no later than 180 days after its initial startup, the permittee must meet the two limitations as follows:
- a. The permittee must maintain opacity to less than or equal to 10 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values)
  - b. The permittee must maintain opacity to less than or equal to 35 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) during the startup period that is within the first 30 minutes of operation.
- [Rule 19.501 and 40 C.F.R. § 60.2250]

30. The permittee must conduct an initial test for opacity as specified in § 60.8. After the initial test for opacity, the permittee must conduct annual tests no more than 12 calendar months following the date of the previous test. The permittee must use Method 9 of Appendix A to Part 60 to determine compliance with the opacity limitation. [Rule 19.501 and 40 C.F.R. § 60.2255]
31. Prior to commencing construction on the air curtain incinerator, the permittee must submit a notification of intent to construct the air curtain incinerators, the planned initial startup date, and the types of materials that are to be burned in the air curtain incinerator. [Rule 19.501 and 40 C.F.R. § 60.2260 (a)]
32. The permittee must keep records of results of all initial and annual opacity tests onsite in either paper copy or electronic format for at least five years. The permittee must make all records available for submittal to the Department or for an inspector's onsite review. [Rule 19.501 and 40 C.F.R. §§ 60.2260 (b) and (c)]
33. The permittee must submit the results (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) of the initial opacity tests no later than 60 days following the initial test. The permittee must submit annual opacity test results within 12 months following the previous report. The permittee must submit initial and annual opacity test reports as electronic or paper copy on or before the applicable submittal date and keep a copy of the initial and annual reports onsite for a period of 5 years. [Rule 19.501 and 40 C.F.R. §§ 60.2260 (d), (e), and (f)]

40 C.F.R. Part 63 Subpart ZZZZ Condition

34. SN-21 (installed 2022) is a new or reconstructed (commenced construction on or after June 12, 2006) stationary RICE located at a major source of HAP emissions and in accordance with § 63.6590(c) must meet the requirements of 40 C.F.R. 63 Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines by meeting the requirements of 40 C.F.R. Part 60 Subpart III, for compression ignition (CI) engines. No further requirements apply for any such engine (SN-21) under 40 C.F.R. 63 Subpart ZZZZ. [Rule 19.304 and 40 C.F.R. §§ 63.6590(a)(2)(iii) and 63.6590(c)(7), Subpart ZZZZ]

40 C.F.R. Part 60 Subpart III Conditions

35. The permittee shall comply with the applicable provisions of 40 CFR 60 Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (Appendix C) for SN-21. [Rule 19.304 and 40 C.F.R. § 60.4200]
36. SN-21 is a certified, 2007 model and later, non-emergency stationary compression ignition (CI) internal combustion engines (ICE) with a displacement of less than 30 liters (L) per cylinder. The provisions of New Source Performance Standards (NSPS) of 40 C.F.R. 60 Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines are applicable to SN-21, as specified in § 60.4200(a)(2)(i)

and (4) of Subpart III. [Rule 19.304 and 40 C.F.R. § 60.4200(a)(2)(i) and (4), Subpart III]

- a. Permittee of stationary CI ICE that commence construction (ordered) after July 11, 2005, where the stationary CI ICE are:
    - i. Manufactured after April 1, 2006 and are not fire pump engines. SN-21 was manufactured after April 1, 2006 and is not a fire pump engine. [40 C.F.R. § 60.4200(a)(2)(i)]
  - b. The provisions of § 60.4208 of Subpart III of Part 60 are applicable to the permittee of stationary CI ICE that commence construction after July 11, 2005. SN-21 commenced construction after July 11, 2005. [40 C.F.R. § 60.4200(a)(4)]
37. The permittee of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 L/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. SN-21 is certified to EPA Tier 4 Final limits by the manufacturer, HATZ. [Rule 19.304 and 40 C.F.R. § 60.4204(b)]

SN	Maximum Engine Power	EPA NSPS Stationary Emergency Tier 4 Final Emission Limits			
		Exhaust (All values are grams/HP-Hr)			
21	58.8 Hp	Category	NOX + HC <sup>1</sup>	CO	PM
		Tier 4 Final	4.7	5.5	0.03

<sup>1</sup> Oxides of Nitrogen as NO<sub>2</sub> + Non-Methane Hydrocarbons

38. The permittee must operate and maintain stationary CI ICE (SN-21) to achieve the emission standards as required in § 60.4204 over the entire life of the engine. [Rule 19.304 and 40 C.F.R. § 60.4206]
39. The permittee of stationary CI ICE subject to NSPS Subpart III (SN-21) with a displacement of less than 30 liters per cylinder that use diesel fuel must purchase diesel fuel that meets the requirements of 40 C.F.R. § 80.510(b) for nonroad (NR) diesel fuel. Beginning October 1, 2010, except as otherwise specially provided in 40 C.F.R. Part 80 Subpart I, all NR diesel fuel is subject to the following per-gallon standards: [Rule 19.304 and 40 C.F.R. § 60.4207(b)]
- a. Sulfur content, as follows:
    - i. 15 ppm maximum [0.0015% by weight] for NR diesel fuel.
    - ii. This diesel fuel is commonly identified as ultra-low sulfur diesel (ULSD).
  - b. Cetane index or aromatic content, as follows:
    - i. A minimum cetane index of 40; or
    - ii. A maximum aromatic content of 35 volume percent.

40. The permittee shall maintain records to demonstrate compliance with Specific Condition #39 on site and make these records available to Department personnel upon request. These fuel records may be a valid gas tariff, purchase contract, fuel analysis or other appropriate documentation provided by the fuel supplier that shows that the fuel meets the required specification. [Rule 19.304, 40 C.F.R. § 60.4207(b) and 40 C.F.R. § 80.510(b)]
41. The permittee must comply with the emission standards specified in NSPS Subpart III, you must do all of the following, except as permitted under § 60.4211(g): [Rule 19.304 and 40 C.F.R. § 60.4211(a)]
  - a. Operate and maintain the stationary CI internal combustion engine (SN-21) 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. Part 1068, as it applies to SN-21.
42. As the owner of a 2007 model year and later stationary CI internal combustion engine who must comply with the emission standards specified in § 60.4204(b), the permittee must comply by purchasing an engine certified to the emission standards in § 60.4204(b), as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in § 60.4211. [Rule 19.304 and 40 C.F.R. § 60.4211(c)]
43. 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: [Rule 19.304 and 40 C.F.R. § 60.4211(g)(1)]
  - a. If you are a permittee 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.



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

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

## SECTION VI: PLANTWIDE CONDITIONS

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

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

7. Unless otherwise specified in the permit, approval to construct any new major stationary source or a major modification subject to 40 C.F.R. § 52.21 shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Division of Environmental Quality may extend the 18-month period upon a satisfactory showing that an extension is justified. [Rule 19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

Permit Shield

8. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in the following table of this condition. The permit specifically identifies the following as applicable requirements based upon the information submitted by the permittee in an application dated December 12, 2020.

Applicable Regulations

Source No.	Regulation	Description
Facility	Arkansas Rule 18	Arkansas Air Pollution Control Code
Facility	Arkansas Rule 19	Rules of the Arkansas Plan of Implementation for Air Pollution Control
Facility	Arkansas Rule 26	Rules of the Arkansas Operating Air Permit Program
Facility	40 C.F.R. §52.21	Prevention of Significant Deterioration
SN-04 and SN-04a	40 C.F.R. §63 Subpart DDDD	National Emission Standards for Hazardous Air Pollutants for Plywood and Composite Wood Products Manufacture – Notification of applicability is the only requirement for the facility due to being a major source of HAP operating lumber drying kilns. [NESHAP Subpart DDDD §§ 63.2230, 63.2231, 63.2232(a),(b),(c), 63.2233(a)(2),(d), 63.2252, 63.2280(a),(b), 63.2282(a)(1), 63.2283]

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The permit specifically identifies the following as inapplicable based upon information submitted by the permittee in an application dated December 12, 2020.

Inapplicable Regulations

<b>Source No.</b>	<b>Regulation</b>	<b>Description</b>
SN-04 and SN-04a	40 C.F.R. §63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters
	40 C.F.R. §60 Subpart Dc	Standards of Performance for Small Industrial, Commercial, and Institutional Steam Generating Units
Tanks in the Group A-3 Insignificant Activities List	40 C.F.R. §60 Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, of Modification Commenced after June 11, 1973 and Prior to May 19, 1978
	40 C.F.R. §60 Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, of Modification Commenced after May 18, 1978 and Prior to July 23, 1984
	40 C.F.R. §60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels ( including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, of Modification Commenced after July 23, 1984
SN-05	40 C.F.R. §64 CAM	Compliance Assurance Monitoring

**SECTION VII: INSIGNIFICANT ACTIVITIES**

The Division of Environmental Quality deems the following types of activities or emissions as insignificant on the basis of size, emission rate, production rate, or activity in accordance with Group A of the Insignificant Activities list found in 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 an application dated September 1, 2021. [Rule 26.304 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Description	Category
(2) Diesel Fuel (Off-Road) Storage Tanks	A-3
(9) Oil Storage Tanks	A-3
(31) Oil Drums	A-3
(4) Oil Totes	A-3
Chip Bins	A-13
Sawdust Bin	A-13
Storage Piles	A-13
Kiln Fuel Shed	A-13
Kiln #3 Fuel Bin	A-13
Kiln #4 Fuel Bin	A-13
Chip Conveyance	A-13
Bark Conveyance	A-13
Sawdust Conveyance	A-13
Shavings Conveyance	A-13
Sawmill	A-13
Log Process Debarking	A-13
Chippers	A-13
Log Bucking	A-13

## SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which 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 which 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. [40 C.F.R. § 70.6(b)(2)]
2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 C.F.R. § 70.6(a)(2) and Rule 26.701(B)]
3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Division of Environmental Quality takes final action on the renewal application. The Division of Environmental Quality will not necessarily notify the permittee when the permit renewal application is due. [Rule 26.406]
4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.* (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 C.F.R. § 70.6(a)(1)(ii) and Rule 26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit.
  - a. The date, place as defined in this permit, and time of sampling or measurements;
  - b. The date(s) analyses performed;
  - c. The company or entity performing the analyses;
  - d. The analytical techniques or methods used;
  - e. The results of such analyses; and
  - f. The operating conditions existing at the time of sampling or measurement.

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

6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 C.F.R. § 70.6(a)(3)(ii)(B) and Rule 26.701(C)(2)(b)]
7. The permittee must submit reports of all required monitoring every six (6) months. If the permit establishes no other reporting period, the reporting period shall end on the last day of the month six months after the issuance of the initial Title V permit and every six months thereafter. The report is due on the first day of the second month after the end of the reporting period. The first report due after issuance of the initial Title V permit shall contain six months of data and each report thereafter shall contain 12 months of data. The report shall contain data for all monitoring requirements in effect during the reporting period. If a monitoring requirement is not in effect for the entire reporting period, only those months of data in which the monitoring requirement was in effect are required to be reported. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Rule 26.2 must certify all required reports. The permittee will send the reports electronically using <https://portal.adeq.state.ar.us> or mail them to the address below:

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

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

8. The permittee shall report to the Division of Environmental Quality all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.
  - a. For all upset conditions (as defined in Rule 19.601), the permittee will make an initial report to the Division of Environmental Quality by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:
    - i. The facility name and location;
    - ii. The process unit or emission source deviating from the permit limit;
    - iii. The permit limit, including the identification of pollutants, from which deviation occurs;
    - iv. The date and time the deviation started;
    - v. The duration of the deviation;

- vi. The emissions during the deviation;
- vii. The probable cause of such deviations;
- viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and
- ix. The name of the person submitting the report.

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

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

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

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Rule are declared to be separable and severable. [40 C.F.R. § 70.6(a)(5), Rule 26.701(E), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Rule 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. § 7401, *et seq.* and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 C.F.R. § 70.6(a)(6)(i) and Rule 26.701(F)(1)]
11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 C.F.R. § 70.6(a)(6)(ii) and Rule 26.701(F)(2)]
12. The Division of Environmental Quality may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 C.F.R. § 70.6(a)(6)(iii) and Rule 26.701(F)(3)]



13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 C.F.R. § 70.6(a)(6)(iv) and Rule 26.701(F)(4)]
14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Division of Environmental Quality may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 C.F.R. § 70.6(a)(6)(v) and Rule 26.701(F)(5)]
15. The permittee must pay all permit fees in accordance with the procedures established in Rule 9. [40 C.F.R. § 70.6(a)(7) and Rule 26.701(G)]
16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 C.F.R. § 70.6(a)(8) and Rule 26.701(H)]
17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 C.F.R. § 70.6(a)(9)(i) and Rule 26.701(I)(1)]
18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Division of Environmental Quality specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 C.F.R. § 70.6(b) and Rule 26.702(A) and (B)]
19. Any document (including reports) required by this permit pursuant to 40 C.F.R. § 70 must contain a certification by a responsible official as defined in Rule 26.2. [40 C.F.R. § 70.6(c)(1) and Rule 26.703(A)]
20. The permittee must allow an authorized representative of the Division of Environmental Quality, upon presentation of credentials, to perform the following: [40 C.F.R. § 70.6(c)(2) and Rule 26.703(B)]
  - a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
  - b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;

- c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
  - d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.
  
- 21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually. If the permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due on the first day of the second month after the end of the reporting period. The permittee must also submit the compliance certification to the Administrator as well as to the Division of Environmental Quality. All compliance certifications required by this permit must include the following: [40 C.F.R. § 70.6(c)(5) and Rule 26.703(E)(3)]
  - a. The identification of each term or condition of the permit that is the basis of the certification;
  - b. The compliance status;
  - c. Whether compliance was continuous or intermittent;
  - d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
  - e. Such other facts as the Division of Environmental Quality may require elsewhere in this permit or by § 114(a)(3) and § 504(b) of the Act.
  
- 22. Nothing in this permit will alter or affect the following: [Rule 26.704(C)]
  - a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
  - b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
  - c. The applicable requirements of the acid rain program, consistent with § 408(a) of the Act; or
  - d. The ability of EPA to obtain information from a source pursuant to § 114 of the Act.
  
- 23. This permit authorizes only those pollutant emitting activities addressed in this permit. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
  
- 24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Division of Environmental Quality approval. The Division of Environmental Quality may grant such a request, at its discretion in the following circumstances:

- a. Such an extension does not violate a federal requirement;
- b. The permittee demonstrates the need for the extension; and
- c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

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

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Division of Environmental Quality approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Division of Environmental Quality may grant such a request, at its discretion under the following conditions:

- a. Such a request does not violate a federal requirement;
- b. Such a request is temporary in nature;
- c. Such a request will not result in a condition of air pollution;
- d. The request contains such information necessary for the Division of Environmental Quality to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
- e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
- f. The permittee maintains records of the dates and results of such temporary emissions/testing.

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

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Division of Environmental Quality approval. The Division of Environmental Quality may grant such a request, at its discretion under the following conditions:

- 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.

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

27. Any credible evidence based on sampling, monitoring, and reporting may be used to determine violations of applicable emission limitations. [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 DDDD**

***National Emissions Standards for Hazardous Air Pollutants: Plywood and Composite Wood  
Materials***

## **Subpart DDDD - National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products**

Source: [69 FR 46011](#), July 30, 2004, unless otherwise noted.

### **What This Subpart Covers**

#### **§ 63.2230 What is the purpose of this subpart?**

This subpart establishes national compliance options, operating requirements, and work practice requirements for hazardous air pollutants (HAP) emitted from plywood and composite wood products (PCWP) manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the compliance options, operating requirements, and work practice requirements.

#### **§ 63.2231 Does this subpart apply to me?**

This subpart applies to you if you meet the criteria in [paragraphs \(a\)](#) and [\(b\)](#) of this section.

(a) You own or operate a PCWP manufacturing facility. A PCWP manufacturing facility is a facility that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a structural panel or engineered wood product. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

(b) The PCWP manufacturing facility is located at a major source of HAP emissions. A major source of HAP emissions is any stationary source or group of stationary sources within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year.

[[69 FR 46011](#), July 30, 2004, as amended at [72 FR 61062](#), Oct. 29, 2007]

#### **§ 63.2232 What parts of my plant does this subpart cover?**

(a) This subpart applies to each new, reconstructed, or existing affected source at a PCWP manufacturing facility.

(b) The affected source is the collection of dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products. The affected source includes, but is not limited to, green end operations, refining, drying operations (including any combustion unit exhaust stream routinely used to direct fire process unit(s)), resin preparation, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other national emission standards for hazardous air pollutants (NESHAP)). The affected source also includes onsite storage and preparation of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations ([§ 63.2292](#)). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

(c) An affected source is a new affected source if you commenced construction of the affected source after January 9, 2003, and you meet the applicability criteria at the time you commenced construction.

(d) An affected source is reconstructed if you meet the criteria as defined in [§ 63.2](#).

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

[[69 FR 46011](#), July 30, 2004, as amended at [71 FR 8371](#), Feb. 16, 2006]

## **§ 63.2233 When do I have to comply with this subpart?**

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to [paragraph \(a\)\(1\)](#) or [\(2\)](#) of this section, whichever is applicable.

(1) If the initial startup of your affected source is before September 28, 2004, then you must comply with the compliance options, operating requirements, and work practice requirements for new and reconstructed sources in this subpart no later than September 28, 2004, except as otherwise specified in [§§ 63.2250](#), [63.2280\(b\)](#) and [\(d\)](#), [63.2281\(b\)\(6\)](#), and [63.2282\(a\)\(2\)](#) and Tables 3, 6, 7, 8, 9, and 10 to this subpart.

(2) If the initial startup of your affected source is after September 28, 2004, then you must comply with the compliance options, operating requirements, and work practice requirements for new and reconstructed sources in this subpart upon initial startup of your affected source, except as otherwise specified in [§§ 63.2250](#), [63.2280\(b\)](#) and [\(d\)](#), [63.2281\(b\)\(6\)](#), and [63.2282\(a\)\(2\)](#) and Tables 3, 6, 7, 8, 9, and 10 to this subpart.

(b) If you have an existing affected source, you must comply with the compliance options, operating requirements, and work practice requirements for existing sources no later than October 1, 2007, except as otherwise specified in [§§ 63.2240\(c\)\(2\)\(vi\)\(A\)](#), [63.2250](#), [63.2280\(b\)](#) and [\(d\)](#), [63.2281\(b\)\(6\)](#) and [\(c\)\(4\)](#), and [63.2282\(a\)\(2\)](#) and Tables 3, 6, 7, 8, 9, and 10 to this subpart.

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, you must be in compliance with this subpart by October 1, 2007 or upon initial startup of your affected source as a major source, whichever is later.

(d) You must meet the notification requirements according to the schedule in [§ 63.2280](#) and according to [40 CFR part 63, subpart A](#). Some of the notifications must be submitted before you are required to comply with the compliance options, operating requirements, and work practice requirements in this subpart.

[[69 FR 46011](#), July 30, 2004, as amended at [71 FR 8372](#), Feb. 16, 2006; [72 FR 61062](#), Oct. 29, 2007; [85 FR 49455](#), Aug. 13, 2020]

### **Compliance Options, Operating Requirements, and Work Practice Requirements**

## **§ 63.2240 What are the compliance options and operating requirements and how must I meet them?**

You must meet the compliance options and operating requirements described in Tables 1A, 1B, and 2 to this subpart and in [paragraph \(c\)](#) of this section by using one or more of the compliance options listed in [paragraphs \(a\)](#), [\(b\)](#), and [\(c\)](#) of this section. The process units subject to the compliance options are listed in Tables 1A and 1B to this subpart and are defined in [§ 63.2292](#). You need only to meet one of the compliance options outlined in [paragraphs \(a\)](#) through [\(c\)](#) of this section for each process unit. You cannot combine compliance options in [paragraph \(a\)](#), [\(b\)](#), or [\(c\)](#) for a single process unit. (For example, you cannot use a production-based compliance option in [paragraph \(a\)](#) for one vent of a veneer dryer and an add-on control system compliance option in [paragraph \(b\)](#) for another vent on the same veneer dryer. You must use either the production-based compliance option or an add-on control system compliance option for the entire dryer.)

(a) ***Production-based compliance options.*** You must meet the production-based total HAP compliance options in Table 1A to this subpart and the applicable operating requirements in Table 2 to this subpart. You may not use an add-on control system or wet control device to meet the production-based compliance options.

(b) ***Compliance options for add-on control systems.*** You must use an emissions control system and demonstrate that the resulting emissions meet the compliance options and operating requirements in Tables 1B and 2 to this subpart. If you own or operate a reconstituted wood product press at a new or existing affected source or a reconstituted wood product board cooler at a new affected source, and you choose to comply with one of the concentration-based compliance options for a control system outlet (presented as option numbers 2, 4, and 6 in Table 1B to this subpart), you must have a capture device that either meets the definition of wood products enclosure in [§ 63.2292](#) or achieves a capture efficiency of greater than or equal to 95 percent.



(c) **Emissions averaging compliance option (for existing sources only).** Using the procedures in paragraphs (c)(1) through (3) of this section, you must demonstrate that emissions included in the emissions average meet the compliance options and operating requirements. New sources may not use emissions averaging to comply with this subpart.

(1) **Calculation of required and actual mass removal.** Limit emissions of total HAP, as defined in § 63.2292, to include acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde from your affected source to the standard specified by Equations 1, 2, and 3 of this section.

$$\text{RMR} = 0.90 \times \left( \sum_{i=1}^n \text{UCEP}_i \times \text{OH}_i \right) \quad (\text{Eq. 1})$$

$$\text{AMR} = \left( \sum_{i=1}^n \text{CD}_i \times \text{OCEP}_i \times \text{OH}_i \right) \quad (\text{Eq. 2})$$

$$\text{AMR} \geq \text{RMR} \quad (\text{Eq. 3})$$

Where:

RMR = required mass removal of total HAP from all process units generating debits (*i.e.*, all process units that are subject to the compliance options in Tables 1A and 1B to this subpart and that are either uncontrolled or under-controlled), pounds per semiannual period;

AMR = actual mass removal of total HAP from all process units generating credits (*i.e.*, all process units that are controlled as part of the Emissions Averaging Plan including credits from debit-generating process units that are under-controlled), pounds per semiannual period;

UCEP<sub>i</sub> = mass of total HAP from an uncontrolled or under-controlled process unit (i) that generates debits, pounds per hour;

OH<sub>i</sub> = number of hours a process unit (i) is operated during the semiannual period, hours per 6-month period;

CD<sub>i</sub> = control system efficiency for the emission point (i) for total HAP, expressed as a fraction, and not to exceed 90 percent, unitless (Note: To calculate the control system efficiency of biological treatment units that do not meet the definition of biofilter in § 63.2292, you must use 40 CFR part 63, appendix C, Determination of the Fraction Biodegraded (F<sub>bio</sub>) in a Biological Treatment Unit.);

OCEP<sub>i</sub> = mass of total HAP from a process unit (i) that generates credits (including credits from debit-generating process units that are under-controlled), pounds per hour;

0.90 = required control system efficiency of 90 percent multiplied, unitless.

(2) **Requirements for debits and credits.** You must calculate debits and credits as specified in [paragraphs \(c\)\(2\)\(i\)](#) through [\(vi\)](#) of this section.

(i) You must limit process units in the emissions average to those process units located at the existing affected source as defined in [§ 63.2292](#).

(ii) You cannot use nonoperating process units to generate emissions averaging credits. You cannot use process units that are shut down to generate emissions averaging debits or credits.

(iii) You may not include in your emissions average process units controlled to comply with a State, Tribal, or Federal rule other than this subpart.

(iv) You must use actual measurements of total HAP emissions from process units to calculate your required mass removal (RMR) and actual mass removal (AMR). The total HAP measurements must be obtained according to [§ 63.2262\(b\)](#) through [\(d\)](#), [\(g\)](#), and [\(h\)](#), using the methods specified in Table 4 to this subpart.

(v) Your initial demonstration that the credit-generating process units will be capable of generating enough credits to offset the debits from the debit-generating process units must be made under representative operating conditions. After the compliance date, you must use actual operating data for all debit and credit calculations.

(vi) Do not include emissions from the following time periods in your emissions averaging calculations:

(A) Before August 13, 2021, emissions during periods of startup, shutdown, and malfunction as described in the startup, shutdown, and malfunction plan (SSMP). On and after August 13, 2021, emissions during safety-related shutdowns, pressurized refiner startups and shutdowns, or startup and shutdown of direct-fired softwood veneer dryer gas-fired burners.

(B) Emissions during periods of monitoring malfunctions, associated repairs, and required quality assurance or control activities or during periods of control device maintenance covered in your routine control device maintenance exemption. No credits may be assigned to credit-generating process units, and maximum debits must be assigned to debit-generating process units during these periods.

(3) **Operating requirements.** You must meet the operating requirements in Table 2 to this subpart for each process unit or control device used in calculation of emissions averaging credits.

[[69 FR 46011](#), July 30, 2004, as amended at [85 FR 49455](#), Aug. 13, 2020]

## **§ 63.2241 What are the work practice requirements and how must I meet them?**

(a) You must meet each work practice requirement in Table 3 to this subpart that applies to you.

(b) As provided in [§ 63.6\(g\)](#), we, the EPA, may choose to grant you permission to use an alternative to the work practice requirements in this section.

(c) If you have a dry rotary dryer, you may choose to designate your dry rotary dryer as a green rotary dryer and meet the more stringent compliance options and operating requirements in § 63.2240 for green rotary dryers instead of the work practices for dry rotary dryers. If you have a hardwood veneer dryer or veneer redryer, you may choose to designate your hardwood veneer dryer or veneer redryer as a softwood veneer dryer and meet the more stringent compliance options and operating requirements in § 63.2240 for softwood veneer dryer heated zones instead of the work practices for hardwood veneer dryers or veneer redryers.

### **General Compliance Requirements**

## **§ 63.2250 What are the general requirements?**

(a) You must be in compliance with the compliance options, operating requirements, and the work practice requirements in this subpart at all times, except during periods of process unit or control device startup, shutdown, and malfunction; prior to process unit initial startup; and during the routine control device maintenance exemption specified in [§ 63.2251](#). The compliance options, operating requirements, and work practice requirements do not apply during times when the process unit(s) subject to the compliance options, operating requirements, and work practice requirements are not operating, or during periods of startup, shutdown, and malfunction. Startup and shutdown periods must not exceed the minimum amount of time necessary for these events. For any affected source that commences construction or reconstruction after September 6, 2019, this [paragraph \(a\)](#) does not apply on and after August 13, 2020 or initial startup of the affected source, whichever is later. For all other affected sources, this [paragraph \(a\)](#) does not apply on and after August 13, 2021.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment according to the provisions in [§ 63.6\(e\)\(1\)\(i\)](#). For any affected source that commences construction or reconstruction after September 6, 2019, this [paragraph \(b\)](#) does not apply on and after August 13, 2020 or initial startup of the affected source, whichever is later. For all other affected sources, this [paragraph \(b\)](#) does not apply on and after August 13, 2021.

(c) You must develop a written SSMP according to the provisions in [§ 63.6\(e\)\(3\)](#). For any affected source that commences construction or reconstruction after September 6, 2019, this [paragraph \(c\)](#) does not apply on and after August 13, 2020 or initial startup of the affected

source, whichever is later. For all other affected sources, this [paragraph \(c\)](#) does not apply on and after August 13, 2021.

(d) Shutoff of direct-fired burners resulting from partial and full production stoppages of direct-fired softwood veneer dryers or over-temperature events shall be deemed shutdowns and not malfunctions. Lighting or re-lighting any one or all gas burners in direct-fired softwood veneer dryers shall be deemed startups and not malfunctions.

(e) You must be in compliance with the provisions of [subpart A of this part](#), except as noted in Table 10 to this subpart.

(f) Upon August 13, 2020 or initial startup of the affected source, whichever is later, for affected sources that commenced construction or reconstruction after September 6, 2019, and on and after August 13, 2021 for all other affected sources, you must be in compliance with the compliance options, operating requirements, and the work practice requirements in this subpart when the process unit(s) subject to the compliance options, operating requirements, and work practice requirements are operating, except as specified in [paragraphs \(f\)\(1\)](#) through [\(6\)](#) of this section.

(1) Prior to process unit initial startup.

(2) During safety-related shutdowns conducted according to the work practice requirement in Table 3 to this subpart.

(3) During pressurized refiner startup and shutdown according to the work practice requirement in Table 3 to this subpart.

(4) During startup and shutdown of direct-fired softwood veneer dryer gas-fired burners according to the work practice requirement in Table 3 to this subpart.

(5) You must minimize the length of time when compliance options and operating requirements in this subpart are not met due to the conditions in [paragraphs \(f\)\(2\)](#) and [\(4\)](#) of this section.

(6) The applicable standard during each of the operating conditions specified in [paragraphs \(f\)\(2\)](#) through [\(4\)](#) of this section are the work practice requirements in Table 3 to this subpart for safety-related shutdowns (row 6), pressurized refiner startup and shutdown (row 7), and direct-fired softwood veneer dryers undergoing startup or shutdown of gas-fired burners (row 8). The otherwise applicable compliance options, operating requirements, and work practice requirements (in rows 1 through 5 of Table 3 to this subpart) do not apply during the operating conditions specified in [paragraphs \(f\)\(2\)](#) through [\(4\)](#) of this section.

(g) For affected sources that commenced construction or reconstruction after September 6, 2019, and for all other affected sources on and after August 13, 2021, you must always operate and maintain your affected source, including air pollution control and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at least

to the levels required by this subpart. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[[69 FR 46011](#), July 30, 2004, as amended at [71 FR 8372](#), Feb. 16, 2006; [71 FR 20463](#), Apr. 20, 2006; [85 FR 49455](#), Aug. 13, 2020]

## **§ 63.2251 What are the requirements for the routine control device maintenance exemption?**

(a) You may request a routine control device maintenance exemption from the EPA Administrator for routine maintenance events such as control device bakeouts, washouts, media replacement, and replacement of corroded parts. Your request must justify the need for the routine maintenance on the control device and the time required to accomplish the maintenance activities, describe the maintenance activities and the frequency of the maintenance activities, explain why the maintenance cannot be accomplished during process shutdowns, describe how you plan to make reasonable efforts to minimize emissions during the maintenance, and provide any other documentation required by the EPA Administrator.

(b) The routine control device maintenance exemption must not exceed the percentages of process unit operating uptime in [paragraphs \(b\)\(1\)](#) and [\(2\)](#) of this section.

(1) If the control device is used to control a green rotary dryer, tube dryer, rotary strand dryer, or pressurized refiner, then the routine control device maintenance exemption must not exceed 3 percent of annual operating uptime for each process unit controlled.

(2) If the control device is used to control a softwood veneer dryer, reconstituted wood product press, reconstituted wood product board cooler, hardboard oven, press predryer, conveyor strand dryer, or fiberboard mat dryer, then the routine control device maintenance exemption must not exceed 0.5 percent of annual operating uptime for each process unit controlled.

(3) If the control device is used to control a combination of equipment listed in both [paragraphs \(b\)\(1\)](#) and [\(2\)](#) of this section, such as a tube dryer and a reconstituted wood product press, then the routine control device maintenance exemption must not exceed 3 percent of annual operating uptime for each process unit controlled.

(c) The request for the routine control device maintenance exemption, if approved by the EPA Administrator, must be IBR in and attached to the affected source's title V permit.

(d) The compliance options and operating requirements do not apply during times when control device maintenance covered under your approved routine control device maintenance exemption is performed. You must minimize emissions to the greatest extent possible during these routine control device maintenance periods.

(e) To the extent practical, startup and shutdown of emission control systems must be scheduled during times when process equipment is also shut down.

## **§ 63.2252 What are the requirements for process units that have no control or work practice requirements?**

For process units not subject to the compliance options or work practice requirements specified in [§ 63.2240](#) (including, but not limited to, lumber kilns), you are not required to comply with the compliance options, work practice requirements, performance testing, monitoring, and recordkeeping or reporting requirements of this subpart, or any other requirements in [subpart A of this part](#), except for the initial notification requirements in [§ 63.9\(b\)](#).

[85 FR 49455, Aug. 13, 2020]

### **Initial Compliance Requirements**

## **§ 63.2260 How do I demonstrate initial compliance with the compliance options, operating requirements, and work practice requirements?**

(a) To demonstrate initial compliance with the compliance options and operating requirements, you must conduct performance tests and establish each site-specific operating requirement in Table 2 to this subpart according to the requirements in [§ 63.2262](#) and Table 4 to this subpart. Combustion units that accept process exhausts into the flame zone are exempt from the initial performance testing and operating requirements for thermal oxidizers.

(b) You must demonstrate initial compliance with each compliance option, operating requirement, and work practice requirement that applies to you according to Tables 5 and 6 to this subpart and according to [§§ 63.2260 through 63.2269 of this subpart](#).

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in [§ 63.2280\(d\)](#).

## **§ 63.2261 By what date must I conduct performance tests or other initial compliance demonstrations?**

(a) You must conduct performance tests upon initial startup or no later than 180 calendar days after the compliance date that is specified for your source in [§ 63.2233](#) and according to [§ 63.7\(a\)\(2\)](#), whichever is later.

(b) You must conduct initial compliance demonstrations that do not require performance tests upon initial startup or no later than 30 calendar days after the compliance date that is specified for your source in [§ 63.2233](#), whichever is later.

## **§ 63.2262 How do I conduct performance tests and establish operating requirements?**

(a) **Testing procedures.** You must conduct each performance test according to the requirements in [paragraphs \(b\)](#) through [\(o\)](#) of this section and according to the methods specified in Table 4 to this subpart.

(b) **Periods when performance tests must be conducted.** You must conduct each performance test based on representative performance (*i.e.*, performance based on representative operating conditions as defined in [§ 63.2292](#)) of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown. You may not conduct performance tests during periods of malfunction. You must describe representative operating conditions in your performance test report for the process and control systems and explain why they are representative. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions are representative. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(c) **Number of test runs.** 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 except for: testing of a temporary total enclosure (TTE) conducted using Methods 204A through 204F of [40 CFR part 51, appendix M](#), which require three separate test runs of at least 3 hours each; and testing of an enclosure conducted using the alternative tracer gas method in appendix A to this subpart, which requires a minimum of three separate runs of at least 20 minutes each.

(d) **Location of sampling sites.**

(1) Sampling sites must be located at the inlet (if emission reduction testing or documentation of inlet methanol or formaldehyde concentration is required) and outlet of the control device (defined in [§ 63.2292](#)) and prior to any releases to the atmosphere. For control sequences with wet control devices (defined in [§ 63.2292](#)) followed by control devices (defined in [§ 63.2292](#)), sampling sites may be located at the inlet and outlet of the control sequence and prior to any releases to the atmosphere.

(2) Sampling sites for process units meeting compliance options without a control device must be located prior to any releases to the atmosphere. Facilities demonstrating compliance

with a production-based compliance option for a process unit equipped with a wet control device must locate sampling sites prior to the wet control device.

(e) **Collection of monitoring data.** You must collect operating parameter monitoring system or continuous emissions monitoring system (CEMS) data at least every 15 minutes during the entire performance test and determine the parameter or concentration value for the operating requirement during the performance test using the methods specified in [paragraphs \(k\)](#) through [\(o\)](#) of this section.

(f) **Collection of production data.** To comply with any of the production-based compliance options, you must measure and record the process unit throughput during each performance test.

(g) **Nondetect data.**

(1) Except as specified in [paragraph \(g\)\(2\)](#) of this section, all nondetect data ([§ 63.2292](#)) must be treated as one-half of the method detection limit when determining total HAP, formaldehyde, methanol, or total hydrocarbon (THC) emission rates.

(2) When showing compliance with the production-based compliance options in Table 1A to this subpart, you may treat emissions of an individual HAP as zero if all three of the performance test runs result in a nondetect measurement, and the method detection limit is less than or equal to 1 parts per million by volume, dry basis (ppmvd). Otherwise, nondetect data for individual HAP must be treated as one-half of the method detection limit.

(h) **Calculation of percent reduction across a control system.** When determining the control system efficiency for any control system included in your emissions averaging plan (not to exceed 90 percent) and when complying with any of the compliance options based on percent reduction across a control system in Table 1B to this subpart, as part of the performance test, you must calculate the percent reduction using Equation 1 of this section:

$$PR = CE \times \frac{ER_{in} - ER_{out}}{ER_{in}} (100) \quad (\text{Eq. 1})$$

Where:

PR = percent reduction, percent;

CE = capture efficiency, percent (determined for reconstituted wood product presses and board coolers as required in Table 4 to this subpart);

ER<sub>in</sub> = emission rate of total HAP (calculated as the sum of the emission rates of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde), THC, formaldehyde, or methanol in the inlet vent stream of the control device, pounds per hour;



ER<sub>out</sub> = emission rate of total HAP (calculated as the sum of the emission rates of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde), THC, formaldehyde, or methanol in the outlet vent stream of the control device, pounds per hour.

(i) **Calculation of mass per unit production.** To comply with any of the production-based compliance options in Table 1A to this subpart, you must calculate your mass per unit production emissions for each performance test run using Equation 2 of this section:

$$MP = \frac{ER_{HAP}}{P \times CE} \quad (\text{Eq. 2})$$

Where:

MP = mass per unit production, pounds per oven dried ton OR pounds per thousand square feet on a specified thickness basis (see [paragraph \(j\)](#) of this section if you need to convert from one thickness basis to another);

ER<sub>HAP</sub> = emission rate of total HAP (calculated as the sum of the emission rates of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde) in the stack, pounds per hour;

P = process unit production rate (throughput), oven dried tons per hour OR thousand square feet per hour on a specified thickness basis;

CE = capture efficiency, percent (determined for reconstituted wood product presses and board coolers as required in Table 4 to this subpart).

(j) **Thickness basis conversion.** Use Equation 3 of this section to convert from one thickness basis to another:

$$MSF_B = MSF_A \times \frac{A}{B} \quad (\text{Eq. 3})$$

Where:

MSF<sub>A</sub> = thousand square feet on an A-inch basis;

MSF<sub>B</sub> = thousand square feet on a B-inch basis;

A = old thickness you are converting from, inches;

B = new thickness you are converting to, inches.

(k) **Establishing thermal oxidizer operating requirements.** If you operate a thermal oxidizer, you must establish your thermal oxidizer operating parameters according to [paragraphs \(k\)\(1\) through \(3\)](#) of this section.

(1) During the performance test, you must continuously monitor the firebox temperature during each of the required 1-hour test runs. For regenerative thermal oxidizers, you may measure the temperature in multiple locations (*e.g.*, one location per burner) in the combustion chamber and calculate the average of the temperature measurements prior to reducing the temperature data to 15-minute averages for purposes of establishing your minimum firebox temperature. The minimum firebox temperature must then be established as the average of the three minimum 15-minute firebox temperatures monitored during the three test runs. Multiple three-run performance tests may be conducted to establish a range of parameter values under different operating conditions.

(2) You may establish a different minimum firebox temperature for your thermal oxidizer by submitting the notification specified in [§ 63.2280\(g\)](#) and conducting a repeat performance test as specified in [paragraph \(k\)\(1\)](#) of this section that demonstrates compliance with the applicable compliance options of this subpart.

(3) If your thermal oxidizer is a combustion unit that accepts process exhaust into the flame zone, then you are exempt from the performance testing and monitoring requirements specified in [paragraphs \(k\)\(1\) and \(2\)](#) of this section. To demonstrate initial compliance, you must submit documentation with your Notification of Compliance Status showing that process exhausts controlled by the combustion unit enter into the flame zone.

(l) **Establishing catalytic oxidizer operating requirements.** If you operate a catalytic oxidizer, you must establish your catalytic oxidizer operating parameters according to [paragraphs \(l\)\(1\) and \(2\)](#) of this section.

(1) During the performance test, you must continuously monitor during the required 1-hour test runs either the temperature at the inlet to each catalyst bed or the temperature in the combustion chamber. For regenerative catalytic oxidizers, you must calculate the average of the temperature measurements from each catalyst bed inlet or within the combustion chamber prior to reducing the temperature data to 15-minute averages for purposes of establishing your minimum catalytic oxidizer temperature. The minimum catalytic oxidizer temperature must then be established as the average of the three minimum 15-minute temperatures monitored during the three test runs. Multiple three-run performance tests may be conducted to establish a range of parameter values under different operating conditions.

(2) You may establish a different minimum catalytic oxidizer temperature by submitting the notification specified in [§ 63.2280\(g\)](#) and conducting a repeat performance test as specified in [paragraphs \(l\)\(1\) and \(2\)](#) of this section that demonstrates compliance with the applicable compliance options of this subpart.

(m) ***Establishing biofilter operating requirements.*** If you operate a biofilter, you must establish your biofilter operating requirements according to [paragraphs \(m\)\(1\)](#) through [\(3\)](#) of this section.

(1) During the performance test, you must continuously monitor the biofilter bed temperature during each of the required 1-hour test runs. To monitor biofilter bed temperature, you may use multiple thermocouples in representative locations throughout the biofilter bed and calculate the average biofilter bed temperature across these thermocouples prior to reducing the temperature data to 15-minute averages for purposes of establishing biofilter bed temperature limits. The biofilter bed temperature range must be established as the temperature values 10 percent below the minimum and 10 percent (not to exceed 8 °F) above the maximum 15-minute biofilter bed temperatures monitored during the three test runs. You may base your biofilter bed temperature range on values recorded during previous performance tests provided that the data used to establish the temperature ranges have been obtained using the test methods required in this subpart. If you use data from previous performance tests, you must certify that the biofilter and associated process unit(s) have not been modified subsequent to the date of the performance tests. Replacement of the biofilter media with the same type of material is not considered a modification of the biofilter for purposes of this section.

(2) For a new biofilter installation, you will be allowed up to 180 days following the compliance date or 180 days following initial startup of the biofilter to complete the requirements in [paragraph \(m\)\(1\)](#) of this section.

(3) You may expand your biofilter bed temperature operating range by submitting the notification specified in [§ 63.2280\(g\)](#) and conducting a repeat performance test as specified in [paragraph \(m\)\(1\)](#) of this section that demonstrates compliance with the applicable compliance options of this subpart.

(n) ***Establishing operating requirements for process units meeting compliance options without a control device.*** If you operate a process unit that meets a compliance option in Table 1A to this subpart, or is a process unit that generates debits in an emissions average without the use of a control device, you must establish your process unit operating parameters according to [paragraphs \(n\)\(1\)](#) through [\(2\)](#) of this section.

(1) During the performance test, you must identify and document the process unit controlling parameter(s) that affect total HAP emissions during the three-run performance test. The controlling parameters you identify must coincide with the representative operating conditions you describe according to [paragraph \(b\)](#) of this section. For each parameter, you must specify appropriate monitoring methods, monitoring frequencies, and for continuously monitored parameters, averaging times not to exceed 24 hours. The operating limit for each controlling parameter must then be established as the minimum, maximum, range, or average (as appropriate depending on the parameter) recorded during the performance test. Multiple three-run performance tests may be conducted to establish a range of parameter values under different operating conditions.

(2) You may establish different controlling parameter limits for your process unit by submitting the notification specified in [§ 63.2280\(g\)](#) and conducting a repeat performance test as specified in [paragraph \(n\)\(1\)](#) of this section that demonstrates compliance with the compliance options in Table 1A to this subpart or is used to establish emission averaging debits for an uncontrolled process unit.

(o) ***Establishing operating requirements using THC CEMS.*** If you choose to meet the operating requirements by monitoring THC concentration instead of monitoring control device or process operating parameters, you must establish your THC concentration operating requirement according to [paragraphs \(o\)\(1\)](#) through [\(2\)](#) of this section.

(1) During the performance test, you must continuously monitor THC concentration using your CEMS during each of the required 1-hour test runs. The maximum THC concentration must then be established as the average of the three maximum 15-minute THC concentrations monitored during the three test runs. Multiple three-run performance tests may be conducted to establish a range of THC concentration values under different operating conditions.

(2) You may establish a different maximum THC concentration by submitting the notification specified in [§ 63.2280\(g\)](#) and conducting a repeat performance test as specified in [paragraph \(o\)\(1\)](#) of this section that demonstrates compliance with the compliance options in Tables 1A and 1B to this subpart.

[[69 FR 46011](#), July 30, 2004, as amended at [71 FR 8372](#), Feb. 16, 2006; [85 FR 49456](#), Aug. 13, 2020]

## **§ 63.2263 Initial compliance demonstration for a dry rotary dryer.**

If you operate a dry rotary dryer, you must demonstrate that your dryer processes furnish with an inlet moisture content of less than or equal to 30 percent (by weight, dry basis) and operates with a dryer inlet temperature of less than or equal to 600 °F. You must designate and clearly identify each dry rotary dryer. You must record the inlet furnish moisture content (dry basis) and inlet dryer operating temperature according to [§§ 63.2269\(a\), \(b\), and \(c\)](#) and [63.2270](#) for a minimum of 30 calendar days. You must submit the highest recorded 24-hour average inlet furnish moisture content and the highest recorded 24-hour average dryer inlet temperature with your Notification of Compliance Status. In addition, you must submit with the Notification of Compliance Status a signed statement by a responsible official that certifies with truth, accuracy, and completeness that the dry rotary dryer will dry furnish with a maximum inlet moisture content less than or equal to 30 percent (by weight, dry basis) and will operate with a maximum inlet temperature of less than or equal to 600 °F in the future.

## **§ 63.2264 Initial compliance demonstration for a hardwood veneer dryer.**

If you operate a hardwood veneer dryer, you must record the annual volume percentage of softwood veneer species processed in the dryer as follows:

- (a) Use Equation 1 of this section to calculate the annual volume percentage of softwood species dried:

$$SW_{\%} = \frac{SW}{T} (100) \quad (\text{Eq. 1})$$

Where:

SW% = annual volume percent softwood species dried;

SW = softwood veneer dried during the previous 12 months, thousand square feet (3/8-inch basis);

T = total softwood and hardwood veneer dried during the previous 12 months, thousand square feet (3/8-inch basis).

- (b) You must designate and clearly identify each hardwood veneer dryer. Submit with the Notification of Compliance Status the annual volume percentage of softwood species dried in the dryer based on your dryer production for the 12 months prior to the compliance date specified for your source in [§ 63.2233](#). If you did not dry any softwood species in the dryer during the 12 months prior to the compliance date, then you need only to submit a statement indicating that no softwood species were dried. In addition, submit with the Notification of Compliance Status a signed statement by a responsible official that certifies with truth, accuracy, and completeness that the veneer dryer will be used to process less than 30 volume percent softwood species in the future.

### **§ 63.2265 Initial compliance demonstration for a softwood veneer dryer.**

If you operate a softwood veneer dryer, you must develop a plan for review and approval for minimizing fugitive emissions from the veneer dryer heated zones, and you must submit the plan with your Notification of Compliance Status.

### **§ 63.2266 Initial compliance demonstration for a veneer redryer.**

If you operate a veneer redryer, you must record the inlet moisture content of the veneer processed in the redryer according to [§§ 63.2269\(a\)](#) and [\(c\)](#) and [63.2270](#) for a minimum of 30 calendar days. You must designate and clearly identify each veneer redryer. You must submit the highest recorded 24-hour average inlet veneer moisture content with your Notification of

Compliance Status to show that your veneer redryer processes veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis). In addition, submit with the Notification of Compliance Status a signed statement by a responsible official that certifies with truth, accuracy, and completeness that the veneer redryer will dry veneer with a moisture content less than 25 percent (by weight, dry basis) in the future.

### **§ 63.2267 Initial compliance demonstration for a reconstituted wood product press or board cooler.**

If you operate a reconstituted wood product press at a new or existing affected source or a reconstituted wood product board cooler at a new affected source, then you must either use a wood products enclosure as defined in [§ 63.2292](#) or measure the capture efficiency of the capture device for the press or board cooler using Methods 204 and 204A through 204F of [40 CFR part 51, appendix M](#) (as appropriate), or using the alternative tracer gas method contained in appendix A to this subpart. You must submit documentation that the wood products enclosure meets the press enclosure design criteria in [§ 63.2292](#) or the results of the capture efficiency verification with your Notification of Compliance Status.

### **§ 63.2268 Initial compliance demonstration for a wet control device.**

If you use a wet control device as the sole means of reducing HAP emissions, you must develop and implement a plan for review and approval to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere such that the desired emissions reductions are obtained. You must submit the plan with your Notification of Compliance Status.

### **§ 63.2269 What are my monitoring installation, operation, and maintenance requirements?**

(a) *General continuous parameter monitoring requirements.* You must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to [paragraphs \(a\)\(1\) through \(3\)](#) of this section.

- (1) The CPMS must be capable of completing a minimum of one cycle of operation (sampling, analyzing, and recording) for each successive 15-minute period.
- (2) At all times, you must maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
- (3) Record the results of each inspection, calibration, and validation check.

(b) **Temperature monitoring.** For each temperature monitoring device, you must meet the requirements in [paragraphs \(a\)](#) and [\(b\)\(1\)](#) through [\(6\)](#) of this section.

(1) Locate the temperature sensor in a position that provides a representative temperature.

(2) Use a temperature sensor with a minimum accuracy of 4 °F or 0.75 percent of the temperature value, whichever is larger.

(3) If a chart recorder is used, it must have a sensitivity with minor divisions not more than 20 °F.

(4) Validate the temperature sensor's reading at least semiannually using the requirements of [paragraph \(b\)\(4\)\(i\)](#), [\(ii\)](#), [\(iii\)](#), [\(iv\)](#), or [\(v\)](#) of this section:

(i) Compare measured readings to a National Institute of Standards and Technology (NIST) traceable temperature measurement device or simulate a typical operating temperature using a NIST traceable temperature simulation device. When the temperature measurement device method is used, the sensor of the NIST traceable calibrated device must be placed as close as practicable to the process sensor, and both devices must be subjected to the same environmental conditions. The accuracy of the temperature measured must be 2.5 percent of the temperature measured by the NIST traceable device or 5 °F, whichever is greater.

(ii) Follow applicable procedures in the thermocouple manufacturer owner's manual.

(iii) Request thermocouple manufacturer to certify or re-certify electromotive force (electrical properties) of the thermocouple.

(iv) Replace thermocouple with a new certified thermocouple in lieu of validation.

(v) Permanently install a redundant temperature sensor as close as practicable to the process temperature sensor. The sensors must yield a reading within 30 °F of each other for thermal oxidizers and catalytic oxidizers; within 5 °F of each other for biofilters; and within 20 °F of each other for dry rotary dryers.

(5) Conduct validation checks using the procedures in [paragraph \(b\)\(4\)](#) of this section any time the sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.

(6) At least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion.

(c) **Wood moisture monitoring.** For each furnish or veneer moisture meter, you must meet the requirements in paragraphs (a)(1) through (3) and [paragraphs \(c\)\(1\)](#) through [\(5\)](#) of this section.

(1) For dry rotary dryers, use a continuous moisture monitor with a minimum accuracy of 1 percent (dry basis) moisture or better in the 25 to 35 percent (dry basis) moisture content

range. For veneer redryers, use a continuous moisture monitor with a minimum accuracy of 3 percent (dry basis) moisture or better in the 15 to 25 percent (dry basis) moisture content range. Alternatively, you may use a continuous moisture monitor with a minimum accuracy of 5 percent (dry basis) moisture or better for dry rotary dryers used to dry furnish with less than 25 percent (dry basis) moisture or for veneer redryers used to redry veneer with less than 20 percent (dry basis) moisture.

(2) Locate the moisture monitor in a position that provides a representative measure of furnish or veneer moisture.

(3) Calibrate the moisture monitor based on the procedures specified by the moisture monitor manufacturer at least once per semiannual compliance period (or more frequently if recommended by the moisture monitor manufacturer).

(4) At least quarterly, inspect all components of the moisture monitor for integrity and all electrical connections for continuity.

(5) Use Equation 1 of this section to convert percent moisture measurements wet basis to a dry basis:

$$MC_{\text{dry}} = \frac{MC_{\text{wet}}/100}{1 - (MC_{\text{wet}}/100)} (100) \quad (\text{Eq. 1})$$

Where:

$MC_{\text{dry}}$  = percent moisture content of wood material (weight percent, dry basis);

$MC_{\text{wet}}$  = percent moisture content of wood material (weight percent, wet basis).

(d) **Continuous emission monitoring system(s)**. Each CEMS must be installed, operated, and maintained according to [paragraphs \(d\)\(1\) through \(4\)](#) of this section.

(1) Each CEMS for monitoring THC concentration must be installed, operated, and maintained according to Performance Specification 8 of [40 CFR part 60, appendix B](#). You must also comply with Procedure 1 of [40 CFR part 60, appendix F](#).

(2) You must conduct a performance evaluation of each CEMS according to the requirements in [§ 63.8](#) and according to Performance Specification 8 of [40 CFR part 60, appendix B](#).

(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.

(4) The CEMS data must be reduced as specified in [§§ 63.8\(g\)\(2\)](#) and [63.2270\(d\)](#) and [\(e\)](#).



[[69 FR 46011](#), July 30, 2004, as amended at [71 FR 8372](#), Feb. 16, 2006; [85 FR 49456](#), Aug. 13, 2020]

## Continuous Compliance Requirements

### § 63.2270 How do I monitor and collect data to demonstrate continuous compliance?

- (a) You must monitor and collect data according to this section.
- (b) Except for, as appropriate, monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the process unit is operating. For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. 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. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.
- (c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities or data recorded during periods of safety-related shutdown, pressurized refiner startup or shutdown, startup and shutdown of direct-fired softwood veneer dryer gas-fired burners, or control device downtime covered in any approved routine control device maintenance exemption in data averages and calculations used to report emission or operating levels, nor may such data be used in fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control system.
- (d) Except as provided in [paragraph \(e\)](#) of this section, determine the 3-hour block average of all recorded readings, calculated after every 3 hours of operation as the average of the evenly spaced recorded readings in the previous 3 operating hours (excluding periods described in [paragraphs \(b\)](#) and [\(c\)](#) of this section).
- (e) For dry rotary dryer and veneer redryer wood moisture monitoring, dry rotary dryer temperature monitoring, biofilter bed temperature monitoring, and biofilter outlet THC monitoring, determine the 24-hour block average of all recorded readings, calculated after every 24 hours of operation as the average of the evenly spaced recorded readings in the previous 24 operating hours (excluding periods described in [paragraphs \(b\)](#) and [\(c\)](#) of this section).
- (f) To calculate the data averages for each 3-hour or 24-hour averaging period, you must have at least 75 percent of the required recorded readings for that period using only recorded

readings that are based on valid data (*i.e.*, not from periods described in [paragraphs \(b\)](#) and [\(c\)](#) of this section).

[[69 FR 46011](#), July 30, 2004, as amended at [85 FR 49456](#), Aug. 13, 2020]

## **§ 63.2271 How do I demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements?**

(a) You must demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements in [§§ 63.2240](#) and [63.2241](#) that apply to you according to the methods specified in Tables 7 and 8 to this subpart.

(b) You must report each instance in which you did not meet each compliance option, operating requirement, and work practice requirement in Tables 7 and 8 to this subpart that applies to you. This includes periods of startup, shutdown, and malfunction and periods of control device maintenance specified in [paragraphs \(b\)\(1\)](#) through [\(4\)](#) of this section. These instances are deviations from the compliance options, operating requirements, and work practice requirements in this subpart. These deviations must be reported according to the requirements in [§ 63.2281](#).

(1)-(2) [Reserved]

(3) Deviations that occur during periods of control device maintenance covered by any approved routine control device maintenance exemption are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with the approved routine control device maintenance exemption.

(4) Instances of safety-related shutdown, pressurized refiner startup and shutdown, and startup and shutdown of direct-fired softwood veneer dryer gas-fired burners subject to the work practice requirements in Table 3 to this subpart (rows 6 through 8) must be reported as required in [§ 63.2281\(c\)\(4\)](#). Instances when the work practice requirements in Table 3 to this subpart (rows 6 through 8) are used are not considered to be deviations from (or violations of) the otherwise applicable compliance options, operating requirements and work practice requirements (in rows 1 through 5 of Table 3 to this subpart) as long as you do not exceed the minimum amount of time necessary for these events.

[[69 FR 46011](#), July 30, 2004, as amended at [71 FR 20463](#), Apr. 20, 2006; [85 FR 49456](#), Aug. 13, 2020]

### **Notifications, Reports, and Records**

## **§ 63.2280 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 [\(h\)](#) by the dates specified.

(b) You must submit an Initial Notification no later than 120 calendar days after September 28, 2004, 120 calendar days after initial startup, or no later than 120 days after the source becomes subject to this subpart, whichever is later, as specified in [§ 63.9\(b\)\(2\)](#). Initial Notifications required to be submitted after August 13, 2020, for affected sources that commence construction or reconstruction after September 6, 2019, and on and after August 13, 2021, for all other affected sources submitting initial notifications required in [§ 63.9\(b\)](#) must be submitted following the procedure specified in [§ 63.2281\(h\)](#), [\(k\)](#), and [\(l\)](#).

(c) If you are required to conduct a performance test, you must submit a written notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as specified in [§ 63.7\(b\)\(1\)](#).

(d) If you are required to conduct a performance test, design evaluation, or other compliance demonstration as specified in Tables 4, 5, and 6 to this subpart, or a repeat performance test as specified in Table 7 to this subpart, you must submit a Notification of Compliance Status as specified in [§ 63.9\(h\)\(2\)\(ii\)](#). After August 13, 2020 for affected sources that commence construction or reconstruction after September 6, 2019, and on and after August 13, 2021 for all other affected sources, submit all subsequent Notifications of Compliance Status following the procedure specified in [§ 63.2281\(h\)](#), [\(k\)](#), and [\(l\)](#).

(1) For each initial compliance demonstration required in Table 5 or 6 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 calendar day following the completion of the initial compliance demonstration.

(2) For each compliance demonstration required in Tables 5, 6, and 7 to this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including a summary of the performance test results, before the close of business on the 60th calendar day following the completion of the performance test.

(e) If you request a routine control device maintenance exemption according to [§ 63.2251](#), you must submit your request for the exemption no later than 30 days before the compliance date.

(f) If you use the emissions averaging compliance option in [§ 63.2240\(c\)](#), you must submit an Emissions Averaging Plan to the EPA Administrator for approval no later than 1 year before the compliance date or no later than 1 year before the date you would begin using an emissions average, whichever is later. The Emissions Averaging Plan must include the information in [paragraphs \(f\)\(1\)](#) through [\(6\)](#) of this section.

(1) Identification of all the process units to be included in the emissions average indicating which process units will be used to generate credits, and which process units that are subject

to compliance options in Tables 1A and 1B to this subpart will be uncontrolled (used to generate debits) or under-controlled (used to generate debits and credits).

(2) Description of the control system used to generate emission credits for each process unit used to generate credits.

(3) Determination of the total HAP control efficiency for the control system used to generate emission credits for each credit-generating process unit.

(4) Calculation of the RMR and AMR, as calculated using Equations 1 through 3 of [§ 63.2240\(c\)\(1\)](#).

(5) Documentation of total HAP measurements made according to [§ 63.2240\(c\)\(2\)\(iv\)](#) and other relevant documentation to support calculation of the RMR and AMR.

(6) A summary of the operating parameters you will monitor and monitoring methods for each debit-generating and credit-generating process unit.

(g) You must notify the EPA Administrator within 30 days before you take any of the actions specified in [paragraphs \(g\)\(1\)](#) through [\(3\)](#) of this section.

(1) You modify or replace the control system for any process unit subject to the compliance options and operating requirements in this subpart.

(2) You shut down any process unit included in your Emissions Averaging Plan.

(3) You change a continuous monitoring parameter or the value or range of values of a continuous monitoring parameter for any process unit or control device.

[[69 FR 46011](#), July 30, 2004, as amended at [85 FR 49457](#), Aug. 13, 2020; [85 FR 73902](#), Nov. 19, 2020]

## **§ 63.2281 What reports must I submit and when?**

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under [§ 63.10\(a\)](#), you must submit each report by the date in Table 9 to this subpart and as specified in [paragraphs \(b\)\(1\)](#) through [\(6\)](#) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in [§ 63.2233](#) ending on June 30 or December 31, and lasting at least 6 months, but less than 12 months. For example, if your compliance date is March 1, then the first semiannual reporting period would begin on March 1 and end on December 31.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31 for compliance periods ending on June 30 and December 31, respectively.

(3) 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) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31 for the semiannual reporting period ending on June 30 and December 31, respectively.

(5) For each affected source that is subject to permitting regulations pursuant to [40 CFR part 70](#) or [40 CFR part 71](#), and if the permitting authority has established dates for submitting semiannual reports pursuant to [§ 70.6\(a\)\(3\)\(iii\)\(A\)](#) or [§ 71.6\(a\)\(3\)\(iii\)\(A\)](#), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in [paragraphs \(b\)\(1\)](#) through [\(4\)](#) of this section.

(6) After August 13, 2020 for affected sources that commenced construction or reconstruction after September 6, 2019, and on and after August 13, 2021 for all other affected sources, submit all subsequent reports following the procedure specified in [paragraphs \(h\)](#), [\(k\)](#) and [\(l\)](#) of this section.

(c) The compliance report must contain the information in [paragraphs \(c\)\(1\)](#) through [\(8\)](#) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

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

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information specified in [§ 63.10\(d\)\(5\)\(i\)](#) before August 13, 2021 for affected sources that commenced construction or reconstruction before September 6, 2019. After August 13, 2020 for affected sources that commenced construction or reconstruction after September 6, 2019, and on and after August 13, 2021 for all other affected sources, the compliance report must include the number of instances and total amount of time during the reporting period in which each of the startup/shutdown work practice requirements in Table 3 to this subpart (rows 6 through 8) is used in place of the otherwise applicable compliance options, operating requirements, and work practice requirements (in Table 3 to this subpart rows 1 through 5). If a startup/shutdown work practice in Table 3 to this subpart (rows 6 through 8) is used for more than a total of 100 hours during the semiannual reporting period, you must report the date, time and duration of each instance when that startup/shutdown work practice was used.

(5) A description of control device maintenance performed while the control device was offline and one or more of the process units controlled by the control device was operating, including the information specified in [paragraphs \(c\)\(5\)\(i\)](#) through [\(iii\)](#) of this section.

(i) The date and time when the control device was shut down and restarted.

(ii) Identification of the process units that were operating and the number of hours that each process unit operated while the control device was offline.

(iii) A statement of whether or not the control device maintenance was included in your approved routine control device maintenance exemption developed pursuant to [§ 63.2251](#). If the control device maintenance was included in your approved routine control device maintenance exemption, then you must report the information in [paragraphs \(c\)\(5\)\(iii\)\(A\)](#) through [\(C\)](#) of this section.

(A) The total amount of time that each process unit controlled by the control device operated during the semiannual compliance period and during the previous semiannual compliance period.

(B) The amount of time that each process unit controlled by the control device operated while the control device was down for maintenance covered under the routine control device maintenance exemption during the semiannual compliance period and during the previous semiannual compliance period.

(C) Based on the information recorded under [paragraphs \(c\)\(5\)\(iii\)\(A\)](#) and [\(B\)](#) of this section for each process unit, compute the annual percent of process unit operating uptime during which the control device was offline for routine maintenance using Equation 1 of this section.

$$RM = \frac{DT_p + DT_c}{PU_p + PU_c} \quad (\text{Eq. 1})$$

Where:

RM = Annual percentage of process unit uptime during which control device is down for routine control device maintenance;

PU<sub>p</sub> = Process unit uptime for the previous semiannual compliance period;

PU<sub>c</sub> = Process unit uptime for the current semiannual compliance period;

DT<sub>p</sub> = Control device downtime claimed under the routine control device maintenance exemption for the previous semiannual compliance period;

$DT_c$  = Control device downtime claimed under the routine control device maintenance exemption for the current semiannual compliance period.

(6) [Reserved]

(7) If there are no deviations from any applicable compliance option or operating requirement, and there are no deviations from the requirements for work practice requirements in Table 8 to this subpart, a statement that there were no deviations from the compliance options, operating requirements, or work practice requirements during the reporting period.

(8) 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 a compliance option or operating requirement and for each deviation from the work practice requirements in Table 8 to this subpart that occurs at an affected source where you are not using a CMS to comply with the compliance options, operating requirements, or work practice requirements in this subpart, the compliance report must contain the information in [paragraphs \(c\)\(1\) through \(6\)](#) of this section and in [paragraphs \(d\)\(1\) and \(2\)](#) of this section. This includes periods of startup, shutdown, and malfunction and routine control device maintenance.

(1) The total operating time of each affected source during the reporting period.

(2) Information on the date, time, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from a compliance option, operating requirement, or work practice requirement occurring at an affected source where you are using a CMS to comply with the compliance options, operating requirements, or work practice requirements in this subpart, you must include the information in [paragraphs \(c\)\(1\) through \(6\)](#) and [\(e\)\(1\) through \(13\)](#) of this section. This includes periods of startup, shutdown, and malfunction and routine control device maintenance.

(1) [Reserved]

(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 startup, shutdown, or malfunction; during a period of control

device maintenance covered in your approved routine control device maintenance exemption; 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 startup, shutdown, control system problems, control device maintenance, 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 source operating time during that reporting period.

(8) A brief description of the process units.

(9) A brief description of the CMS.

(10) The date of the latest CMS certification or audit.

(11) A description of any changes in CMS, processes, or controls since the last reporting period.

(12) For any failure to meet a compliance option in [§ 63.2240](#), including the compliance options in Table 1A or 1B to this subpart or the emissions averaging compliance option, provide an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

(13) The total operating time of each affected source during the reporting period.

(f) If you comply with the emissions averaging compliance option in [§ 63.2240\(c\)](#), you must include in your semiannual compliance report calculations based on operating data from the semiannual reporting period that demonstrate that actual mass removal equals or exceeds the required mass removal.

(g) Each affected source that has obtained a title V operating permit pursuant to [40 CFR part 70](#) or [40 CFR part 71](#) must report all deviations as defined in this subpart in the semiannual monitoring report required by [§ 70.6\(a\)\(3\)\(iii\)\(A\)](#) or [§ 71.6\(a\)\(3\)\(iii\)\(A\)](#). If an affected source submits a compliance report pursuant to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by [§ 70.6\(a\)\(3\)\(iii\)\(A\)](#) or [§ 71.6\(a\)\(3\)\(iii\)\(A\)](#), and the compliance report includes all required information concerning deviations from any compliance option, operating requirement, or work practice requirement 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 permitting authority.



(h) If you are required to submit reports following the procedure specified in this [paragraph \(h\)](#), you must submit reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). 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. For semiannual compliance reports required in this section and Table 9 (row 1) to this subpart, you must use the appropriate electronic report template on the CEDRI website (<https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri>) for this subpart once the reporting template has been available on the CEDRI website for 1 year. The date report templates become available will be listed on the CEDRI website. If the reporting form for the semiannual compliance report specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate addresses listed in [§ 63.13](#). You must begin submitting all subsequent reports via CEDRI in the first full reporting period after the report template for this subpart has been available in CEDRI for 1 year. Initial Notifications developed according to [§ 63.2280\(b\)](#) and Notifications of Compliance Status developed according to [§ 63.2280\(d\)](#) may be uploaded in a user-specified format such as portable document format (PDF). The report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. Although we do not expect persons to assert a claim of CBI, if persons wish to assert a CBI claim, submit a complete report, including information claimed to be CBI, to the EPA. The report must be generated using the appropriate form on the CEDRI website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX. All CBI claims must be asserted at the time of submission. Furthermore, under CAA section 114(c) 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.

(i) Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in [paragraphs \(i\)\(1\)](#) through [\(3\)](#) of this section.

**(1) Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (<https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>) at the time of the test.** Submit the results of the performance test to the EPA via CEDRI, which can be accessed through the EPA's CDX (<https://cdx.epa.gov/>). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website.

**(2) Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test.** The results of the performance test must be

included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI.

(3) **Confidential Business Information (CBI).** 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 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 you claim some of the information submitted under this [paragraph \(i\)](#) is CBI, you must submit a complete file, including information claimed to be CBI, to the EPA. The file must be 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 website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described in this [paragraph \(i\)](#). All CBI claims must be asserted at the time of submission. Furthermore, under CAA section 114(c) 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.

(j) Within 60 days after the date of completing each continuous monitoring system (CMS) performance evaluation (as defined in [§ 63.2](#)), you must submit the results of the performance evaluation following the procedures specified in [paragraphs \(j\)\(1\)](#) through [\(3\)](#) of this section.

(1) **Performance evaluations of CMS measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT website at the time of the evaluation.** Submit the results of the performance evaluation to the EPA via CEDRI, which can be accessed through the EPA's CDX. The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit an electronic file consistent with the XML schema listed on the EPA's ERT website.

(2) **Performance evaluations of CMS measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the evaluation.** The results of the performance evaluation must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI.

(3) **Confidential Business Information (CBI).** 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 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 you claim some of the information submitted under this [paragraph \(j\)](#) is CBI, you must submit a complete file, including information claimed to be CBI, to the EPA. The file must be 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 website. Submit the file on a compact disc, flash

drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described in this [paragraph \(j\)](#). All CBI claims must be asserted at the time of submission. Furthermore, under CAA section 114(c) 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.

(k) If you are required to electronically submit a report or notification through CEDRI in the EPA's CDX by this subpart, you may assert a claim of EPA system outage for failure to timely comply with the electronic submittal reporting requirement in this section. To assert a claim of EPA system outage, you must meet the requirements outlined in [paragraphs \(k\)\(1\)](#) through [\(7\)](#) of this section.

(1) You must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

(2) The outage must have occurred within the period of time beginning 5 business days prior to the date that the submission is due.

(3) The outage may be planned or unplanned.

(4) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(5) You must provide to the Administrator a written description identifying:

(i) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the electronic submittal requirement in this subpart at the time of the notification, the date you submitted the report.

(6) The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(7) In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

(l) If you are required to electronically submit a report through CEDRI in the EPA's CDX by this subpart, you may assert a claim of *force majeure* for failure to timely comply with the electronic submittal requirement in this section. To assert a claim of *force majeure*, you must meet the requirements outlined in [paragraphs \(l\)\(1\)](#) through [\(5\)](#) of this section.

(1) You may submit a claim if a *force majeure* event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning five business days prior to the date the submission is due. For the purposes of this section, a *force majeure* event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (e.g., hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (e.g., large scale power outage).

(2) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(3) You must provide to the Administrator:

(i) A written description of the *force majeure* event;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to the *force majeure* event;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the electronic submittal requirement in this subpart at the time of the notification, the date you submitted the report.

(4) The decision to accept the claim of *force majeure* and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(5) In any circumstance, the reporting must occur as soon as possible after the *force majeure* event occurs.

[[69 FR 46011](#), July 30, 2004, as amended at [85 FR 49457](#), Aug. 13, 2020]

## **§ 63.2282 What records must I keep?**

(a) You must keep the records listed in [paragraphs \(a\)\(1\)](#) through [\(4\)](#) 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 requirements in [§ 63.10\(b\)\(2\)\(xiv\)](#).

(2) Before August 13, 2021, the records in [§ 63.6\(e\)\(3\)\(iii\)](#) through [\(v\)](#) related to startup, shutdown, and malfunction for affected sources that commenced construction or reconstruction before September 6, 2019. After August 13, 2020 for affected sources that commenced construction or reconstruction after September 6, 2019, and on and after August 13, 2021 for all other affected sources, the records related to startup and shutdown, failures to meet the standard, and actions taken to minimize emissions, specified in [paragraphs \(a\)\(2\)\(i\)](#) through [\(iv\)](#) of this section.

(i) Record the date, time, and duration of each startup and/or shutdown period, including the periods when the affected source was subject to the standard applicable to startup and shutdown.

(ii) In the event that an affected unit fails to meet an applicable standard, record the number of failures; for each failure, record the date, time, cause and duration of each failure.

(iii) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, and the following information:

(A) For any failure to meet a compliance option in [§ 63.2240](#), including the compliance options in Table 1A or 1B to this subpart or the emissions averaging compliance option, record an estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(B) For each failure to meet an operating requirement in Table 2 to this subpart or work practice requirement in Table 3 to this subpart, maintain sufficient information to estimate the quantity of each regulated pollutant emitted over the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator.

(iv) Record actions taken to minimize emissions in accordance with [§ 63.2250\(g\)](#), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(3) Documentation of your approved routine control device maintenance exemption, if you request such an exemption under [§ 63.2251](#).

(4) Records of performance tests and performance evaluations as required in [§ 63.10\(b\)\(2\)\(viii\)](#).

(b) You must keep the records required in Tables 7 and 8 to this subpart to show continuous compliance with each compliance option, operating requirement, and work practice requirement that applies to you.

(c) For each CEMS, you must keep the following records.

(1) Records described in [§ 63.10\(b\)\(2\)\(vi\)](#) through [\(xi\)](#).

(2) Previous (*i.e.*, superseded) versions of the performance evaluation plan, with the program of corrective action included in the plan required under [§ 63.8\(d\)\(2\)](#).

(3) Request for alternatives to relative accuracy testing for CEMS as required in [§ 63.8\(f\)\(6\)\(i\)](#).

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(d) If you comply with the emissions averaging compliance option in [§ 63.2240\(c\)](#), you must keep records of all information required to calculate emission debits and credits.

(e) If you operate a catalytic oxidizer, you must keep records of annual catalyst activity checks and subsequent corrective actions.

(f) You must keep the written CMS quality control procedures required by [§ 63.8\(d\)\(2\)](#) on record for the life of the affected source or until the affected source is no longer subject to the provisions of this subpart, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, you must 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. The program of corrective action should be included in the plan required under [§ 63.8\(d\)\(2\)](#).

[[69 FR 46011](#), July 30, 2004, as amended at [85 FR 49459](#), Aug. 13, 2020; [85 FR 51668](#), Aug. 21, 2020]

## **§ 63.2283 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 as specified in [§ 63.10\(b\)\(1\)](#).

(b) As specified in [§ 63.10\(b\)\(1\)](#), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to [§ 63.10\(b\)\(1\)](#). You can keep the records offsite for the remaining 3 years.

(d) Any records required to be maintained by this part that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

[[69 FR 46011](#), July 30, 2004, as amended at [85 FR 49460](#), Aug. 13, 2020]

## **Other Requirements and Information**

### **§ 63.2290 What parts of the general provisions apply to me?**

Table 10 to this subpart shows which parts of the general provisions in [§§ 63.1](#) through [63.16](#) apply to you.

[[85 FR 49460](#), Aug. 13, 2020]

### **§ 63.2291 Who implements and enforces this subpart?**

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as 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 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 EPA Administrator 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 listed in [paragraphs \(c\)\(1\)](#) through [\(5\)](#) of this section.

(1) Approval of alternatives to the compliance options, operating requirements, and work practice requirements in [§§ 63.2240](#) and [63.2241](#) as specified in [§ 63.6\(g\)](#). For the purposes of delegation authority under [40 CFR part 63, subpart E](#), “compliance options” represent “emission limits”; “operating requirements” represent “operating limits”; and “work practice requirements” represent “work practice standards.”

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

(3) Approval of major alternatives to monitoring as specified in [§ 63.8\(f\)](#) and as defined in [§ 63.90](#).

(4) Approval of major alternatives to recordkeeping and reporting as specified in [§ 63.10\(f\)](#) and as defined in [§ 63.90](#).

(5) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

[[69 FR 46011](#), July 30, 2004, as amended at [72 FR 61063](#), Oct. 29, 2007; [85 FR 49460](#), Aug. 13, 2020]

## **§ 63.2292 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, and in this section as follows:

*Affected source* means the collection of dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products. The affected source includes, but is not limited to, green end operations, refining, drying operations (including any combustion unit exhaust stream routinely used to direct fire process unit(s)), resin preparation, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other NESHAP). The affected source also includes onsite storage of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations (defined elsewhere in this section). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

*Agricultural fiber* means the fiber of an annual agricultural crop. Examples of agricultural fibers include, but are not limited to, wheat straw, rice straw, and bagasse.

*Biofilter* means an enclosed control system such as a tank or series of tanks with a fixed roof that contact emissions with a solid media (such as bark) and use microbiological activity to transform organic pollutants in a process exhaust stream to innocuous compounds such as carbon dioxide, water, and inorganic salts. Wastewater treatment systems such as aeration lagoons or activated sludge systems are not considered to be biofilters.

*Capture device* means a hood, enclosure, or other means of collecting emissions into a duct so that the emissions can be measured.

*Capture efficiency* means the fraction (expressed as a percentage) of the pollutants from an emission source that are collected by a capture device.

*Catalytic oxidizer* means a control system that combusts or oxidizes, in the presence of a catalyst, exhaust gas from a process unit. Catalytic oxidizers include regenerative catalytic oxidizers and thermal catalytic oxidizers.



*Combustion unit* means a dryer burner, process heater, or boiler. Combustion units may be used for combustion of organic HAP emissions.

*Control device* means any equipment that reduces the quantity of HAP emitted to the air. The device may destroy the HAP or secure the HAP for subsequent recovery. Control devices include, but are not limited to, thermal or catalytic oxidizers, combustion units that incinerate process exhausts, biofilters, and condensers.

*Control system or add-on control system* means the combination of capture and control devices used to reduce HAP emissions to the atmosphere.

*Conveyor strand dryer* means a conveyor dryer used to reduce the moisture of wood strands used in the manufacture of oriented strandboard, laminated strand lumber, or other wood strand-based products. A *conveyor strand dryer* is a process unit.

*Conveyor strand dryer zone* means each portion of a conveyor strand dryer with a separate heat exchange system and exhaust vent(s). Conveyor strand dryers contain multiple zones (e.g., three zones), which may be divided into multiple sections.

*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 compliance option, operating requirement, or work practice requirement;

(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 compliance option, operating requirement, or work practice requirement in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart. A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.

*Direct-fired process unit* means a process unit that is heated by the passing of combustion exhaust through the process unit such that the process material is contacted by the combustion exhaust.

*Dryer heated zones* means the zones of a softwood veneer dryer or fiberboard mat dryer that are equipped with heating and hot air circulation units. The cooling zone(s) of the dryer through which ambient air is blown are not part of the dryer heated zones.

*Dry forming* means the process of making a mat of resinated fiber to be compressed into a reconstituted wood product such as particleboard, oriented strandboard, medium density fiberboard, or hardboard.

*Dry rotary dryer* means a rotary dryer that dries wood particles or fibers with a maximum inlet moisture content of less than or equal to 30 percent (by weight, dry basis) and operates with a maximum inlet temperature of less than or equal to 600 °F. A dry rotary dryer is a process unit.

*Engineered wood product* means a product made with lumber, veneers, strands of wood, or from other small wood elements that are bound together with resin. Engineered wood products include, but are not limited to, laminated strand lumber, laminated veneer lumber, parallel strand lumber, wood I-joists, and glue-laminated beams.

*Fiber* means the discrete elements of wood or similar cellulosic material, which are separated by mechanical means, as in refining, that can be formed into boards.

*Fiberboard* means a composite panel composed of cellulosic fibers (usually wood or agricultural material) made by wet forming and compacting a mat of fibers. Fiberboard density generally is less than 0.50 grams per cubic centimeter (31.5 pounds per cubic foot).

*Fiberboard mat dryer* means a dryer used to reduce the moisture of wet-formed wood fiber mats by applying heat. A *fiberboard mat dryer* is a process unit.

*Flame zone* means the portion of the combustion chamber in a combustion unit that is occupied by the flame envelope.

*Furnish* means the fibers, particles, or strands used for making boards.

*Glue-laminated beam* means a structural wood beam made by bonding lumber together along its faces with resin.

*Green rotary dryer* means a rotary dryer that dries wood particles or fibers with an inlet moisture content of greater than 30 percent (by weight, dry basis) at any dryer inlet temperature or operates with an inlet temperature of greater than 600 °F with any inlet moisture content. A *green rotary dryer* is a process unit.

*Group 1 miscellaneous coating operations* means application of edge seals, nail lines, logo (or other information) paint, shelving edge fillers, trademark/gradestamp inks, and wood putty patches to plywood and composite wood products (except kiln-dried lumber) on the same site where the plywood and composite wood products are manufactured. Group 1 miscellaneous coating operations also include application of synthetic patches to plywood at new affected sources.

*Hardboard* means a composite panel composed of inter-felted cellulosic fibers made by dry or wet forming and pressing of a resinated fiber mat. Hardboard generally has a density of 0.50 grams per cubic centimeter (31.5 pounds per cubic foot) or greater.

*Hardboard oven* means an oven used to heat treat or temper hardboard after hot pressing. Humidification chambers are not considered as part of hardboard ovens. A *hardboard oven* is a process unit.

*Hardwood* means the wood of a broad-leaved tree, either deciduous or evergreen. Examples of hardwoods include, but are not limited to, aspen, birch, poplar, and oak.

*Hardwood veneer dryer* means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium on rollers, belts, cables, or wire mesh. Hardwood veneer dryers are used to dry veneer with less than 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this section) that are heated by conventional means are not considered to be hardwood veneer dryers. A *hardwood veneer dryer* is a process unit.

*Kiln-dried lumber* means solid wood lumber that has been dried in a lumber kiln.

*Laminated strand lumber (LSL)* means a composite product formed into a billet made of thin wood strands cut from whole logs, resinated, and pressed together with the grain of each strand oriented parallel to the length of the finished product.

*Laminated veneer lumber (LVL)* means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. *Laminated veneer lumber* is also known as parallel strand lumber (PSL).

*Lumber* means boards or planks sawed or split from logs or timber, including logs or timber processed for use as utility poles or other wood components. Lumber can be either green (non-dried) or dried. Lumber is typically either air-dried or kiln-dried.

*Lumber kiln* means an enclosed dryer operated by applying heat to reduce the moisture content of lumber.

*Medium density fiberboard (MDF)* means a composite panel composed of cellulosic fibers (usually wood or agricultural fiber) made by dry forming and pressing of a resinated fiber mat.

*Method detection limit* means the minimum concentration of an analyte that can be determined with 99 percent confidence that the true value is greater than zero.

*Miscellaneous coating operations* means application of any of the following to plywood or composite wood products: edge seals, moisture sealants, anti-skid coatings, company logos, trademark or grade stamps, nail lines, synthetic patches, wood patches, wood putty, concrete forming oils, glues for veneer composing, and shelving edge fillers. Miscellaneous coating operations also include the application of primer to oriented strandboard siding that occurs at the same site as oriented strandboard manufacture and application of asphalt, clay slurry, or titanium dioxide coatings to fiberboard at the same site of fiberboard manufacture.

*Molded particleboard* means a shaped composite product (other than a composite panel) composed primarily of cellulosic materials (usually wood or agricultural fiber) generally in the

form of discrete pieces or particles, as distinguished from fibers, which are pressed together with resin.

*MSF* means thousand square feet (92.9 square meters). Square footage of panels is usually measured on a thickness basis, such as 3/8-inch, to define the total volume of panels. Equation 3 of [§ 63.2262\(j\)](#) shows how to convert from one thickness basis to another.

*Nondetect data* means, for the purposes of this subpart, any value that is below the method detection limit.

*Non-HAP coating* means a coating with HAP contents below 0.1 percent by mass for Occupational Safety and Health Administration-defined carcinogens as specified in section A.6.4 of appendix A to 29 CFR 1910.1200, and below 1.0 percent by mass for other HAP compounds.

*1-hour period* means a 60-minute period.

*Oriented strandboard (OSB)* means a composite panel produced from thin wood strands cut from whole logs, formed into resinated layers (with the grain of strands in one layer oriented perpendicular to the strands in adjacent layers), and pressed.

*Oven-dried ton(s) (ODT)* means tons of wood dried until all of the moisture in the wood is removed. One oven-dried ton equals 907 oven-dried kilograms.

*Parallel strand lumber (PSL)* means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. *Parallel strand lumber* is also known as laminated veneer lumber (LVL).

*Partial wood products enclosure* means an enclosure that does not meet the design criteria for a wood products enclosure as defined in this subpart.

*Particle* means a discrete, small piece of cellulosic material (usually wood or agricultural fiber) produced mechanically and used as the aggregate for a particleboard.

*Particleboard* means a composite panel composed primarily of cellulosic materials (usually wood or agricultural fiber) generally in the form of discrete pieces or particles, as distinguished from fibers, which are pressed together with resin.

*Plywood* means a panel product consisting of layers of wood veneers hot pressed together with resin. Plywood includes panel products made by hot pressing (with resin) veneers to a substrate such as particleboard, medium density fiberboard, or lumber. Plywood products may be flat or curved.

*Plywood and composite wood products (PCWP) manufacturing facility* means a facility that manufactures plywood and/or composite wood products by bonding wood material (fibers,

particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a panel, engineered wood product, or other product defined in [§ 63.2292](#). Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, molded particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

*Press predryer* means a dryer used to reduce the moisture and elevate the temperature by applying heat to a wet-formed fiber mat before the mat enters a hot press. A *press predryer* is a process unit.

*Pressurized refiner* means a piece of equipment operated under pressure for preheating (usually by steaming) wood material and refining (rubbing or grinding) the wood material into fibers. Pressurized refiners are operated with continuous infeed and outfeed of wood material and maintain elevated internal pressures (*i.e.*, there is no pressure release) throughout the preheating and refining process. A *pressurized refiner* is a process unit.

*Primary tube dryer* means a single-stage tube dryer or the first stage of a multi-stage tube dryer. Tube dryer stages are separated by vents for removal of moist gases between stages (*e.g.*, a product cyclone at the end of a single-stage dryer or between the first and second stages of a multi-stage tube dryer). The first stage of a multi-stage tube dryer is used to remove the majority of the moisture from the wood furnish (compared to the moisture reduction in subsequent stages of the tube dryer). Blow-lines used to apply resin are considered part of the primary tube dryer. A *primary tube dryer* is a process unit.

*Process unit* means equipment classified according to its function such as a blender, dryer, press, former, or board cooler.

*Reconstituted wood product board cooler* means a piece of equipment designed to reduce the temperature of a board by means of forced air or convection within a controlled time period after the board exits the reconstituted wood product press unloader. Board coolers include wicket and star type coolers commonly found at medium density fiberboard and particleboard plants. Board coolers do not include cooling sections of dryers (*e.g.*, veneer dryers or fiberboard mat dryers) or coolers integrated into or following hardboard bake ovens or humidifiers. A *reconstituted wood product board cooler* is a process unit.

*Reconstituted wood product press* means a press, including (if applicable) the press unloader, that presses a resinated mat of wood fibers, particles, or strands between hot platens or hot rollers to compact and set the mat into a panel by simultaneous application of heat and pressure. Reconstituted wood product presses are used in the manufacture of hardboard, medium density fiberboard, particleboard, and oriented strandboard. Extruders are not considered to be reconstituted wood product presses. A *reconstituted wood product press* is a process unit.

*Representative operating conditions* means operation of a process unit during performance testing under the conditions that the process unit will typically be operating in the future, including use of a representative range of materials (e.g., wood material of a typical species mix and moisture content or typical resin formulation) and representative operating temperature range. Representative operating conditions exclude periods of startup and shutdown.

*Resin* means the synthetic adhesive (including glue) or natural binder, including additives, used to bond wood or other cellulosic materials together to produce plywood and composite wood products.

*Responsible official* means responsible official as defined in [40 CFR 70.2](#) and [40 CFR 71.2](#).

*Rotary strand dryer* means a rotary dryer operated by applying heat and used to reduce the moisture of wood strands used in the manufacture of oriented strandboard, laminated strand lumber, or other wood strand-based products. A *rotary strand dryer* is a process unit.

*Safety-related shutdown* means an unscheduled shutdown of a process unit subject to a compliance option in Table 1B to this subpart (or a process unit with HAP control under an emissions averaging plan developed according to [§ 63.2240\(c\)](#)) during which time emissions from the process unit cannot be safely routed to the control system in place to meet the compliance options or operating requirements in this subpart without imminent danger to the process, control system, or system operator.

*Secondary tube dryer* means the second stage and subsequent stages following the primary stage of a multi-stage tube dryer. Secondary tube dryers, also referred to as relay dryers, operate at lower temperatures than the primary tube dryer they follow. Secondary tube dryers are used to remove only a small amount of the furnish moisture compared to the furnish moisture reduction across the primary tube dryer. A *secondary tube dryer* is a process unit.

*Softwood* means the wood of a coniferous tree. Examples of softwoods include, but are not limited to, Southern yellow pine, Douglas fir, and White spruce.

*Softwood veneer dryer* means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium, generally on rollers, belts, cables, or wire mesh. Softwood veneer dryers are used to dry veneer with greater than or equal to 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this section) that are heated by conventional means are not considered to be softwood veneer dryers. A *softwood veneer dryer* is a process unit.

*Startup* means bringing equipment online and starting the production process.

*Startup, initial* means the first time equipment is put into operation. Initial startup does not include operation solely for testing equipment. Initial startup does not include subsequent startups (as defined in this section) following malfunction or shutdowns or following changes

in product or between batch operations. Initial startup does not include startup of equipment that occurred when the source was an area source.

*Strand* means a long (with respect to thickness and width), flat wood piece specially cut from a log for use in oriented strandboard, laminated strand lumber, or other wood strand-based product.

*Temporary total enclosure (TTE)* means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source, as defined in Method 204 of [40 CFR part 51, appendix M](#).

*Thermal oxidizer* means a control system that combusts or oxidizes exhaust gas from a process unit. Thermal oxidizers include regenerative thermal oxidizers and combustion units.

*Total hazardous air pollutant emissions* means, for purposes of this subpart, the sum of the emissions of the following six compounds: acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde.

*Tube dryer* means a single-stage or multi-stage dryer operated by applying heat to reduce the moisture of wood fibers or particles as they are conveyed (usually pneumatically) through the dryer. Resin may or may not be applied to the wood material before it enters the tube dryer. Tube dryers do not include pneumatic fiber transport systems that use temperature and humidity conditioned pneumatic system supply air in order to prevent cooling of the wood fiber as it is moved through the process. A *tube dryer* is a process unit.

*Veneer* means thin sheets of wood peeled or sliced from logs for use in the manufacture of wood products such as plywood, laminated veneer lumber, or other products.

*Veneer redryer* means a dryer heated by conventional means, such as direct wood-fired, direct-gas-fired, or steam heated, that is used to redry veneer that has been previously dried. Because the veneer dried in a veneer redryer has been previously dried, the inlet moisture content of the veneer entering the redryer is less than 25 percent (by weight, dry basis). Batch units used to redry veneer (such as redry cookers) are not considered to be veneer redryers. A *veneer redryer* is a process unit.

*Wet control device* means any equipment that uses water as a means of collecting an air pollutant. Wet control devices include scrubbers, wet electrostatic precipitators, and electrified filter beds. Wet control devices do not include biofilters or other equipment that destroys or degrades HAP.

*Wet forming* means the process of making a slurry of water, fiber, and additives into a mat of fibers to be compressed into a fiberboard or hardboard product.

*Wood I-joists* means a structural wood beam with an I-shaped cross section formed by bonding (with resin) wood or laminated veneer lumber flanges onto a web cut from a panel such as plywood or oriented strandboard.

*Wood products enclosure* means a permanently installed containment that was designed to meet the following physical design criteria:

- (1) Any natural draft opening shall be at least four equivalent opening diameters from each HAP-emitting point, except for where board enters and exits the enclosure, unless otherwise specified by the EPA Administrator.
- (2) The total area of all natural draft openings shall not exceed 5 percent of the surface area of the enclosure's four walls, floor, and ceiling.
- (3) The average facial velocity of air through all natural draft openings shall be at least 3,600 meters per hour (200 feet per minute). The direction of airflow through all natural draft openings shall be into the enclosure.
- (4) All access doors and windows whose areas are not included in item 2 of this definition and are not included in the calculation of facial velocity in item 3 of this definition shall be closed during routine operation of the process.
- (5) The enclosure is designed and maintained to capture all emissions for discharge through a control device.

*Work practice requirement* means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

[[69 FR 46011](#), July 30, 2004, as amended at [71 FR 8372](#), Feb. 16, 2006; [85 FR 49460](#), Aug. 13, 2020]

## Table 1A to Subpart DDDD of Part 63 - Production-Based Compliance Options

For the following process units . . .	You must meet the following production-based compliance option (total HAP <sup>a</sup> basis) . . .
(1) Fiberboard mat dryer heated zones (at new affected sources only)	0.022 lb/MSF 1/2".
(2) Green rotary dryers	0.058 lb/ODT.
(3) Hardboard ovens	0.022 lb/MSF 1/8".
(4) Press predryers (at new affected sources only)	0.037 lb/MSF 1/2".



For the following process units . . .	You must meet the following production-based compliance option (total HAP <sup>a</sup> basis) . . .
(5) Pressurized refiners	0.039 lb/ODT.
(6) Primary tube dryers	0.26 lb/ODT.
(7) Reconstituted wood product board coolers (at new affected sources only)	0.014 lb/MSF 3/4".
(8) Reconstituted wood product presses	0.30 lb/MSF 3/4".
(9) Softwood veneer dryer heated zones	0.022 lb/MSF 3/8".
(10) Rotary strand dryers	0.18 lb/ODT.
(11) Secondary tube dryers	0.010 lb/ODT.

<sup>a</sup> Total HAP, as defined in [§ 63.2292](#), includes acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. lb/ODT = pounds per oven-dried ton; lb/MSF = pounds per thousand square feet with a specified thickness basis (inches). [Section 63.2262\(j\)](#) shows how to convert from one thickness basis to another.

Note: There is no production-based compliance option for conveyor strand dryers.

## Table 1B to Subpart DDDD of Part 63 - Add-on Control Systems Compliance Options

For each of the following process units . . .	You must comply with one of the following six compliance options by using an emissions control system . . .
Fiberboard mat dryer heated zones (at new affected sources only); green rotary dryers; hardboard ovens; press predryers (at new affected sources only); pressurized refiners; primary tube dryers; secondary tube dryers; reconstituted wood product board coolers (at new affected sources only); reconstituted wood product presses; softwood veneer dryer heated zones; rotary strand dryers; conveyor strand dryer zone one (at existing affected	<ul style="list-style-type: none"> <li>(1) Reduce emissions of total HAP, measured as THC (as carbon)<sup>a</sup>, by 90 percent; or</li> <li>(2) Limit emissions of total HAP, measured as THC (as carbon)<sup>a</sup>, to 20 ppmvd; or</li> <li>(3) Reduce methanol emissions by 90 percent; or</li> </ul>

For each of the following process units . . .	You must comply with one of the following six compliance options by using an emissions control system . . .
sources); and conveyor strand dryer zones one and two (at new affected sources)	(4) Limit methanol emissions to less than or equal to 1 ppmvd if uncontrolled methanol emissions entering the control device are greater than or equal to 10 ppmvd; or (5) Reduce formaldehyde emissions by 90 percent; or (6) Limit formaldehyde emissions to less than or equal to 1 ppmvd if uncontrolled formaldehyde emissions entering the control device are greater than or equal to 10 ppmvd.

<sup>a</sup> You may choose to subtract methane from THC as carbon measurements.

## Table 2 to Subpart DDDD of Part 63 - Operating Requirements

If you operate a(n) . . .	You must . . .	Or you must . . .
(1) Thermal oxidizer	Maintain the 3-hour block average firebox temperature above the minimum temperature established during the performance test	Maintain the 3-hour block average THC concentration <sup>1</sup> in the thermal oxidizer exhaust below the maximum concentration established during the performance test.
(2) Catalytic oxidizer	Maintain the 3-hour block average catalytic oxidizer temperature above the minimum temperature established during the performance test; AND check the activity level of a representative sample of the catalyst annually except as specified in	Maintain the 3-hour block average THC concentration <sup>1</sup> in the catalytic oxidizer exhaust below the maximum concentration established during the performance test.

If you operate a(n) . . .	You must . . .	Or you must . . .
	footnote “2” to this table	
(3) Biofilter	Maintain the 24-hour block biofilter bed temperature within the range established according to <a href="#">§ 63.2262(m)</a>	Maintain the 24-hour block average THC concentration <sup>1</sup> in the biofilter exhaust below the maximum concentration established during the performance test.
(4) Control device other than a thermal oxidizer, catalytic oxidizer, or biofilter	Petition the EPA Administrator for site-specific operating parameter(s) to be established during the performance test and maintain the average operating parameter(s) within the range(s) established during the performance test	Maintain the 3-hour block average THC concentration <sup>1</sup> in the control device exhaust below the maximum concentration established during the performance test.
(5) Process unit that meets a compliance option in Table 1A to this subpart, or a process unit that generates debits in an emissions average without the use of a control device	Maintain on a daily basis the process unit controlling operating parameter(s) within the ranges established during the performance test according to <a href="#">§ 63.2262(n)</a>	Maintain the 3-hour block average THC concentration <sup>1</sup> in the process unit exhaust below the maximum concentration established during the performance test.

<sup>1</sup> You may choose to subtract methane from THC measurements.

<sup>2</sup> You may forego the annual catalyst activity check during the calendar year when a performance test is conducted according to Table 4 to this subpart.

[85 FR 49460, Aug. 13, 2020]

### **Table 3 to Subpart DDDD of Part 63 - Work Practice Requirements**

For the following process units at existing or new affected sources . . .	You must . . .
.	

For the following process units at existing or new affected sources . . .	You must . . .
(1) Dry rotary dryers	Process furnish with a 24-hour block average inlet moisture content of less than or equal to 30 percent (by weight, dry basis); AND operate with a 24-hour block average inlet dryer temperature of less than or equal to 600 °F.
(2) Hardwood veneer dryers	Process less than 30 volume percent softwood species on an annual basis.
(3) Softwood veneer dryers	Minimize fugitive emissions from the dryer doors through (proper maintenance procedures) and the green end of the dryers (through proper balancing of the heated zone exhausts).
(4) Veneer redryers	Process veneer that has been previously dried, such that the 24-hour block average inlet moisture content of the veneer is less than or equal to 25 percent (by weight, dry basis).
(5) Group 1 miscellaneous coating operations	Use non-HAP coatings as defined in <a href="#">§ 63.2292</a> .
(6) Process units and control systems undergoing safety-related shutdown on and after August 13, 2021 except as noted in footnote “1” to this table	Follow documented site-specific procedures such as use of automated controls or other measures that you have developed to protect workers and equipment to ensure that the flow of raw materials (such as furnish or resin) and fuel or process heat (as applicable) ceases and that material is removed from the process unit(s) as expeditiously as possible given the system design to reduce air emissions.
(7) Pressurized refiners undergoing startup or shutdown on and after August 13, 2021 except as noted in footnote “1” to this table	Route exhaust gases from the pressurized refiner to its dryer control system no later than 15 minutes after wood is fed to the pressurized refiner during startup. Stop wood flow into the pressurized refiner no more than 15 minutes after wood fiber and exhaust gases from the pressurized refiner stop being routed to the dryer during shutdown.
(8) Direct-fired softwood veneer dryers undergoing startup or	Cease feeding green veneer into the softwood veneer dryer and minimize the amount of time direct gas-fired softwood

**For the following process units at existing or new affected sources . . .**

**You must . . .**

shutdown of gas-fired burners on veneer dryers are vented to the atmosphere due to the and after August 13, 2021 except as conditions described in [§ 63.2250\(d\)](#).  
noted in footnote “1” to this table

<sup>1</sup> New or reconstructed affected sources that commenced construction or reconstruction after September 6, 2019 must comply with this requirement beginning on August 13, 2020 or upon initial startup, whichever is later.

[[85 FR 49461](#), Aug. 13, 2020]

### **Table 4 to Subpart DDDD of Part 63 - Requirements for Performance Tests**

<b>For . . .</b>	<b>You must . . .</b>	<b>Using . . .</b>
(1) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under <a href="#">§ 63.2240(c)</a>	select sampling port's location and the number of traverse ports	Method 1 or 1A of <a href="#">40 CFR part 60, appendix A-1</a> (as appropriate).
(2) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under <a href="#">§ 63.2240(c)</a>	determine velocity and volumetric flow rate	Method 2 in addition to Method 2A, 2C, 2D, 2F, or 2G in appendices A-1 and A-2 to <a href="#">40 CFR part 60</a> (as appropriate).
(3) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under <a href="#">§ 63.2240(c)</a>	conduct gas molecular weight analysis	Method 3, 3A, or 3B in appendix A-2 to <a href="#">40 CFR part 60</a> (as appropriate).

For . . .	You must . . .	Using . . .
(4) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under <a href="#">§ 63.2240(c)</a>	measure moisture content of the stack gas	Method 4 in appendix A-3 to <a href="#">40 CFR part 60</a> ; OR Method 320 in appendix A to this part; OR ASTM D6348-03 (IBR, see <a href="#">§ 63.14</a> ).
(5) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a total HAP as THC compliance option	measure emissions of total HAP as THC	Method 25A in appendix A-7 to <a href="#">40 CFR part 60</a> . You may measure emissions of methane using EPA Method 18 in appendix A-6 to <a href="#">40 CFR part 60</a> and subtract the methane emissions from the emissions of total HAP as THC.
(6) each process unit subject to a compliance option in table 1A to this subpart; OR for each process unit used in calculation of an emissions average under <a href="#">§ 63.2240(c)</a>	measure emissions of total HAP (as defined in <a href="#">§ 63.2292</a> )	Method 320 in appendix A to this part; OR the NCASI Method IM/CAN/WP-99.02 (IBR, see <a href="#">§ 63.14</a> ); OR the NCASI Method ISS/FP-A105.01 (IBR, see <a href="#">§ 63.14</a> ); OR ASTM D6348-03 (IBR, see <a href="#">§ 63.14</a> ) provided that percent R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70 percent and less than or equal to 130 percent.
(7) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a methanol compliance option	measure emissions of methanol	Method 308 in appendix A to this part; OR Method 320 in appendix A to this part; OR the NCASI Method CI/WP-98.01 (IBR, see <a href="#">§ 63.14</a> ); OR the NCASI Method IM/CAN/WP-99.02 (IBR, see <a href="#">§ 63.14</a> ); OR the NCASI Method ISS/FP-A105.01 (IBR, see <a href="#">§ 63.14</a> ).
(8) each process unit subject to a compliance option in table 1B to this subpart for which you choose to	measure emissions of formaldehyde	Method 316 in appendix A to this part; OR Method 320 in appendix A to this part; OR Method 0011 in “Test Methods for Evaluating Solid Waste,

For . . .	You must . . .	Using . . .
demonstrate compliance using a formaldehyde compliance option		Physical/Chemical Methods” (EPA Publication No. SW-846) for formaldehyde (IBR, see <a href="#">§ 63.14</a> ); OR the NCASI Method CI/WP-98.01 (IBR, see <a href="#">§ 63.14</a> ); OR the NCASI Method IM/CAN/WP-99.02 (IBR, see <a href="#">§ 63.14</a> ); OR the NCASI Method ISS/FP-A105.01 (IBR, see <a href="#">§ 63.14</a> ).
(9) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in table 1B to this subpart or used in calculation of an emissions average under <a href="#">§ 63.2240(c)</a>	meet the design specifications included in the definition of wood products enclosure in <a href="#">§ 63.2292</a> ; or determine the percent capture efficiency of the enclosure directing emissions to an add-on control device	Methods 204 and 204A through 204F of <a href="#">40 CFR part 51, appendix M</a> , to determine capture efficiency (except for wood products enclosures as defined in <a href="#">§ 63.2292</a> ). Enclosures that meet the definition of wood products enclosure or that meet Method 204 requirements for a permanent total enclosure (PTE) are assumed to have a capture efficiency of 100 percent. Enclosures that do not meet either the PTE requirements or design criteria for a wood products enclosure must determine the capture efficiency by constructing a TTE according to the requirements of Method 204 and applying Methods 204A through 204F (as appropriate). As an alternative to Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to this subpart.
(10) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in table 1A	determine the percent capture efficiency	a TTE and Methods 204 and 204A through 204F (as appropriate) of <a href="#">40 CFR part 51, appendix M</a> . As an alternative to installing a TTE and using Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to

For ...	You must ...	Using ...
to this subpart		this subpart. Enclosures that meet the design criteria (1) through (4) in the definition of wood products enclosure, or that meet Method 204 requirements for a PTE (except for the criteria specified in <a href="#">section 6.2</a> of Method 204) are assumed to have a capture efficiency of 100 percent. Measured emissions divided by the capture efficiency provides the emission rate.
(11) each process unit subject to a compliance option in tables 1A and 1B to this subpart or used in calculation of an emissions average under <a href="#">§ 63.2240(c)</a>	establish the site-specific operating requirements (including the parameter limits or THC concentration limits) in table 2 to this subpart	data from the parameter monitoring system or THC CEMS and the applicable performance test method(s).

[85 FR 49461, Aug. 13, 2020]

### Table 5 to Subpart DDDD of Part 63 - Performance Testing and Initial Compliance Demonstrations for the Compliance Options and Operating Requirements

For each ...	For the following compliance options and operating requirements ...	You have demonstrated initial compliance if ...
(1) Process unit listed in Table 1A to this subpart	Meet the production-based compliance options listed in Table 1A to this subpart	The average total HAP emissions measured using the methods in Table 4 to this subpart over the 3-hour performance test are no greater than the compliance option in Table 1A to this subpart; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which



For each . . .	For the following compliance options and operating requirements . . .	You have demonstrated initial compliance if . . .
(2) Process unit listed in Table 1B to this subpart	Reduce emissions of total HAP, measured as THC, by 90 percent	<p>emissions did not exceed the compliance option value.</p> <p>Total HAP emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, are reduced by at least 90 percent, as calculated using the procedures in <a href="#">§ 63.2262</a>; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions were reduced by at least 90 percent.</p>
(3) Process unit listed in Table 1B to this subpart	Limit emissions of total HAP, measured as THC, to 20 ppmvd	<p>The average total HAP emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, do not exceed 20 ppmvd; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed 20 ppmvd.</p>
(4) Process unit listed in Table 1B to this subpart	Reduce methanol or formaldehyde emissions by 90 percent	<p>The methanol or formaldehyde emissions measured using the methods in Table 4 to this subpart over the 3-hour performance test, are reduced by at least 90 percent, as calculated using the procedures in <a href="#">§ 63.2262</a>; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions were reduced by at least 90 percent.</p>
(5) Process unit listed in	Limit methanol or	The average methanol or formaldehyde

For each . . .	For the following compliance options and operating requirements . . .	You have demonstrated initial compliance if . . .
Table 1B to this subpart	formaldehyde emissions to less than or equal to 1 ppmvd (if uncontrolled emissions are greater than or equal to 10 ppmvd)	emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, do not exceed 1 ppmvd; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed 1 ppmvd. If the process unit is a reconstituted wood product press or a reconstituted wood product board cooler, your capture device either meets the EPA Method 204 criteria for a PTE or achieves a capture efficiency of greater than or equal to 95 percent.
(6) Reconstituted wood product press at a new or existing affected source, or reconstituted wood product board cooler at a new affected source	Compliance options in Tables 1A and 1B to this subpart or the emissions averaging compliance option in <a href="#">§ 63.2240(c)</a>	You submit the results of capture efficiency verification using the methods in Table 4 to this subpart with your Notification of Compliance Status.
(7) Process unit listed in Table 1B to this subpart controlled by routing exhaust to a combustion unit	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in <a href="#">§ 63.2240(c)</a>	You submit with your Notification of Compliance Status documentation showing that the process exhausts controlled enter into the flame zone of your combustion unit.
(8) Process unit listed in Table 1B to this subpart using a wet control device as the sole means of reducing HAP emissions	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in <a href="#">§ 63.2240(c)</a>	You submit with your Notification of Compliance Status your plan to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere.

## Table 6 to Subpart DDDD of Part 63 - Initial Compliance Demonstrations for Work Practice Requirements

For each . . .	For the following work practice requirements . . .	You have demonstrated initial compliance if . . .
(1) Dry rotary dryer	Process furnish with an inlet moisture content less than or equal to 30 percent (by weight, dry basis) AND operate with an inlet dryer temperature of less than or equal to 600 °F	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer meets the criteria of a “dry rotary dryer” AND you have a record of the inlet moisture content and inlet dryer temperature (as required in <a href="#">§ 63.2263</a> ).
(2) Hardwood veneer dryer	Process less than 30 volume percent softwood species	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer meets the criteria of a “hardwood veneer dryer” AND you have a record of the percentage of softwoods processed in the dryer (as required in <a href="#">§ 63.2264</a> ).
(3) Softwood veneer dryer	Minimize fugitive emissions from the dryer doors and the green end	You meet the work practice requirement AND you submit with the Notification of Compliance Status a copy of your plan for minimizing fugitive emissions from the veneer dryer heated zones (as required in <a href="#">§ 63.2265</a> ).
(4) Veneer redryers	Process veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry	You meet the work practice requirement AND you submit a signed statement with the

For each . . .	For the following work practice requirements . . .	You have demonstrated initial compliance if . . .
	basis)	Notification of Compliance Status that the dryer operates only as a redryer AND you have a record of the veneer inlet moisture content of the veneer processed in the redryer (as required in <a href="#">§ 63.2266</a> ).
(5) Group 1 miscellaneous coating operations	Use non-HAP coatings as defined in <a href="#">§ 63.2292</a>	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that you are using non-HAP coatings AND you have a record showing that you are using non-HAP coatings.
(6) Process units and control systems undergoing safety-related shutdown on and after August 13, 2021, except as noted in footnote “1” to this table	Follow documented site-specific procedures to ensure the flow of raw materials and fuel or process heat ceases and that material is removed from the process unit(s) as expeditiously as possible given the system design to reduce air emissions	You meet the work practice requirement AND you have a record of safety-related shutdown procedures available for inspection by the delegated authority upon request.
(7) Pressurized refiners undergoing startup or shutdown on and after August 13, 2021, except as noted in footnote “1” to this table	Route exhaust gases from the pressurized refiner to its dryer control system no later than 15 minutes after wood is fed to the pressurized refiner during startup. Stop wood flow into the pressurized refiner no more than 15 minutes after wood fiber and exhaust gases from the pressurized refiner stop being routed to the dryer during shutdown	You meet the work practice requirement AND you have a record of pressurized refiner startup and shutdown procedures available for inspection by the delegated authority upon request.

For each . . .	For the following work practice requirements . . .	You have demonstrated initial compliance if . . .
(8) Direct-fired softwood veneer dryers undergoing startup or shutdown of gas-fired burners on and after August 13, 2021, except as noted in footnote “1” to this table	Cease feeding green veneer into the softwood veneer dryer and minimize the amount of time direct gas-fired softwood veneer dryers are vented to the atmosphere due to the conditions described in <a href="#">§ 63.2250(d)</a>	You meet the work practice requirement AND you have a record of the procedures for startup and shutdown of softwood veneer dryer gas-fired burners available for inspection by the delegated authority upon request.

<sup>1</sup> New or reconstructed affected sources that commenced construction or reconstruction after September 6, 2019 must comply with this requirement beginning on August 13, 2020 or upon initial startup, whichever is later.

[[85 FR 49462](#), Aug. 13, 2020]

## Table 7 to Subpart DDDD of Part 63 - Continuous Compliance With the Compliance Options and Operating Requirements

For . . .	For the following compliance options and operating requirements . . .	You must demonstrate continuous compliance by . . .
(1) Each process unit listed in Table 1B to this subpart or used in calculation of an emissions average under <a href="#">§ 63.2240(c)</a>	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in <a href="#">§ 63.2240(c)</a> and the operating requirements in Table 2 to this subpart based on monitoring of operating parameters	Collecting and recording the operating parameter monitoring system data listed in Table 2 to this subpart for the process unit according to <a href="#">§§ 63.2269(a)</a> through <a href="#">(b)</a> and <a href="#">63.2270</a> ; AND reducing the operating parameter monitoring system data to the specified averages in units of the applicable requirement according to calculations in <a href="#">§ 63.2270</a> ; AND maintaining the average operating parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established

For . . .	For the following compliance options and operating requirements . . .	You must demonstrate continuous compliance by . . .
(2) Each process unit listed in Tables 1A and 1B to this subpart or used in calculation of an emissions average under <a href="#">§ 63.2240(c)</a>	Compliance options in Tables 1A and 1B to this subpart or the emissions averaging compliance option in <a href="#">§ 63.2240(c)</a> and the operating requirements in Table 2 to this subpart based on THC CEMS data	<p>according to <a href="#">§ 63.2262</a>.</p> <p>Collecting and recording the THC monitoring data listed in Table 2 to this subpart for the process unit according to <a href="#">§ 63.2269(d)</a>; AND reducing the CEMS data to 3-hour block averages according to calculations in <a href="#">§ 63.2269(d)</a>; AND maintaining the 3-hour block average THC concentration in the exhaust gases less than or equal to the THC concentration established according to <a href="#">§ 63.2262</a>.</p>
(3) Each process unit using a biofilter	Compliance options in Tables 1B to this subpart or the emissions averaging compliance option in <a href="#">§ 63.2240(c)</a>	<p>Conducting a repeat performance test using the applicable method(s) specified in Table 4 to this subpart<sup>1</sup> within 2 years following the previous performance test and within 180 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.</p>
(4) Each process unit using a catalytic oxidizer	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in <a href="#">§ 63.2240(c)</a>	<p>Checking the activity level of a representative sample of the catalyst at least annually<sup>2</sup> and taking any necessary corrective action to ensure that the catalyst is performing within its design range.</p>
(5) Each process unit listed in Table 1A to this subpart, or each process unit without a	Compliance options in Table 1A to this subpart or the emissions averaging compliance option in <a href="#">§</a>	<p>Collecting and recording on a daily basis process unit controlling operating parameter data; AND maintaining the operating parameter at or above the</p>

For . . .	For the following compliance options and operating requirements . . .	You must demonstrate continuous compliance by . . .
control device used in calculation of an emissions averaging debit under § <a href="#">63.2240(c)</a>	<a href="#">63.2240(c)</a> and the operating requirements in Table 2 to this subpart based on monitoring of process unit controlling operating parameters	minimum, at or below the maximum, or within the range (whichever applies) established according to <a href="#">§ 63.2262</a> .
(6) Each Process unit listed in Table 1B to this subpart using a wet control device as the sole means of reducing HAP emissions	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in <a href="#">§ 63.2240(c)</a>	Implementing your plan to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere.
(7) Each process unit listed in Table 1B to this subpart using a control device other than a biofilter	Compliance options in Tables 1B to this subpart	Conducting a repeat performance test using the applicable method(s) specified in Table 4 to this subpart <sup>1</sup> by August 13, 2023 or within 60 months following the previous performance test, whichever is later, and thereafter within 60 months following the previous performance test.

<sup>1</sup> When conducting a repeat performance test, the capture efficiency demonstration required in Table 4 to this subpart, row 9 is not required to be repeated with the repeat emissions test if the capture device is maintained and operated consistent with its design as well as its operation during the previous capture efficiency demonstration conducted according to Table 4 to this subpart, row 9 as specified in [§ 63.2267](#).

<sup>2</sup> You may forego the annual catalyst activity check during the calendar year when a performance test is conducted according to Table 4 to this subpart.

[[85 FR 49463](#), Aug. 13, 2020]

## **Table 8 to Subpart DDDD of Part 63 - Continuous Compliance With the Work Practice Requirements**

For . . .	For the following work practice requirements . . .	You must demonstrate continuous compliance by . . .
(1) Dry rotary dryer	Process furnish with an inlet moisture content less than or equal to 30 percent (by weight, dry basis) AND operate with an inlet dryer temperature of less than or equal to 600 °F	Maintaining the 24-hour block average inlet furnish moisture content at less than or equal to 30 percent (by weight, dry basis) AND maintaining the 24-hour block average inlet dryer temperature at less than or equal to 600 °F; AND keeping records of the inlet temperature of furnish moisture content and inlet dryer temperature.
(2) Hardwood veneer dryer	Process less than 30 volume percent softwood species	Maintaining the volume percent softwood species processed below 30 percent AND keeping records of the volume percent softwood species processed.
(3) Softwood veneer dryer	Minimize fugitive emissions from the dryer doors and the green end	Following (and documenting that you are following) your plan for minimizing fugitive emissions.
(4) Veneer redryers	Process veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis)	Maintaining the 24-hour block average inlet moisture content of the veneer processed at or below of less than or 25 percent AND keeping records of the inlet moisture content of the veneer processed.
(5) Group 1 miscellaneous coating operations	Use non-HAP coatings as defined in <a href="#">§ 63.2292</a>	Continuing to use non-HAP coatings AND keeping records showing that you are using non-HAP coatings.
(6) Process units and control systems	Follow documented site-specific procedures to ensure the flow of	Keeping records showing that you are following the work practice



For . . .	For the following work practice requirements . . .	You must demonstrate continuous compliance by . . .
undergoing safety-related shutdown on and after August 13, 2021, except as noted in footnote “1” to this table	raw materials and fuel or process heat ceases and that material is removed from the process unit(s) as expeditiously as possible given the system design to reduce air emissions	requirements during safety-related shutdowns.
(7) Pressurized refiners undergoing startup or shutdown on and after August 13, 2021, except as noted in footnote “1” to this table	Route exhaust gases from the pressurized refiner to its dryer control system no later than 15 minutes after wood is fed to the pressurized refiner during startup. Stop wood flow into the pressurized refiner no more than 15 minutes after wood fiber and exhaust gases from the pressurized refiner stop being routed to the dryer during shutdown.	Keeping records showing that you are following the work practice requirements during pressurized refiner startup and shutdown events.
(8) Direct-fired softwood veneer dryers undergoing startup or shutdown of gas-fired burners on and after August 13, 2021, except as noted in footnote “1” to this table	Cease feeding green veneer into the softwood veneer dryer and minimize the amount of time direct gas-fired softwood veneer dryers are vented to the atmosphere due to the conditions described in § <a href="#">63.2250(d)</a>	Keeping records showing that you are following the work practice requirements while undergoing startup or shutdown of softwood veneer dryer direct gas-fired burners.

<sup>1</sup> New or reconstructed affected sources that commenced construction or reconstruction after September 6, 2019 must comply with this requirement beginning on August 13, 2020 or upon initial startup, whichever is later.

[85 FR 49464, Aug. 13, 2020]

## Table 9 to Subpart DDDD of Part 63 - Requirements for Reports

You must submit a(n) . . .	The report must contain . . .	You must submit the report . . .
(1) Compliance report	The information in <a href="#">§ 63.2281(c)</a> through <a href="#">(g)</a>	Semiannually according to the requirements in <a href="#">§ 63.2281(b)</a> .
(2) Immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your SSMP before August 13, 2021. <sup>1</sup>	(i) Actions taken for the event  (ii) The information in <a href="#">§ 63.10(d)(5)(ii)</a>	By fax or telephone within 2 working days after starting actions inconsistent with the plan.  By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority.
(3) Performance test report	The information required in <a href="#">§ 63.7(g)</a>	According to the requirements of <a href="#">§ 63.2281(i)</a> .
(4) CMS performance evaluation, as required for CEMS under <a href="#">§ 63.2269(d)(2)</a>	The information required in <a href="#">§ 63.7(g)</a>	According to the requirements of <a href="#">§ 63.2281(j)</a> .

<sup>1</sup> The requirement for the SSM report in row 2 of this table does not apply for new or reconstructed affected sources that commenced construction or reconstruction after September 6, 2019.

[[85 FR 49465](#), Aug. 13, 2020]

## **Table 10 to Subpart DDDD of Part 63 - Applicability of General Provisions to This Subpart**

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
§ 63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications	Yes	Yes.
§ 63.2	Definitions	Definitions for standards in this part	Yes	Yes.
§ 63.3	Units and Abbreviations	Units and abbreviations for standards in this part	Yes	Yes.
§ 63.4	Prohibited Activities and Circumvention	Prohibited activities; compliance date; circumvention, fragmentation	Yes	Yes.
§ 63.5	Preconstruction Review and Notification Requirements	Preconstruction review requirements of section 112(i)(1)	Yes	Yes.
§ 63.6(a)	Applicability	GP apply unless compliance extension; GP apply to area sources that become major	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
§ 63.6(b)(1)-(4)	Compliance Dates for New and Reconstructed Sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f)	Yes	Yes.
§ 63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes	Yes.
§ 63.6(b)(6)	[Reserved]			
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources that Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
§ 63.6(c)(1)-(2)	Compliance Dates for Existing Sources	Comply according to date in subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension	Yes	Yes.
§ 63.6(c)(3)-(4)	[Reserved]			
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources that Become Major	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period ( <i>e.g.</i> , 3 years)	Yes	Yes.
§ 63.6(d)	[Reserved]			
§ 63.6(e)(1)(i)	General Duty to Minimize Emissions	You must operate and maintain affected source in a manner consistent with safety and good air pollution control practices for	Yes	No, see <a href="#">§ 63.2250</a> for general duty requirement.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
		minimizing emissions		
§ 63.6(e)(1)(ii)	Requirement to Correct Malfunctions ASAP	You must correct malfunctions as soon as practicable after their occurrence	Yes	No.
§ 63.6(e)(1)(iii)	Operation and Maintenance Requirements	Operation and maintenance requirements are enforceable independent of emissions limitations or other requirements in relevant standards	Yes	Yes.
§ 63.6(e)(2)	[Reserved]			
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP)	Requirement for SSM and SSMP; content of SSMP	Yes	No.
§ 63.6(f)(1)	SSM Exemption	You must comply with emission standards at all times except during SSM	No. See <a href="#">§ 63.2250(a)</a>	No.
§ 63.6(f)(2)-(3)	Methods for Determining Compliance/Finding of	Compliance based on performance test,	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
	Compliance	operation and maintenance plans, records, inspection		
§ 63.6(g)(1)-(3)	Alternative Standard	Procedures for getting an alternative standard	Yes	Yes.
§ 63.6(h)(1)	SSM Exemption	You must comply with opacity and visible emission standards at all times except during SSM	NA	No.
§ 63.6(h)(2)-(9)	Opacity/Visible Emission (VE) Standards	Requirements for opacity and visible emission standards	NA	NA.
§ 63.6(i)(1)-(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes	Yes.
§ 63.6(i)(15)	[Reserved]			
§ 63.6(i)(16)	Compliance Extension	Compliance extension and Administrator's authority	Yes	Yes.
§ 63.6(j)	Presidential Compliance	President may exempt source category from	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
	Exemption	requirement to comply with rule		
§ 63.7(a)(1)-(2)	Performance Test Dates	Dates for conducting initial performance testing and other compliance demonstrations; must conduct 180 days after first subject to rule	Yes	Yes.
§ 63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes	Yes.
§ 63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes	Yes.
§ 63.7(b)(2)	Notification of Rescheduling	If have to reschedule performance test, must notify Administrator as soon as practicable	Yes	Yes.
§ 63.7(c)	Quality Assurance/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date	Yes	Yes.



Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
		Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing		
§ 63.7(d)	Testing Facilities	Requirements for testing facilities	Yes	Yes.
§ 63.7(e)(1)	Performance Testing	Performance tests must be conducted under representative conditions; cannot conduct performance tests during SSM; not a violation to exceed standard during SSM	Yes	No, see <a href="#">§ 63.2262(a)-(b)</a> .
§ 63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to rule and EPA test methods unless Administrator approves alternative	Yes	Yes.
§ 63.7(e)(3)	Test Run Duration	Must have three test runs for at least the time specified in the	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
		relevant standard; compliance is based on arithmetic mean of three runs; specifies conditions when data from an additional test run can be used		
§ 63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method	Yes	Yes.
§ 63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the notification of compliance status; keep data for 5 years	Yes	Yes.
§ 63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote “1” to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote “1” to this table
§ 63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes	Yes.
§ 63.8(a)(2)	Performance Specifications	Performance specifications in appendix B of <a href="#">part 60 of this chapter</a> apply	Yes	Yes.
§ 63.8(a)(3)	[Reserved]			
§ 63.8(a)(4)	Monitoring with Flares	Requirements for flares in <a href="#">§ 63.11</a> apply	NA	NA.
§ 63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes	Yes.
§ 63.8(b)(2)-(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each effluent before it is combined and before it is released to the atmosphere unless	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
		Administrator approves otherwise; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup		
§ 63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with and good air pollution control practices	Yes	Yes.
§ 63.8(c)(1)(i)	Operation and Maintenance of CMS	Must maintain and operate CMS in accordance with <a href="#">§ 63.6(e)(1)</a>	Yes	No.
§ 63.8(c)(1)(ii)	Spare Parts for CMS	Must maintain spare parts for routine CMS repairs	Yes	Yes.
§ 63.8(c)(1)(iii)	Requirements to Develop SSMP for CMS	Must develop and implement SSMP for CMS	Yes	No.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
§ 63.8(c)(2)-(3)	Monitoring System Installation	Must install to get representative emission of parameter measurements; must verify operational status before or at performance test	Yes	Yes.
§ 63.8(c)(4)	CMS Requirements	CMS must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts; COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period; CEMS must have a minimum of one cycle of operation for each successive 15-minute period	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
§ 63.8(c)(5)	Continuous Opacity Monitoring System (COMS) Minimum Procedures	COMS minimum procedures	NA	NA.
§ 63.8(c)(6)-(8)	CMS Requirements	Zero and high-level calibration check requirements; out-of-control periods	Yes	Yes.
§ 63.8(d)(1)-(2)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.	Yes. Refer to § <a href="#">63.2269(a)-(c)</a> for CPMS quality control procedures to be included in the quality control program	Yes. Refer to § <a href="#">63.2269(a)-(c)</a> for CPMS quality control procedures to be included in the quality control program.
§ 63.8(d)(3)	Written Procedures for CMS	Must keep quality control plan on record for 5 years. Keep old versions for 5 years after revisions. May	Yes	No, see § <a href="#">63.2282(f)</a> .

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
		incorporate as part of SSMP to avoid duplication.		
§ 63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	Yes, for CEMS	Yes, for CEMS.
§ 63.8(f)(1)-(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	Yes	Yes.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for CEMS	Yes, for CEMS	Yes, for CEMS.
§ 63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that can't be used in average;	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
		rounding of data		
§ 63.9(a)	Notification Requirements	Applicability and State delegation	Yes	Yes.
§ 63.9(b)(1)-(2)	Initial Notifications	Submit notification 120 days after effective date; contents of notification	Yes	Yes.
§ 63.9(b)(3)	[Reserved]			
§ 63.9(b)(4)-(5)	Initial Notifications	Submit notification 120 days after effective date; notification of intent to construct/reconstruct; notification of commencement of construct/reconstruct; notification of startup; contents of each	Yes	Yes.
§ 63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed best available control technology/lowest achievable emission	Yes	Yes.



Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
		rate		
§ 63.9(d)	Notification of Special Compliance Requirements for New Source	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes	Yes.
§ 63.9(e)	Notification of Performance Test	Notify EPA Administrator 60 days prior	Yes	Yes.
§ 63.9(f)	Notification of Visible Emissions/Opacity Test	Notify EPA Administrator 30 days prior	No	No.
§ 63.9(g)	Additional Notifications When Using CMS	Notification of performance evaluation; notification using COMS data; notification that exceeded criterion for relative accuracy	Yes	Yes.
§ 63.9(h)(1)-(6)	Notification of Compliance Status	Contents; due 60 days after end of performance test or	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
		other compliance demonstration, except for opacity/VE, which are due 30 days after; when to submit to Federal vs. State authority		
§ 63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted	Yes	Yes.
§ 63.9(j)	Change in Previous Information	Must submit within 15 days after the change	Yes	Yes.
§ 63.9(k)	Electronic reporting procedures	Electronic reporting procedures	Yes, only as specified in <a href="#">§ 63.9(j)</a>	Yes, only as specified in <a href="#">§ 63.9(j)</a> .
§ 63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
§ 63.10(b)(1)	Recordkeeping/Reporting	General Requirements; keep all records readily available; keep for 5 years	Yes	Yes.
§ 63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns	Records of occurrence and duration of each startup or shutdown that causes source to exceed emission limitation	Yes	No, see <a href="#">§ 63.2282(a)</a> .
§ 63.10(b)(2)(ii)	Recordkeeping of Failures to Meet a Standard	Records of occurrence and duration of each malfunction of operation or air pollution control and monitoring equipment	Yes	No, see <a href="#">§ 63.2282(a)</a> for recordkeeping of (1) date, time and duration; (2) listing of affected source or equipment, and an estimate of the quantity of each regulated pollutant emitted over the standard; and (3) actions

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
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				to minimize emissions and correct the failure.
§ 63.10(b)(2)(iii)	Maintenance Records	Records of maintenance performed on air pollution control and monitoring equipment	Yes	Yes.
§ 63.10(b)(2)(iv)-(v)	Actions Taken to Minimize Emissions During SSM	Records of actions taken during SSM to minimize emissions	Yes	No.
§ 63.10(b)(2)(vi) and (x)-(xi)	CMS Records	Malfunctions, inoperative, out-of-control	Yes	Yes.
§ 63.10(b)(2)(vii)-(ix)	Records	Measurements to demonstrate compliance with compliance options and operating requirements; performance test, performance evaluation, and visible emission observation	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
		results; measurements to determine conditions of performance tests and performance evaluations		
§ 63.10(b)(2)(xii)	Records	Records when under waiver	Yes	Yes.
§ 63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	Yes	Yes.
§ 63.10(b)(2)(xiv)	Records	All documentation supporting initial notification and notification of compliance status	Yes	Yes.
§ 63.10(b)(3)	Records	Applicability determinations	Yes	Yes.
§ 63.10(c)(1)-(6), (9)-(14)	Records	Additional records for CMS	Yes	Yes.
§ 63.10(c)(7)-(8)	Records	Records of excess emissions and parameter monitoring exceedances for CMS	No	No.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
§ 63.10(c)(15)	Use of SSMP	Use SSMP to satisfy recordkeeping requirements for identification of malfunction, correction action taken, and nature of repairs to CMS	Yes	No.
§ 63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes	Yes.
§ 63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	NA	NA.
§ 63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes	Yes.
§ 63.10(d)(5)(i)	Periodic SSM Reports	Contents and submission of periodic SSM reports	Yes	No, see <a href="#">§ 63.2281(d)-(e)</a> for malfunction reporting requirements.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
§ 63.10(d)(5)(ii)	Immediate SSM Reports	Contents and submission of immediate SSM reports	Yes	No.
§ 63.10(e)(1)-(2)	Additional CMS Reports	Must report results for each CEM on a unit; written copy of performance evaluation; 3 copies of COMS performance evaluation	Yes	Yes.
§ 63.10(e)(3)	Reports	Excess emission reports	No	No.
§ 63.10(e)(4)	Reporting COMS Data	Must submit COMS data with performance test data	NA	NA.
§ 63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for EPA Administrator to waive	Yes	Yes.
§ 63.11	Control Device and Work Practice Requirements	Requirements for flares and alternative work practice for equipment leaks	NA	NA.
§ 63.12	State Authority and	State authority to	Yes	Yes.

Citation	Subject	Brief description	Applies to this subpart before August 13, 2021, except as noted in footnote "1" to this table	Applies to this subpart on and after August 13, 2021, except as noted in footnote "1" to this table
	Delegations	enforce standards		
§ 63.13	Addresses	Addresses where reports, notifications, and requests are sent	Yes	Yes.
§ 63.14	Incorporations by Reference	Test methods incorporated by reference	Yes	Yes.
§ 63.15	Availability of Information and Confidentiality	Public and confidential information	Yes	Yes.
§ 63.16	Performance Track Provisions	Requirements for Performance Track member facilities	Yes	Yes.

<sup>1</sup> New or reconstructed affected sources that commenced construction or reconstruction after September 6, 2019 must comply with the requirements in column 5 of this table beginning on August 13, 2020 or upon initial startup, whichever is later.

[[85 FR 49465](#), Aug. 13, 2020, as amended at [85 FR 73902](#), Nov. 19, 2020]

**Appendix A to Subpart DDDD of Part 63 - Alternative Procedure To Determine Capture Efficiency From Enclosures Around Hot Presses in the Plywood and**



# Composite Wood Products Industry Using Sulfur Hexafluoride Tracer Gas

## 1.0 Scope and Application

This procedure has been developed specifically for the rule for the plywood and composite wood products (PCWP) industry and is used to determine the capture efficiency of a partial hot press enclosure in that industry. This procedure is applicable for the determination of capture efficiency for enclosures around hot presses and is an alternative to the construction of temporary total enclosures (TTE). Sulfur hexafluoride ( $\text{SF}_6$ ) is used as a tracer gas (other tracer gases may be used if approved by the EPA Administrator). This gas is not indigenous to the ambient atmosphere and is nonreactive.

This procedure uses infrared spectrometry (IR) as the analytical technique. When the infrared spectrometer used is a Fourier-Transform Infrared spectrometer (FTIR), an alternate instrument calibration procedure may be used; the alternate calibration procedure is the calibration transfer standard (CTS) procedure of EPA Method 320 (appendix A to 40 CFR part 63). Other analytical techniques which are capable of equivalent Method Performance ([Section 13.0](#)) also may be used. Specifically, gas chromatography with electron capture detection (GC/ECD) is an applicable technique for analysis of  $\text{SF}_6$ .

## 2.0 Summary of Method

A constant mass flow rate of  $\text{SF}_6$  tracer gas is released through manifolds at multiple locations within the enclosure to mimic the release of hazardous air pollutants during the press process. This test method requires a minimum of three  $\text{SF}_6$  injection points (two at the press unloader and one at the press) and provides details about considerations for locating the injection points. A GC/ECD is used to measure the concentration of  $\text{SF}_6$  at the inlet duct to the control device (outlet duct from enclosure). Simultaneously, EPA Method 2 (appendix A to 40 CFR part 60) is used to measure the flow rate at the inlet duct to the control device. The concentration and flow rate measurements are used to calculate the mass emission rate of  $\text{SF}_6$  at the control device inlet. Through calculation of the mass of  $\text{SF}_6$  released through the manifolds and the mass of  $\text{SF}_6$  measured at the inlet to the control device, the capture efficiency of the enclosure is calculated.

In addition, optional samples of the ambient air may be taken at locations around the perimeter of the enclosure to quantify the ambient concentration of  $\text{SF}_6$  and to identify those areas of the enclosure that may be performing less efficiently; these samples would be taken using disposable syringes and would be analyzed using a GC/ECD.

Finally, in addition to the requirements specified in this procedure, the data quality objectives (DQO) or lower confidence limit (LCL) criteria specified in appendix A to 40 CFR part 63, subpart KK, Data Quality Objective and Lower Confidence Limit Approaches for Alternative Capture Efficiency Protocols and Test Methods, must also be satisfied. A minimum of three

test runs are required for this procedure; however, additional test runs may be required based on the results of the DQO or LCL analysis.

### 3.0 Definitions

3.1 Capture efficiency (CE). The weight per unit time of SF<sub>6</sub> entering the control device divided by the weight per unit time of SF<sub>6</sub> released through manifolds at multiple locations within the enclosure.

3.2 Control device (CD). The equipment used to reduce, by destruction or removal, press exhaust air pollutants prior to discharge to the ambient air.

3.3 Control/destruction efficiency (DE). The volatile organic compound or HAP removal efficiency of the control device.

3.4 Data Quality Objective (DQO) Approach. A statistical procedure to determine the precision of the data from a test series and to qualify the data in the determination of capture efficiency for compliance purposes. If the results of the DQO analysis of the initial three test runs do not satisfy the DQO criterion, the LCL approach can be used or additional test runs must be conducted. If additional test runs are conducted, then the DQO or LCL analysis is conducted using the data from both the initial test runs and all additional test runs.

3.5 Lower Confidence Limit (LCL) Approach. An alternative statistical procedure that can be used to qualify data in the determination of capture efficiency for compliance purposes. If the results of the LCL approach produce a CE that is too low for demonstrating compliance, then additional test runs must be conducted until the LCL or DQO is met. As with the DQO, data from all valid test runs must be used in the calculation.

3.6 Minimum Measurement Level (MML). The minimum tracer gas concentration expected to be measured during the test series. This value is selected by the tester based on the capabilities of the IR spectrometer (or GC/ECD) and the other known or measured parameters of the hot press enclosure to be tested. The selected MML must be above the low-level calibration standard and preferably below the mid-level calibration standard.

3.7 Method 204. The U.S. EPA Method 204, “Criteria For and Verification of a Permanent or Temporary Total Enclosure” ([40 CFR part 51, appendix M](#)).

3.8 Method 205. The U.S. EPA Method 205, “Verification of Gas Dilution Systems for Field Instrument Calibrations” ([40 CFR part 51, appendix M](#)).

3.9 Method 320. The U.S. EPA Method 320, “Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy” ([40 CFR part 63, appendix A](#)).

3.10 Overall capture and control efficiency (CCE). The collection and control/destruction efficiency of both the PPE and CD combined. The CCE is calculated as the product of the CE and DE.

3.11 Partial press enclosure (PPE). The physical barrier that “partially” encloses the press equipment, captures a significant amount of the associated emissions, and transports those emissions to the CD.

3.12 Test series. A minimum of three test runs or, when more than three runs are conducted, all of the test runs conducted.

#### 4.0 Interferences

There are no known interferences.

#### 5.0 Safety

Sulfur hexafluoride is a colorless, odorless, nonflammable liquefied gas. It is stable and nonreactive and, because it is noncorrosive, most structural materials are compatible with it. The Occupational Safety and Health Administration Permissible Emission Limit-Time Weighted Average (PEL-TWA) and Threshold Limit Value-Time Weighted Average (TLV-TWA) concentrations are 1,000 parts per million. Sulfur hexafluoride is an asphyxiant. Exposure to an oxygen-deficient atmosphere (less than 19.5 percent oxygen) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness, and death. Exposure to atmospheres containing less than 12 percent oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help themselves. Contact with liquid or cold vapor may cause frostbite. Avoid breathing sulfur hexafluoride gas. Self-contained breathing apparatus may be required by rescue workers. Sulfur hexafluoride is not listed as a carcinogen or a potential carcinogen.

#### 6.0 Equipment and Supplies

This method requires equipment and supplies for: (a) the injection of tracer gas into the enclosure, (b) the measurement of the tracer gas concentration in the exhaust gas entering the control device, and (c) the measurement of the volumetric flow rate of the exhaust gas entering the control device. In addition, the requisite equipment needed for EPA Methods 1-4 in appendix A to 40 CFR part 60 will be required. Equipment and supplies for optional ambient air sampling are discussed in [Section 8.6](#).

##### 6.1 Tracer Gas Injection.

6.1.1 Manifolds. This method requires the use of tracer gas supply cylinder(s) along with the appropriate flow control elements. Figure 1 shows a schematic drawing of the injection system showing potential locations for the tracer gas manifolds. Figure 2 shows a schematic drawing of the recommended configuration of the injection manifold. Three tracer gas discharge manifolds are required at a minimum.

6.1.2 Flow Control Meter. Flow control and measurement meter for measuring the quantity of tracer gas injected. A mass flow, volumetric flow, or critical orifice control meter can be used for this method. The meter must be accurate to within  $\pm 5$  percent at the flow rate used. This means that the flow meter must be calibrated against a primary standard for flow measurement at the appropriate flow rate.

## 6.2 Measurement of Tracer Gas Concentration.

6.2.1 Sampling Probes. Use Pyrex or stainless steel sampling probes of sufficient length to reach the traverse points calculated according to EPA Method 1 (appendix A to 40 CFR part 60).

6.2.2 Sampling Line. Use a heated Teflon sampling line to transport the sample to the analytical instrument.

6.2.3 Sampling Pump. Use a sampling pump capable of extracting sufficient sample from the duct and transporting to the analytical instrument.

6.2.4 Sample Conditioning System. Use a particulate filter sufficient to protect the sampling pump and analytical instrument. At the discretion of the tester and depending on the equipment used and the moisture content of the exhaust gas, it may be necessary to further condition the sample by removing moisture using a condenser.

6.2.5 Analytical Instrument. Use one of the following analytical instruments.

6.2.5.1 Spectrometer. Use an infrared spectrometer designed to measuring SF<sub>6</sub> tracer gas and capable of meeting or exceeding the specifications of this procedure. An FTIR meeting the specifications of Method 320 in appendix A to 40 CFR part 63 may be used.

6.2.5.2 GC/ECD. Use a GC/ECD designed to measure SF<sub>6</sub> tracer gas and capable of meeting or exceeding the specifications of this procedure.

6.2.6 Recorder. At a minimum, use a recorder with linear strip chart. An automated data acquisition system (DAS) is recommended.

6.3 Exhaust Gas Flow Rate Measurement. Use equipment specified for EPA Methods 2, 3, and 4 in appendix A to 40 CFR part 60 for measuring flow rate of exhaust gas at the inlet to the control device.

## 7.0 Reagents and Standards

7.1 Tracer Gas. Use SF<sub>6</sub> as the tracer gas. The manufacturer of the SF<sub>6</sub> tracer gas should provide a recommended shelf life for the tracer gas cylinder over which the concentration does not change more than  $\pm 2$  percent from the certified value. A gas mixture of SF<sub>6</sub> diluted with nitrogen should be used; based on experience and calculations, pure SF<sub>6</sub> gas is not necessary to conduct tracer gas testing. Select a concentration and flow rate that is

appropriate for the analytical instrument's detection limit, the MML, and the exhaust gas flow rate from the enclosure (see [section 8.1.1](#)). You may use a tracer gas other than SF<sub>6</sub> with the prior approval of the EPA Administrator. If you use an approved tracer gas other than SF<sub>6</sub>, all references to SF<sub>6</sub> in this protocol instead refer to the approved tracer gas.

7.2 Calibration Gases. The SF<sub>6</sub> calibration gases required will be dependent on the selected MML and the appropriate span selected for the test. Commercial cylinder gases certified by the manufacturer to be accurate to within 1 percent of the certified label value are preferable, although cylinder gases certified by the manufacturer to 2 percent accuracy are allowed. Additionally, the manufacturer of the SF<sub>6</sub> calibration gases should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. Another option allowed by this method is for the tester to obtain high concentration certified cylinder gases and then use a dilution system meeting the requirements of EPA Method 205, [40 CFR part 51, appendix M](#), to make multi-level calibration gas standards. Low-level, mid-level, and high-level calibration gases will be required. The MML must be above the low-level standard, the high-level standard must be no more than four times the low-level standard, and the mid-level standard must be approximately halfway between the high- and low-level standards. See [section 12.1](#) for an example calculation of this procedure.

Note:

If using an FTIR as the analytical instrument, the tester has the option of following the CTS procedures of Method 320 in appendix A to 40 CFR part 63; the calibration standards (and procedures) specified in Method 320 may be used in lieu of the calibration standards and procedures in this protocol.

7.2.1 Zero Gas. High purity nitrogen.

7.2.2 Low-Level Calibration Gas. An SF<sub>6</sub> calibration gas in nitrogen with a concentration equivalent to 20 to 30 percent of the applicable span value.

7.2.3 Mid-Level Calibration Gas. An SF<sub>6</sub> calibration gas in nitrogen with a concentration equivalent to 45 to 55 percent of the applicable span value.

7.2.4 High-Level Calibration Gas. An SF<sub>6</sub> calibration gas in nitrogen with a concentration equivalent to 80 to 90 percent of the applicable span value.

## 8.0 Sample Collection, Preservation, Storage, and Transport

### 8.1 Test Design.

#### 8.1.1 Determination of Minimum Tracer Gas Flow Rate.

8.1.1.1 Determine (via design calculations or measurements) the approximate flow rate of the exhaust gas through the enclosure, actual cubic feet per minute (acfm).

8.1.1.2 Calculate the minimum tracer gas injection rate necessary to assure a detectable SF<sub>6</sub> concentration at the exhaust gas measurement point (see [section 12.1](#) for calculation).

8.1.1.3 Select a flow meter for the injection system with an operating range appropriate for the injection rate selected.

#### 8.1.2 Determination of the Approximate Time to Reach Equilibrium.

8.1.2.1 Determine the volume of the enclosure.

8.1.2.2 Calculate the air changes per minute of the enclosure by dividing the approximate exhaust flow rate (8.1.1.1 above) by the enclosed volume (8.1.2.1 above).

8.1.2.3 Calculate the time at which the tracer concentration in the enclosure will achieve approximate equilibrium. Divide 3 by the air changes per minute (8.1.2.2 above) to establish this time. This is the approximate length of time for the system to come to equilibrium. Concentration equilibrium occurs when the tracer concentration in the enclosure stops changing as a function of time for a constant tracer release rate. Because the press is continuously cycling, equilibrium may be exhibited by a repeating, but stable, cyclic pattern rather than a single constant concentration value. Assure sufficient tracer gas is available to allow the system to come to equilibrium, and to sample for a minimum of 20 minutes and repeat the procedure for a minimum of three test runs. Additional test runs may be required based on the results of the DQO and LCL analyses described in [40 CFR part 63, subpart KK, appendix A](#).

8.1.3 Location of Injection Points. This method requires a minimum of three tracer gas injection points. The injection points should be located within leak prone, volatile organic compound/hazardous air pollutant (VOC/HAP) producing areas around the press, or horizontally within 12 inches of the defined equipment. One potential configuration of the injection points is depicted in Figure 1. The effect of wind, exfiltration through the building envelope, and air flowing through open building doors should be considered when locating tracer gas injection points within the enclosure. The injection points should also be located at a vertical elevation equal to the VOC/HAP generating zones. The injection points should not be located beneath obstructions that would prevent a natural dispersion of the gas. Document the selected injection points in a drawing(s).

8.1.4 Location of Flow Measurement and Tracer Sampling. Accurate CD inlet gas flow rate measurements are critical to the success of this procedure. Select a measurement location meeting the criteria of EPA Method 1 ([40 CFR part 60, appendix A](#)), Sampling and Velocity Traverses for Stationary Sources. Also, when selecting the measurement location, consider whether stratification of the tracer gas is likely at the location (*e.g.*, do not select a location immediately after a point of air in-leakage to the duct).

8.2 Tracer Gas Release. Release the tracer gas at a calculated flow rate (see [section 12.1](#) for calculation) through a minimum of three injection manifolds located as described above in

8.1.3. The tracer gas delivery lines must be routed into the enclosure and attached to the manifolds without violating the integrity of the enclosure.

### 8.3 Pretest Measurements.

8.3.1 Location of Sampling Point(s). If stratification is not suspected at the measurement location, select a single sample point located at the centroid of the CD inlet duct or at a point no closer to the CD inlet duct walls than 1 meter. If stratification is suspected, establish a “measurement line” that passes through the centroidal area and in the direction of any expected stratification. Locate three traverse points at 16.7, 50.0 and 83.3 percent of the measurement line and sample from each of these three points during each run, or follow the procedure in [section 8.3.2](#) to verify whether stratification does or does not exist.

8.3.2 Stratification Verification. The presence or absence of stratification can be verified by using the following procedure. While the facility is operating normally, initiate tracer gas release into the enclosure. For rectangular ducts, locate at least nine sample points in the cross section such that the sample points are the centroids of similarly-shaped, equal area divisions of the cross section. Measure the tracer gas concentration at each point. Calculate the mean value for all sample points. For circular ducts, conduct a 12-point traverse (*i.e.*, six points on each of the two perpendicular diameters) locating the sample points as described in [40 CFR part 60, appendix A](#), Method 1. Perform the measurements and calculations as described above. Determine if the mean pollutant concentration is more than 10 percent different from any single point. If so, the cross section is considered to be stratified, and the tester may not use a single sample point location, but must use the three traverse points at 16.7, 50.0, and 83.3 percent of the entire measurement line. Other traverse points may be selected, provided that they can be shown to the satisfaction of the Administrator to provide a representative sample over the stack or duct cross section.

8.4 CD Inlet Gas Flow Rate Measurements. The procedures of EPA Methods 1-4 ([40 CFR part 60, appendix A](#)) are used to determine the CD inlet gas flow rate. Molecular weight (Method 3) and moisture (Method 4) determinations are only required once for each test series. However, if the test series is not completed within 24 hours, then the molecular weight and moisture measurements should be repeated daily. As a minimum, velocity measurements are conducted according to the procedures of Methods 1 and 2 before and after each test run, as close to the start and end of the run as practicable. A velocity measurement between two runs satisfies both the criterion of “after” the run just completed and “before” the run to be initiated. Accurate exhaust gas flow rate measurements are critical to the success of this procedure. If significant temporal variations of flow rate are anticipated during the test run under normal process operating conditions, take appropriate steps to accurately measure the flow rate during the test. Examples of steps that might be taken include:

- (1) conducting additional velocity traverses during the test run; or
- (2) continuously monitoring a single point of average velocity during the run and using these data, in conjunction with the pre- and post-test traverses, to calculate an average velocity for the test run.

## 8.5 Tracer Gas Measurement Procedure.

8.5.1 Calibration Error Test. Immediately prior to the emission test (within 2 hours of the start of the test), introduce zero gas and high-level calibration gas at the calibration valve assembly. Zero and calibrate the analyzer according to the manufacturer's procedures using, respectively, nitrogen and the calibration gases. Calculate the predicted response for the low-level and mid-level gases based on a linear response line between the zero and high-level response. Then introduce the low-level and mid-level calibration gases successively to the measurement system. Record the analyzer responses for the low-level and mid-level calibration gases and determine the differences between the measurement system responses and the predicted responses using the equation in [section 12.3](#). These differences must be less than 5 percent of the respective calibration gas value. If not, the measurement system must be replaced or repaired prior to testing. No adjustments to the measurement system shall be conducted after the calibration and before the drift determination ([section 8.5.4](#)). If adjustments are necessary before the completion of the test series, perform the drift checks prior to the required adjustments and repeat the calibration following the adjustments. If multiple electronic ranges are to be used, each additional range must be checked with a mid-level calibration gas to verify the multiplication factor.

Note:

If using an FTIR for the analytical instrument, you may choose to follow the pretest preparation, evaluation, and calibration procedures of Method 320 ([section 8.0](#)) ([40 CFR part 63, appendix A](#)) in lieu of the above procedure.

8.5.2 Response Time Test. Conduct this test once prior to each test series. Introduce zero gas into the measurement system at the calibration valve assembly. When the system output has stabilized, switch quickly to the high-level calibration gas. Record the time from the concentration change to the measurement system response equivalent to 95 percent of the step change. Repeat the test three times and average the results.

8.5.3 SF<sub>6</sub> Measurement. Sampling of the enclosure exhaust gas at the inlet to the CD should begin at the onset of tracer gas release. If necessary, adjust the tracer gas injection rate such that the measured tracer gas concentration at the CD inlet is within the spectrometer's calibration range (*i.e.*, between the MML and the span value). Once the tracer gas concentration reaches equilibrium, the SF<sub>6</sub> concentration should be measured using the infrared spectrometer continuously for at least 20 minutes per run. Continuously record (*i.e.*, record at least once per minute) the concentration. Conduct at least three test runs. On the recording chart, in the data acquisition system, or in a log book, make a note of periods of process interruption or cyclic operation such as the cycles of the hot press operation. Table 1 to this appendix summarizes the physical measurements required for the enclosure testing.

Note:



If a GC/ECD is used as the analytical instrument, a continuous record (at least once per minute) likely will not be possible; make a minimum of five injections during each test run. Also, the minimum test run duration criterion of 20 minutes applies.

8.5.4 Drift Determination. Immediately following the completion of the test run, reintroduce the zero and mid-level calibration gases, one at a time, to the measurement system at the calibration valve assembly. (Make no adjustments to the measurement system until both the zero and calibration drift checks are made.) Record the analyzer responses for the zero and mid-level calibration gases and determine the difference between the instrument responses for each gas prior to and after the emission test run using the equation in [section 12.4](#). If the drift values exceed the specified limits (section 13), invalidate the test results preceding the check and repeat the test following corrections to the measurement system. Alternatively, recalibrate the test measurement system as in [section 8.5.1](#) and report the results using both sets of calibration data (*i.e.*, data determined prior to the test period and data determined following the test period). Note: If using an FTIR for the analytical instrument, you may choose to follow the post-test calibration procedures of Method 320 in appendix A to 40 CFR part 63 ([section 8.11.2](#)) in lieu of the above procedures.

8.6 Ambient Air Sampling (Optional). Sampling the ambient air surrounding the enclosure is optional. However, taking these samples during the capture efficiency testing will identify those areas of the enclosure that may be performing less efficiently.

8.6.1 Location of Ambient Samples Outside the Enclosure (Optional). In selecting the sampling locations for collecting samples of the ambient air surrounding the enclosure, consider potential leak points, the direction of the release, and laminar flow characteristics in the area surrounding the enclosure. Samples should be collected from all sides of the enclosure, downstream in the prevailing room air flow, and in the operating personnel occupancy areas.

8.6.2 Collection of Ambient Samples (Optional). During the tracer gas release, collect ambient samples from the area surrounding the enclosure perimeter at predetermined location using disposable syringes or some other type of containers that are non-absorbent, inert, and that have low permeability (*i.e.*, polyvinyl fluoride film or polyester film sample bags or polyethylene, polypropylene, nylon or glass bottles). The use of disposable syringes allows samples to be injected directly into a gas chromatograph. Concentration measurements taken around the perimeter of the enclosure provide evidence of capture performance and will assist in the identification of those areas of the enclosure that are performing less efficiently.

8.6.3 Analysis and Storage of Ambient Samples (Optional). Analyze the ambient samples using an analytical instrument calibrated and operated according to the procedures in this appendix or ASTM E 260 and ASTM E 697. Samples may be analyzed immediately after a sample is taken, or they may be stored for future analysis. Experience has shown no degradation of concentration in polypropylene syringes when stored for several months as

long as the needle or syringe is plugged. Polypropylene syringes should be discarded after one use to eliminate the possibility of cross contamination of samples.

## 9.0 Quality Control

9.1 Sampling, System Leak Check. A sampling system leak check should be conducted prior to and after each test run to ensure the integrity of the sampling system.

9.2 Zero and Calibration Drift Tests.

Section	Quality control measure	Effect
8.5.4	Zero and calibration drift tests	Ensures that bias introduced by drift in the measurement system output during the run is no greater than 3 percent of span.

## 10.0 Calibration and Standardization

10.1 Control Device Inlet Air Flow Rate Measurement Equipment. Follow the equipment calibration requirements specified in Methods 2, 3, and 4 (appendix A to 40 CFR part 60) for measuring the velocity, molecular weight, and moisture of the control device inlet air.

10.2 Tracer Gas Injection Rate. A dry gas volume flow meter, mass flow meter, or orifice can be used to measure the tracer gas injection flow rate. The selected flow measurement device must have an accuracy of greater than  $\pm 5$  percent at the field operating range. Prior to the test, verify the calibration of the selected flow measurement device using either a wet test meter, spirometer, or liquid displacement meter as the calibration device. Select a minimum of two flow rates to bracket the expected field operating range of the flow meter. Conduct three calibration runs at each of the two selected flow rates. For each run, note the exact quantity of gas as determined by the calibration standard and the gas volume indicated by the flow meter. For each flow rate, calculate the average percent difference of the indicated flow compared to the calibration standard.

10.3 Spectrometer. Follow the calibration requirements specified by the equipment manufacturer for infrared spectrometer measurements and conduct the pretest calibration error test specified in [section 8.5.1](#). Note: if using an FTIR analytical instrument see Method 320, section 10 (appendix A to 40 CFR part 63).

10.4 Gas Chromatograph. Follow the pre-test calibration requirements specified in [section 8.5.1](#).

10.5 Gas Chromatograph for Ambient Sampling (Optional). For the optional ambient sampling, follow the calibration requirements specified in [section 8.5.1](#) or ASTM E 260 and E 697 and by the equipment manufacturer for gas chromatograph measurements.

## 11.0 Analytical Procedures

The sample collection and analysis are concurrent for this method (see [section 8.0](#)).

## 12.0 Calculations and Data Analysis

12.1 Estimate MML and Span. The MML is the minimum measurement level. The selection of this level is at the discretion of the tester. However, the MML must be higher than the low-level calibration standard, and the tester must be able to measure at this level with a precision of  $\leq 10$  percent. As an example, select the MML as 10 times the instrument's published detection limit. The detection limit of one instrument is 0.01 parts per million by volume (ppmv). Therefore, the MML would be 0.10 ppmv. Select the low-level calibration standard as 0.08 ppmv. The high-level standard would be four times the low-level standard or 0.32 ppmv. A reasonable mid-level standard would then be 0.20 ppmv (halfway between the low-level standard and the high-level standard). Finally, the span value would be approximately 0.40 ppmv (the high-level value is 80 percent of the span). In this example, the following MML, calibration standards, and span values would apply:

MML = 0.10 ppmv

Low-level standard = 0.08 ppmv

Mid-level standard = 0.20 ppmv

High-level standard = 0.32 ppmv

Span value = 0.40 ppmv

12.2 Estimate Tracer Gas Injection Rate for the Given Span. To estimate the minimum and maximum tracer gas injection rate, assume a worst case capture efficiency of 80 percent, and calculate the tracer gas flow rate based on known or measured parameters. To estimate the minimum tracer gas injection rate, assume that the MML concentration (10 times the IR detection limit in this example) is desired at the measurement location. The following equation can be used to estimate the minimum tracer gas injection rate:

$$((Q_{T-MIN} \times 0.8)/Q_E) \times (C_T \div 100) \times 10^6 = \text{MML}$$

$$Q_{T-MIN} = 1.25 \times \text{MML} \times (Q_E/C_T) \times 10^{-4}$$

Where:

$Q_{T-MIN}$  = minimum volumetric flow rate of tracer gas injected, standard cubic feet per minute (scfm);

$Q_E$  = volumetric flow rate of exhaust gas, scfm;

$C_T$  = Tracer gas ( $SF_6$ ) concentration in gas blend, percent by volume;

MML = minimum measured level, ppmv =  $10 \times IR_{DL}$  (for this example);

$IR_{DL}$  = IR detection limit, ppmv.

Standard conditions: 20 °C, 760 millimeters of mercury (mm Hg).

To estimate the maximum tracer gas injection rate, assume that the span value is desired at the measurement location. The following equation can be used to estimate the maximum tracer gas injection rate:

$$((Q_{T-MAX} \times 0.8)/Q_E) \times (C_T \div 100) \times 10^6 = \text{span value}$$

$$Q_{T-MAX} = 1.25 \times \text{span value} \times (Q_E/C_T) \times 10^{-4}$$

Where:

$Q_{T-MAX}$  = maximum volumetric flow rate of tracer gas injected, scfm;

Span value = instrument span value, ppmv.

The following example illustrates this calculation procedure:

Find the range of volumetric flow rate of tracer gas to be injected when the following parameters are known:

$Q_E$  = 60,000 scfm (typical exhaust gas flow rate from an enclosure);

$C_T$  = 2 percent  $SF_6$  in nitrogen;

$IR_{DL}$  = 0.01 ppmv (per manufacturer's specifications);

MML =  $10 \times IR_{DL}$  = 0.10 ppmv;

Span value = 0.40 ppmv;

$Q_T$  = ?

Minimum tracer gas volumetric flow rate:

$$Q_{T-MIN} = 1.25 \times \text{MML} \times (Q_E/C_T) \times 10^{-4}$$

$$Q_{T-MIN} = 1.25 \times 0.10 \times (60,000/2) \times 10^{-4} = 0.375 \text{ scfm}$$

Maximum tracer gas volumetric flow rate:

$$Q_{T-MAX} = 1.25 \times \text{span value} \times (Q_E/C_T) \times 10^{-4}$$

$$Q_{T-MAX} = 1.25 \times 0.40 \times (60,000/2) \times 10^{-4} = 1.5 \text{ scfm}$$

In this example, the estimated total volumetric flow rate of the two percent SF<sub>6</sub> tracer gas injected through the manifolds in the enclosure lies between 0.375 and 1.5 scfm.

12.3 Calibration Error. Calculate the calibration error for the low-level and mid-level calibration gases using the following equation:

$$\text{Err} = |C_{\text{std}} - C_{\text{meas}}| \div C_{\text{std}} \times 100$$

Where:

Err = calibration error, percent;

C<sub>std</sub> = low-level or mid-level calibration gas value, ppmv;

C<sub>meas</sub> = measured response to low-level or mid-level concentration gas, ppmv.

12.4 Calibration Drift. Calculate the calibration drift for the zero and low-level calibration gases using the following equation:

$$D = \frac{|C_{\text{initial}} - C_{\text{final}}|}{C_{\text{span}}} \times 100$$

Where:

D = calibration drift, percent;

C<sub>initial</sub> = low-level or mid-level calibration gas value measured before test run, ppmv;

C<sub>final</sub> = low-level or mid-level calibration gas value measured after test run, ppmv;

C<sub>span</sub> = span value, ppmv.

12.5 Calculate Capture Efficiency. The equation to calculate enclosure capture efficiency is provided below:

$$\text{CE} = (\text{SF}_{6\text{-CD}} \div \text{SF}_{6\text{-INJ}}) \times 100$$

Where:

CE = capture efficiency;

SF<sub>6-CD</sub> = mass of SF<sub>6</sub> measured at the inlet to the CD;

$SF_{6-INJ}$  = mass of  $SF_6$  injected from the tracer source into the enclosure.

Calculate the CE for each of the initial three test runs. Then follow the procedures outlined in [section 12.6](#) to calculate the overall capture efficiency.

12.6 Calculate Overall Capture Efficiency. After calculating the capture efficiency for each of the initial three test runs, follow the procedures in [40 CFR part 63, subpart KK, appendix A](#), to determine if the results of the testing can be used in determining compliance with the requirements of the rule. There are two methods that can be used: the DQO and LCL methods. The DQO method is described in section 3 of [40 CFR part 63, subpart KK, appendix A](#), and provides a measure of the precision of the capture efficiency testing conducted. Section 3 of [40 CFR part 63, subpart KK, appendix A](#), provides an example calculation using results from a facility. If the DQO criteria are met using the first set of three test runs, then the facility can use the average capture efficiency of these test results to determine the capture efficiency of the enclosure. If the DQO criteria are not met, then the facility can conduct another set of three runs and run the DQO analysis again using the results from the six runs *OR* the facility can elect to use the LCL approach.

The LCL method is described in section 4 of [40 CFR part 63, subpart KK, appendix A](#), and provides sources that may be performing much better than their regulatory requirement, a screening option by which they can demonstrate compliance. The LCL approach compares the 80 percent lower confidence limit for the mean measured CE value to the applicable regulatory requirement. If the LCL capture efficiency is higher than the applicable limit, then the facility is in initial compliance and would use the LCL capture efficiency as the capture efficiency to determine compliance. If the LCL capture efficiency is lower than the applicable limit, then the facility must perform additional test runs and re-run the DQO or LCL analysis.

## 13.0 Method Performance

### 13.1 Measurement System Performance Specifications.

13.1.1 Zero Drift. Less than  $\pm 3$  percent of the span value.

13.1.2 Calibration Drift. Less than  $\pm 3$  percent of the span value.

13.1.3 Calibration Error. Less than  $\pm 5$  percent of the calibration gas value.

13.2 Flow Measurement Specifications. The mass flow, volumetric flow, or critical orifice control meter used should have an accuracy of greater than  $\pm 5$  percent at the flow rate used.

13.3 Calibration and Tracer Gas Specifications. The manufacturer of the calibration and tracer gases should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than  $\pm 2$  percent from the certified value.

## 14.0 Pollution Prevention [Reserved]

## 15.0 Waste Management [Reserved]

## 16.0 References

1. [40 CFR part 60, appendix A](#), EPA Method 1 - Sample and velocity traverses for stationary sources.
2. [40 CFR part 60, appendix A](#), EPA Method 2 - Determination of stack gas velocity and volumetric flow rate.
3. [40 CFR part 60, appendix A](#), EPA Method 3 - Gas analysis for the determination of dry molecular weight.
4. [40 CFR part 60, appendix A](#), EPA Method 4 - Determination of moisture content in stack gases.
5. SEMI F15-93 Test Method for Enclosures Using Sulfur Hexafluoride Tracer Gas and Gas Chromatography.
6. Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, to EPA Regional Directors, Revised Capture Efficiency Guidance for Control of Volatile Organic Compound Emissions, February 7, 1995. (That memorandum contains an attached technical document from Candace Sorrell, Emission Monitoring and Analysis Division, "Guidelines for Determining Capture Efficiency," January 9, 1994).
7. Technical Systems Audit of Testing at Plant "C," EPA-454/R-00-26, May 2000.
8. Material Safety Data Sheet for SF<sub>6</sub> Air Products and Chemicals, Inc. Website: [www3.airproducts.com](http://www3.airproducts.com). October 2001.

## 17.0 Tables, Diagrams, Flowcharts, and Validation Data

Table 1 to Appendix A - Summary of Critical Physical Measurements for Enclosure Testing

Measurement	Measurement instrumentation	Measurement frequency	Measurement site
Tracer gas injection rate	Mass flow meter, volumetric flow meter or critical orifice	Continuous	Injection manifolds (cylinder gas).
Tracer gas concentration at control device inlet	Infrared Spectrometer or GC/ECD	Continuous (at least one reading per minute) for a minimum of 20 minutes	Inlet duct to the control device (outlet duct of enclosure).

Measurement	Measurement instrumentation	Measurement frequency	Measurement site
Volumetric air flow rate	EPA Methods 1, 2, 3, 4 ( <a href="#">40 CFR part 60, appendix A</a> ) <ul style="list-style-type: none"> <li>• Velocity sensor (Manometer/Pitot tube)</li> <li>• Thermocouple</li> <li>• Midget Impinger sampler</li> <li>• Orsat or Fyrite</li> </ul>	Each test run for velocity (minimum); Daily for moisture and molecular weight	Inlet duct to the control device (outlet duct of enclosure).



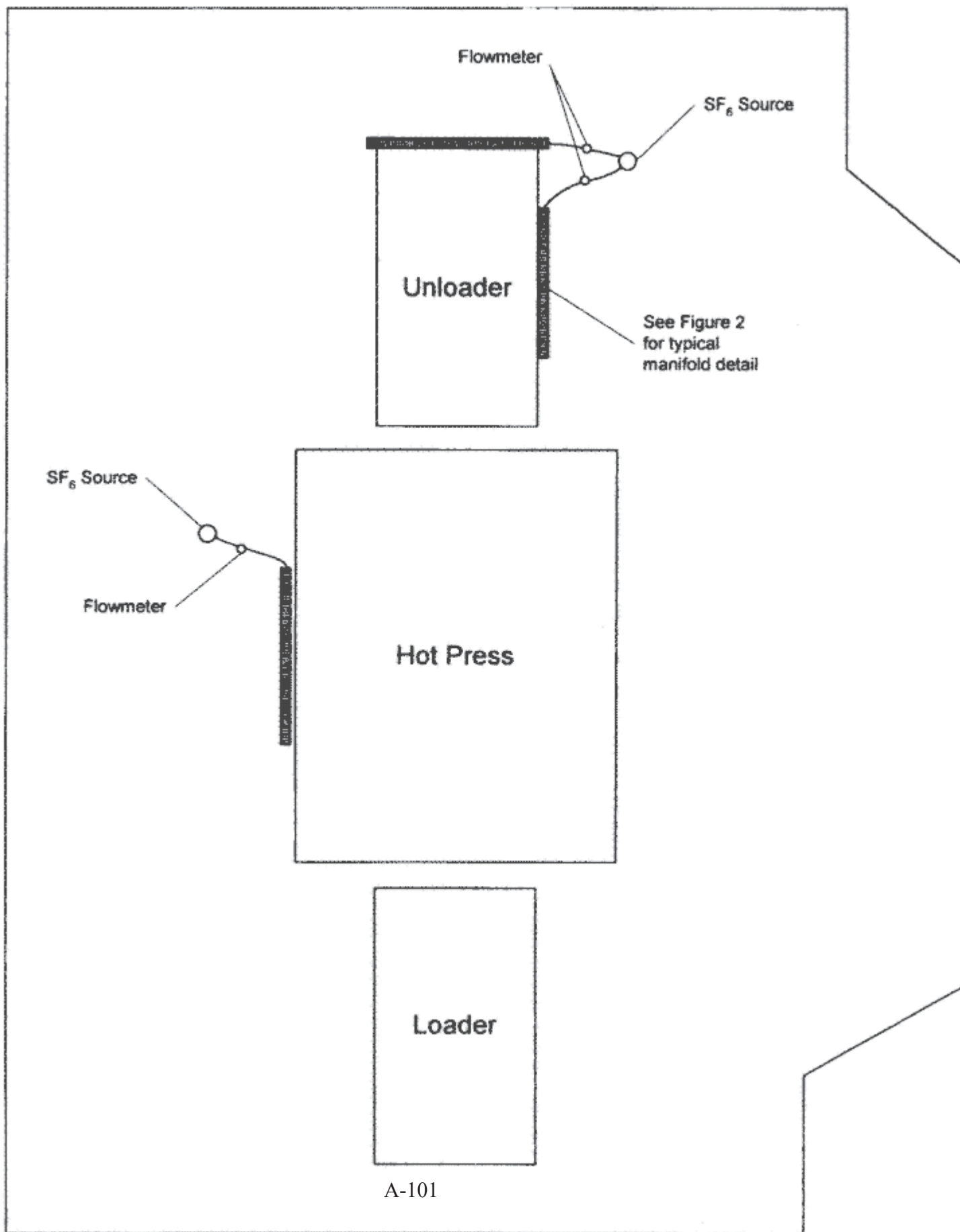
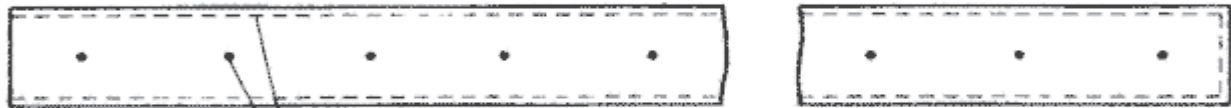


Figure 1 Plan view schematic of hot press and engine



4" sch. 40



(3) 1/4" holes every 8"

### Elevation

Figure 2. Schematic detail for manifold system injection.

[[69 FR 46011](#), July 30, 2004, as amended at [71 FR 8375](#), Feb. 16, 2006]

**Appendix B**

**40 C.F.R. Part 60 Subpart CCCC**

***Standards of Performance for Commercial and Industrial Solid Waste Incineration Units***

# **Subpart CCCC - Standards of Performance for Commercial and Industrial Solid Waste Incineration Units**

Source: [84 FR 15853](#), Apr. 16, 2019, unless otherwise noted.

## **Introduction**

### **§ 60.2000 What does this subpart do?**

This subpart establishes new source performance standards for commercial and industrial solid waste incineration units (CISWIs) and air curtain incinerators (ACIs).

### **§ 60.2005 When did this subpart become effective?**

This subpart became effective on August 7, 2013. Some of the requirements in this subpart apply to planning the CISWI or ACI (*i.e.*, the preconstruction requirements in [§§ 60.2045](#) and [60.2050](#)). Other requirements such as the emission limitations and operating limits apply after the CISWI or ACI begins operation.

## **Applicability**

### **§ 60.2010 Does this subpart apply to my incineration unit?**

Yes, this subpart applies if your incineration unit meets all the requirements specified in [paragraphs \(a\)](#) through [\(c\)](#) of this section:

- (a) Your incineration unit is a new incineration unit as defined in [§ 60.2015](#);
- (b) Your incineration unit is a CISWI as defined in [§ 60.2265](#), or an ACI as defined in [§ 60.2265](#); and
- (c) Your incineration unit is not exempt under [§ 60.2020](#).

### **§ 60.2015 What is a new incineration unit?**

(a) A new incineration unit is an incineration unit that meets any of the criteria specified in [paragraphs \(a\)\(1\)](#) through [\(3\)](#) of this section:

- (1) A CISWI or ACI that commenced construction after June 4, 2010;
- (2) A CISWI or ACI that commenced reconstruction or modification after August 7, 2013; and

(3) Incinerators and ACIs, as defined in this subpart, that commenced construction after November 30, 1999, but no later than June 4, 2010, or that commenced reconstruction or modification on or after June 1, 2001, but no later than August 7, 2013, are considered new incineration units and remain subject to the applicable requirements of this subpart until the units become subject to the requirements of an approved state plan or federal plan that implements [subpart DDDD of this part](#) (Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units).

(b) This subpart does not affect your CISWI or ACI if you make physical or operational changes to your incineration unit primarily to comply with [subpart DDDD of this part](#) (Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units). Such changes do not qualify as reconstruction or modification under this subpart.

## **§ 60.2020 What combustion units are exempt from this subpart?**

This subpart exempts the types of units described in [paragraphs \(a\)](#) through [\(j\)](#) of this section, but some units are required to provide notifications.

(a) ***Pathological waste incineration units.*** Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste as defined in [§ 60.2265](#) are not subject to this subpart if you meet the two requirements specified in [paragraphs \(a\)\(1\)](#) and [\(2\)](#) of this section:

(1) Notify the Administrator that the unit meets these criteria; and

(2) Keep records on a calendar quarter basis of the weight of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste burned, and the weight of all other fuels and wastes burned in the unit.

(b) ***Municipal waste combustion units.*** Incineration units that are subject to [subpart Ea of this part](#) (Standards of Performance for Municipal Waste Combustors); [subpart Eb of this part](#) (Standards of Performance for Large Municipal Waste Combustors); [subpart Cb of this part](#) (Emission Guidelines and Compliance Time for Large Municipal Combustors); [subpart AAAA of this part](#) (Standards of Performance for Small Municipal Waste Combustion Units); or [subpart BBBB of this part](#) (Emission Guidelines for Small Municipal Waste Combustion Units).

(c) ***Medical waste incineration units.*** Incineration units regulated under [subpart Ec of this part](#) (Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996) or [subpart Ce of this part](#) (Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators).

(d) ***Small power production facilities.*** Units that meet the four requirements specified in [paragraphs \(d\)\(1\)](#) through [\(4\)](#) of this section:

(1) The unit qualifies as a small power-production facility under section 3(17)(C) of the Federal Power Act ([16 U.S.C. 796\(17\)\(C\)](#));

(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity;

(3) You submit documentation to the Administrator notifying the EPA that the qualifying small power production facility is combusting homogenous waste; and

(4) You maintain the records specified in [§ 60.2175\(w\)](#).

(e) ***Cogeneration facilities.*** Units that meet the four requirements specified in [paragraphs \(e\)\(1\)](#) through [\(4\)](#) of this section:

(1) The unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act ([16 U.S.C. 796\(18\)\(B\)](#));

(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes;

(3) You submit documentation to the Administrator notifying the Agency that the qualifying cogeneration facility is combusting homogenous waste; and

(4) You maintain the records specified in [§ 60.2175\(x\)](#).

(f) ***Hazardous waste combustion units.*** Units for which you are required to get a permit under section 3005 of the Solid Waste Disposal Act.

(g) ***Materials recovery units.*** Units that combust waste for the primary purpose of recovering metals, such as primary and secondary smelters.

(h) ***Sewage treatment plants.*** Incineration units regulated under [subpart O of this part](#) (Standards of Performance for Sewage Treatment Plants).

(i) ***Sewage sludge incineration units.*** Incineration units combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter that are subject to [subpart LLLL of this part](#) (Standards of Performance for New Sewage Sludge Incineration Units) or [subpart MMMM of this part](#) (Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units).

(j) ***Other solid waste incineration units.*** Incineration units that are subject to [subpart EEEE of this part](#) (Standards of Performance for Other Solid Waste Incineration Units for Which

Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006) or [subpart FFFF of this part](#) (Emission Guidelines and Compliance Times for Other Solid Waste Incineration Units That Commenced Construction On or Before December 9, 2004).

## **§ 60.2030 Who implements and enforces this subpart?**

(a) This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (EPA), or a delegated authority such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency (as well as EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency, the authorities contained in [paragraph \(c\)](#) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that will not be delegated to state, local, or tribal agencies are specified in [paragraphs \(c\)\(1\)](#) through [\(9\)](#) of this section:

(1) Approval of alternatives to the emission limitations in tables 1, 5, 6, 7, and 8 of this subpart and operating limits established under [§ 60.2110](#);

(2) Approval of major alternatives to test methods;

(3) Approval of major alternatives to monitoring;

(4) Approval of major alternatives to recordkeeping and reporting;

(5) The requirements in [§ 60.2115](#);

(6) The requirements in [§ 60.2100\(b\)\(2\)](#);

(7) Approval of alternative opacity emission limits in [§ 60.2105](#) under [§ 60.11\(e\)\(6\)](#) through [\(8\)](#);

(8) Performance test and data reduction waivers under [§ 60.8\(b\)\(4\)](#) and [\(5\)](#);

(9) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

## **§ 60.2035 How are these new source performance standards structured?**

These new source performance standards contain the eleven major components listed in [paragraphs \(a\)](#) through [\(k\)](#) of this section:

- (a) Preconstruction siting analysis;
- (b) Waste management plan;
- (c) Operator training and qualification;
- (d) Emission limitations and operating limits;
- (e) Performance testing;
- (f) Initial compliance requirements;
- (g) Continuous compliance requirements;
- (h) Monitoring;
- (i) Recordkeeping and reporting;
- (j) Definitions; and
- (k) Tables.

### **§ 60.2040 Do all eleven components of these new source performance standards apply at the same time?**

No. You must meet the preconstruction siting analysis and waste management plan requirements before you commence construction of the CISWI. The operator training and qualification, emission limitations, operating limits, performance testing and compliance, monitoring, and most recordkeeping and reporting requirements are met after the CISWI begins operation.

#### **Preconstruction Siting Analysis**

### **§ 60.2045 Who must prepare a siting analysis?**

- (a) You must prepare a siting analysis if you plan to commence construction of an incinerator after December 1, 2000.
- (b) You must prepare a siting analysis for CISWIs that commenced construction after June 4, 2010, or that commenced reconstruction or modification after August 7, 2013.



(c) You must prepare a siting analysis if you are required to submit an initial application for a construction permit under [40 CFR part 51, subpart I](#), or [40 CFR part 52](#), as applicable, for the reconstruction or modification of your CISWI.

## **§ 60.2050 What is a siting analysis?**

(a) The siting analysis must consider air pollution control alternatives that minimize, on a site-specific basis, to the maximum extent practicable, potential risks to public health or the environment. In considering such alternatives, the analysis may consider costs, energy impacts, nonair environmental impacts, or any other factors related to the practicability of the alternatives.

(b) Analyses of your CISWI's impacts that are prepared to comply with state, local, or other federal regulatory requirements may be used to satisfy the requirements of this section, provided they include the consideration of air pollution control alternatives specified in [paragraph \(a\)](#) of this section.

(c) You must complete and submit the siting requirements of this section as required under [§ 60.2190\(c\)](#) prior to commencing construction.

## **Waste Management Plan**

## **§ 60.2055 What is a waste management plan?**

A waste management plan is a written plan that identifies both the feasibility and the methods used to reduce or separate certain components of solid waste from the waste stream in order to reduce or eliminate toxic emissions from incinerated waste.

## **§ 60.2060 When must I submit my waste management plan?**

(a) You must submit a waste management plan prior to commencing construction.

(b) For CISWIs that commence reconstruction or modification after August 7, 2013, you must submit a waste management plan prior to the commencement of modification or reconstruction.

## **§ 60.2065 What should I include in my waste management plan?**

A waste management plan must include consideration of the reduction or separation of waste-stream elements such as paper, cardboard, plastics, glass, batteries, or metals; or the use of recyclable materials. The plan must identify any additional waste management measures and implement those measures the source considers practical and feasible, considering the effectiveness of waste management measures already in place, the costs of additional measures,

the emissions reductions expected to be achieved, and any other environmental or energy impacts they might have.

### Operator Training and Qualification

## § 60.2070 What are the operator training and qualification requirements?

(a) No CISWI can be operated unless a fully trained and qualified CISWI operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified CISWI operator may operate the CISWI directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified CISWI operators are temporarily not accessible, you must follow the procedures in [§ 60.2100](#).

(b) Operator training and qualification must be obtained through a state-approved program or by completing the requirements included in [paragraph \(c\)](#) of this section.

(c) Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in [paragraphs \(c\)\(1\)](#) through [\(3\)](#) of this section:

(1) Training on the eleven subjects listed in [paragraphs \(c\)\(1\)\(i\)](#) through [\(xi\)](#) of this section;

(i) Environmental concerns, including types of emissions;

(ii) Basic combustion principles, including products of combustion;

(iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures;

(iv) Combustion controls and monitoring;

(v) Operation of air pollution control equipment and factors affecting performance (if applicable);

(vi) Inspection and maintenance of the incinerator and air pollution control devices;

(vii) Actions to prevent and correct malfunctions or to prevent conditions that may lead to malfunctions;

(viii) Bottom and fly ash characteristics and handling procedures;

(ix) Applicable federal, state, and local regulations, including Occupational Safety and Health Administration workplace standards;

- (x) Pollution prevention; and
- (xi) Waste management practices.
- (2) An examination designed and administered by the instructor.
- (3) Written material covering the training course topics that may serve as reference material following completion of the course.

## **§ 60.2075 When must the operator training course be completed?**

The operator training course must be completed by the later of the three dates specified in [paragraphs \(a\)](#) through [\(c\)](#) of this section:

- (a) Six months after your CISWI startup;
- (b) December 3, 2001; and
- (c) The date before an employee assumes responsibility for operating the CISWI or assumes responsibility for supervising the operation of the CISWI.

## **§ 60.2080 How do I obtain my operator qualification?**

- (a) You must obtain operator qualification by completing a training course that satisfies the criteria under [§ 60.2070\(b\)](#).
- (b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under [§ 60.2070\(c\)\(2\)](#).

## **§ 60.2085 How do I maintain my operator qualification?**

To maintain qualification, you must complete an annual review or refresher course covering, at a minimum, the five topics described in [paragraphs \(a\)](#) through [\(e\)](#) of this section:

- (a) Update of regulations;
- (b) Incinerator operation, including startup and shutdown procedures, waste charging, and ash handling;
- (c) Inspection and maintenance;
- (d) Prevention and correction of malfunctions or conditions that may lead to malfunction; and

(e) Discussion of operating problems encountered by attendees.

## **§ 60.2090 How do I renew my lapsed operator qualification?**

You must renew a lapsed operator qualification by one of the two methods specified in [paragraphs \(a\)](#) and [\(b\)](#) of this section:

(a) For a lapse of less than 3 years, you must complete a standard annual refresher course described in [§ 60.2085](#); and

(b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in [§ 60.2080\(a\)](#).

## **§ 60.2095 What site-specific documentation is required?**

(a) Documentation must be available at the facility and readily accessible for all CISWI operators that addresses the ten topics described in [paragraphs \(a\)\(1\)](#) through [\(10\)](#) of this section. You must maintain this information and the training records required by [paragraph \(c\)](#) of this section in a manner that they can be readily accessed and are suitable for inspection upon request:

- (1) Summary of the applicable standards under this subpart;
- (2) Procedures for receiving, handling, and charging waste;
- (3) Incinerator startup, shutdown, and malfunction procedures;
- (4) Procedures for maintaining proper combustion air supply levels;
- (5) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart;
- (6) Monitoring procedures for demonstrating compliance with the incinerator operating limits;
- (7) Reporting and recordkeeping procedures;
- (8) The waste management plan required under [§§ 60.2055](#) through [60.2065](#);
- (9) Procedures for handling ash; and
- (10) A list of the wastes burned during the performance test.

(b) You must establish a program for reviewing the information listed in [paragraph \(a\)](#) of this section with each incinerator operator:

(1) The initial review of the information listed in [paragraph \(a\)](#) of this section must be conducted within 6 months after the effective date of this subpart or prior to an employee's assumption of responsibilities for operation of the CISWI, whichever date is later; and

(2) Subsequent annual reviews of the information listed in [paragraph \(a\)](#) of this section must be conducted no later than 12 months following the previous review.

(c) You must also maintain the information specified in [paragraphs \(c\)\(1\)](#) through [\(3\)](#) of this section:

(1) Records showing the names of CISWI operators who have completed review of the information in [§ 60.2095\(a\)](#) as required by [§ 60.2095\(b\)](#), including the date of the initial review and all subsequent annual reviews;

(2) Records showing the names of the CISWI operators who have completed the operator training requirements under [§ 60.2070](#), met the criteria for qualification under [§ 60.2080](#), and maintained or renewed their qualification under [§ 60.2085](#) or [§ 60.2090](#). Records must include documentation of training, the dates of the initial and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications; and

(3) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.

## **§ 60.2100 What if all the qualified operators are temporarily not accessible?**

If all qualified operators are temporarily not accessible (*i.e.*, not at the facility and not able to be at the facility within 1 hour), you must meet one of the two criteria specified in [paragraphs \(a\)](#) and [\(b\)](#) of this section, depending on the length of time that a qualified operator is not accessible:

(a) When all qualified operators are not accessible for more than 8 hours, but less than 2 weeks, the CISWI may be operated by other plant personnel familiar with the operation of the CISWI who have completed a review of the information specified in [§ 60.2095\(a\)](#) within the past 12 months. However, you must record the period when all qualified operators were not accessible and include this deviation in the annual report as specified under [§ 60.2210](#); and

(b) When all qualified operators are not accessible for 2 weeks or more, you must take the two actions that are described in [paragraphs \(b\)\(1\)](#) and [\(2\)](#) of this section:

(1) Notify the Administrator of this deviation in writing within 10 days. In the notice, state what caused this deviation, what you are doing to ensure that a qualified operator is accessible, and when you anticipate that a qualified operator will be accessible; and

(2) Submit a status report to the Administrator every 4 weeks outlining what you are doing to ensure that a qualified operator is accessible, stating when you anticipate that a qualified

operator will be accessible and requesting approval from the Administrator to continue operation of the CISWI. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under [paragraph \(b\)\(1\)](#) of this section. If the Administrator notifies you that your request to continue operation of the CISWI is disapproved, the CISWI may continue operation for 90 days, then must cease operation. Operation of the unit may resume if you meet the two requirements in [paragraphs \(b\)\(2\)\(i\)](#) and [\(ii\)](#) of this section:

- (i) A qualified operator is accessible as required under [§ 60.2070\(a\)](#); and
- (ii) You notify the Administrator that a qualified operator is accessible and that you are resuming operation.

### **Emission Limitations and Operating Limits**

## **§ 60.2105 What emission limitations must I meet and by when?**

(a) You must meet the emission limitations for each CISWI, including bypass stack or vent, specified in table 1 of this subpart or tables 5 through 8 of this subpart by the applicable date in [§ 60.2140](#). You must be in compliance with the emission limitations of this subpart that apply to you at all times.

(b) A CISWI or ACI that commenced construction after November 30, 1999, but no later than June 4, 2010, or that commenced reconstruction or modification on or after June 1, 2001 but no later than August 7, 2013, must continue to meet the emission limits in table 1 of this subpart for units in the incinerator subcategory and [§ 60.2250](#) for ACIs until the units become subject to the requirements of an approved state plan or federal plan that implements [subpart DDDD of this part](#) (Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units).

## **§ 60.2110 What operating limits must I meet and by when?**

(a) If you use a wet scrubber(s) to comply with the emission limitations, you must establish operating limits for up to four operating parameters (as specified in table 2 of this subpart) as described in [paragraphs \(a\)\(1\)](#) through [\(4\)](#) of this section during the initial performance test:

(1) Maximum charge rate, calculated using one of the two different procedures in [paragraph \(a\)\(1\)\(i\)](#) or [\(ii\)](#) of this section, as appropriate:

- (i) For continuous and intermittent units, maximum charge rate is 110 percent of the average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations; and

(ii) For batch units, maximum charge rate is 110 percent of the daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(2) Minimum pressure drop across the wet particulate matter scrubber, which is calculated as the lowest 1-hour average pressure drop across the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations; or minimum amperage to the wet scrubber, which is calculated as the lowest 1-hour average amperage to the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations;

(3) Minimum scrubber liquid flow rate, which is calculated as the lowest 1-hour average liquid flow rate at the inlet to the wet acid gas or particulate matter scrubber measured during the most recent performance test demonstrating compliance with all applicable emission limitations; and

(4) Minimum scrubber liquor pH, which is calculated as the lowest 1-hour average liquor pH at the inlet to the wet acid gas scrubber measured during the most recent performance test demonstrating compliance with the hydrogen chloride (HCl) emission limitation.

(b) You must meet the operating limits established during the initial performance test 60 days after your CISWI reaches the charge rate at which it will operate, but no later than 180 days after its initial startup.

(c) If you use a fabric filter to comply with the emission limitations and you do not use a particulate matter (PM) continuous parameter monitoring system (CPMS) for monitoring PM compliance, you must operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period. 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 shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by you to initiate corrective action.

(d) If you use an electrostatic precipitator to comply with the emission limitations and you do not use a PM CPMS for monitoring PM compliance, you must measure the (secondary) voltage and amperage of the electrostatic precipitator collection plates during the particulate matter performance test. Calculate the average electric power value (secondary voltage  $\times$  secondary current = secondary electric power) for each test run. The operating limit for the electrostatic precipitator is calculated as the lowest 1-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

(e) If you use activated carbon sorbent injection to comply with the emission limitations, you must measure the sorbent flow rate during the performance testing. The operating limit for the carbon sorbent injection is calculated as the lowest 1-hour average sorbent flow rate measured

during the most recent performance test demonstrating compliance with the mercury emission limitations. For energy recovery units, when your unit operates at lower loads, multiply your sorbent injection rate by the load fraction, as defined in this subpart, to determine the required injection rate (*e.g.*, for 50 percent load, multiply the injection rate operating limit by 0.5).

(f) If you use selective noncatalytic reduction to comply with the emission limitations, you must measure the charge rate, the secondary chamber temperature (if applicable to your CISWI), and the reagent flow rate during the nitrogen oxides performance testing. The operating limits for the selective noncatalytic reduction are calculated as the highest 1-hour average charge rate, lower secondary chamber temperature, and lowest reagent flow rate measured during the most recent performance test demonstrating compliance with the nitrogen oxides emission limitations.

(g) If you use a dry scrubber to comply with the emission limitations, you must measure the injection rate of each sorbent during the performance testing. The operating limit for the injection rate of each sorbent is calculated as the lowest 1-hour average injection rate for each sorbent measured during the most recent performance test demonstrating compliance with the hydrogen chloride emission limitations. For energy recovery units, when your unit operates at lower loads, multiply your sorbent injection rate by the load fraction, as defined in this subpart, to determine the required injection rate (*e.g.*, for 50 percent load, multiply the injection rate operating limit by 0.5).

(h) If you do not use a wet scrubber, electrostatic precipitator, or fabric filter to comply with the emission limitations, and if you do not determine compliance with your particulate matter emission limitation with either a particulate matter CEMS or a particulate matter CPMS, you must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).

(i) If you use a PM CPMS to demonstrate continuing compliance, you must establish your PM CPMS operating limit and determine compliance with it according to [paragraphs \(i\)\(1\) through \(5\)](#) of this section:

(1) Determine your operating limit as the average PM CPMS output value recorded during the performance test or at a PM CPMS output value corresponding to 75 percent of the emission limit if your PM performance test demonstrates compliance below 75 percent of the emission limit. You must verify an existing or establish a new operating limit after each repeated performance test. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test:

(i) Your PM CPMS must provide a 4-20 milliamp output, or digital equivalent, and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps;

(ii) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to at least two times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the



instrument must be capable of reading PM concentration from zero to a level equivalent to two times your allowable emission limit; and

(iii) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values, or their digital equivalent, from the PM CPMS for the periods corresponding to the compliance test runs (*e.g.*, average all your PM CPMS output values for three corresponding Method 5 or Method 29 test runs).

(2) If the average of your three PM performance test runs are below 75 percent of your PM emissions limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS output values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or Method 29 performance test with the procedures in [\(i\)\(1\)](#) through [\(5\)](#) of this section:

(i) Determine your instrument zero output with one of the following procedures:

(A) Zero point data for *in-situ* instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench;

(B) Zero point data for extractive instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air;

(C) The zero point can also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (*e.g.*, when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept; and

(D) If none of the steps in [paragraphs \(i\)\(2\)\(i\)\(A\)](#) through [\(C\)](#) of this section are possible, you must use a zero output value provided by the manufacturer.

(ii) Determine your PM CPMS instrument average in milliamps, or the digital equivalent, and the average of your corresponding three PM compliance test runs, using equation 1:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n X_i, \bar{y} = \frac{1}{n} \sum_{i=1}^n Y_i$$

(Eq. 1)

Where:

$X_i$  = the PM CPMS output data points for the three runs constituting the performance test,

$Y_1$  = the PM concentration value for the three runs constituting the performance test, and

$n$  = the number of data points.

(iii) With your instrument zero expressed in milliamps, or the digital equivalent, your three run average PM CPMS milliamp value, or its digital equivalent, and your three run average PM concentration from your three compliance tests, determine a relationship of mg/dscm per milliamp or digital signal equivalent with equation 2:

$$R = \left( \frac{Y_1}{X_1 - z} \right) \quad (\text{Eq. 2})$$

Where:

$R$  = the relative mg/dscm per milliamp or digital equivalent for your PM CPMS,

$Y_1$  = the three run average mg/dscm PM concentration,

$X_1$  = the three run average milliamp or digital signal output from you PM CPMS, and

$z$  = the milliamp or digital signal equivalent of your instrument zero determined from [paragraph \(2\)\(i\)](#) of this section.

(iv) Determine your source specific 30-day rolling average operating limit using the mg/dscm per milliamp or digital value from equation 2 in equation 3, below. This sets your operating limit at the PM CPMS output value corresponding to 75 percent of your emission limit:

$$O_l = z + \frac{0.75(L)}{R} \quad (\text{Eq. 3})$$

Where:

$O_l$  = the operating limit for your PM CPMS on a 30-day rolling average, in milliamps or their digital signal equivalent,

$L$  = your source emission limit expressed in mg/dscm,

z = your instrument zero in milliamps or the digital equivalent, determined from paragraph (2)(i) of this section, and

R = the relative mg/dscm per milliamp or digital signal output equivalent for your PM CPMS, from equation 2.

(3) If the average of your three PM compliance test runs is at or above 75 percent of your PM emission limit you must determine your operating limit by averaging the PM CPMS milliamp or digital signal output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using equation 4 and you must submit all compliance test and PM CPMS data according to the reporting requirements in [paragraph \(i\)\(5\)](#) of this section:

$$O_n = \frac{1}{n} \sum_{i=1}^n X_i$$

(Eq. 4)

Where:

$X_i$  = the PM CPMS data points for all runs  $i$ ,

$n$  = the number of data points, and

$O_h$  = your site specific operating limit, in milliamps or digital signal equivalent.

(4) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (*e.g.*, milliamps or digital signal bits, PM concentration, raw data signal) on a 30-day rolling average basis.

(5) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (*e.g.*, beta attenuation), span of the instruments primary analytical range, milliamp or digital signal value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp or digital signals corresponding to each PM compliance test run.

[[85 FR 15853](#), Apr. 16, 2019, as amended at [85 FR 63403](#), Oct. 7, 2020]

## **§ 60.2115 What if I do not use a wet scrubber, fabric filter, activated carbon injection, selective noncatalytic reduction, an electrostatic precipitator, or a dry scrubber to comply with the emission limitations?**

If you use an air pollution control device other than a wet scrubber, activated carbon injection, selective noncatalytic reduction, fabric filter, an electrostatic precipitator, or a dry scrubber or limit emissions in some other manner, including material balances, to comply with the emission limitations under [§ 60.2105](#), you must petition the EPA Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. You must submit the petition at least sixty days before the performance test is scheduled to begin. Your petition must include the five items listed in [paragraphs \(a\) through \(e\)](#) of this section:

- (a) Identification of the specific parameters you propose to use as additional operating limits;
- (b) A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters and how limits on these parameters will serve to limit emissions of regulated pollutants;
- (c) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the operating limits on these parameters;
- (d) 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
- (e) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

### **Performance Testing**

## **§ 60.2125 How do I conduct the initial and annual performance test?**

- (a) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations.
- (b) You must document that the waste burned during the performance test is representative of the waste burned under normal operating conditions by maintaining a log of the quantity of waste burned (as required in [§ 60.2175\(b\)\(1\)](#)) and the types of waste burned during the performance test.

(c) All performance tests must be conducted using the minimum run duration specified in table 1 of this subpart or tables 5 through 8 of this subpart.

(d) Method 1 of [appendix A of this part](#) must be used to select the sampling location and number of traverse points.

(e) Method 3A or 3B of [appendix A of this part](#) must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B of [appendix A of this part](#) must be used simultaneously with each method (except when using Method 9 and Method 22).

(f) All pollutant concentrations, except for opacity, must be adjusted to 7 percent oxygen using equation 5 of this section:

$$C_{\text{adj}} = C_{\text{meas}} (20.9-7)/(20.9-\%O_2) \quad (\text{Eq. 5})$$

Where:

$C_{\text{adj}}$  = pollutant concentration adjusted to 7 percent oxygen;

$C_{\text{meas}}$  = pollutant concentration measured on a dry basis;

$(20.9-7)$  = 20.9 percent oxygen–7 percent oxygen (defined oxygen correction basis);

20.9 = oxygen concentration in air, percent; and

$\%O_2$  = oxygen concentration measured on a dry basis, percent.

(g) You must determine dioxins/furans toxic equivalency by following the procedures in [paragraphs \(g\)\(1\)](#) through [\(4\)](#) of this section:

(1) Measure the concentration of each dioxin/furan tetra-through octa-chlorinated isomer emitted using EPA Method 23 at [40 CFR part 60, appendix A-7](#);

(2) Quantify isomers meeting identification criteria 2, 3, 4, and 5 in [Section 5.3.2.5](#) of Method 23, regardless of whether the isomers meet identification criteria 1 and 7. You must quantify the isomers per [Section 9.0](#) of Method 23. (Note: You may reanalyze the sample aliquot or split to reduce the number of isomers not meeting identification criteria 1 or 7 of [Section 5.3.2.5](#).);

(3) For each dioxin/furan (tetra-through octa-chlorinated) isomer measured in accordance with [paragraphs \(g\)\(1\)](#) and [\(2\)](#) of this section, multiply the isomer concentration by its corresponding toxic equivalency factor specified in table 3 of this subpart; and

(4) Sum the products calculated in accordance with [paragraph \(g\)\(3\)](#) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(h) Method 22 at [40 CFR part 60, appendix A-7](#) of this part must be used to determine compliance with the fugitive ash emission limit in table 1 of this subpart or tables 5 through 8 of this subpart.

(i) If you have an applicable opacity operating limit, you must determine compliance with the opacity limit using Method 9 at [40 CFR part 60, appendix A-4](#), based on three 1-hour blocks consisting of ten 6-minute average opacity values, unless you are required to install a continuous opacity monitoring system, consistent with [§§ 60.2145](#) and [60.2165](#).

(j) You must determine dioxins/furans total mass basis by following the procedures in [paragraphs \(j\)\(1\)](#) through [\(3\)](#) of this section:

(1) Measure the concentration of each dioxin/furan tetra-through octa-chlorinated isomer emitted using EPA Method 23 at [40 CFR part 60, appendix A-7](#);

(2) Quantify isomers meeting identification criteria 2, 3, 4, and 5 in [Section 5.3.2.5](#) of Method 23, regardless of whether the isomers meet identification criteria 1 and 7. You must quantify the isomers per [Section 9.0](#) of Method 23. (Note: You may reanalyze the sample aliquot or split to reduce the number of isomers not meeting identification criteria 1 or 7 of [Section 5.3.2.5](#).); and

(3) Sum the quantities measured in accordance with [paragraphs \(j\)\(1\)](#) and [\(2\)](#) of this section to obtain the total concentration of dioxins/furans emitted in terms of total mass basis.

## **§ 60.2130 How are the performance test data used?**

You use results of performance tests to demonstrate compliance with the emission limitations in table 1 of this subpart or tables 5 through 8 of this subpart.

### **Initial Compliance Requirements**

## **§ 60.2135 How do I demonstrate initial compliance with the emission limitations and establish the operating limits?**

(a) You must conduct a performance test, as required under [§§ 60.2125](#) and [60.2105](#) to determine compliance with the emission limitations in table 1 of this subpart or tables 5 through 8 of this subpart, to establish compliance with any opacity operating limit in [§ 60.2110](#), to establish the kiln-specific emission limit in [§ 60.2145\(y\)](#), as applicable, and to establish operating limits using the procedures in [§ 60.2110](#) or [§ 60.2115](#). The performance test must be conducted using the test methods listed in table 1 of this subpart or tables 5 through 8 of this subpart and the procedures in [§ 60.2125](#). The use of the bypass stack during a performance test shall invalidate the performance test.

(b) As an alternative to conducting a performance test, as required under [§§ 60.2125](#) and [60.2105](#), you may use a 30-day rolling average of the 1-hour arithmetic average CEMS

data, including CEMS data during startup and shutdown as defined in this subpart, to determine compliance with the emission limitations in Table 1 of this subpart or tables 5 through 8 of this subpart. You must conduct a performance evaluation of each continuous monitoring system within 180 days of installation of the monitoring system. The initial performance evaluation must be conducted prior to collecting CEMS data that will be used for the initial compliance demonstration.

### **§ 60.2140 By what date must I conduct the initial performance test?**

- (a) The initial performance test must be conducted within 60 days after your CISWI reaches the charge rate at which it will operate, but no later than 180 days after its initial startup.
- (b) If you commence or recommence combusting a solid waste at an existing combustion unit at any commercial or industrial facility, and you conducted a test consistent with the provisions of this subpart while combusting the solid waste within the 6 months preceding the reintroduction of that solid waste in the combustion chamber, you do not need to retest until 6 months from the date you reintroduce that solid waste.
- (c) If you commence or recommence combusting a solid waste at an existing combustion unit at any commercial or industrial facility and you have not conducted a performance test consistent with the provisions of this subpart while combusting the solid waste within the 6 months preceding the reintroduction of that solid waste in the combustion chamber, you must conduct a performance test within 60 days from the date you reintroduce that solid waste.

### **§ 60.2141 By what date must I conduct the initial air pollution control device inspection?**

- (a) The initial air pollution control device inspection must be conducted within 60 days after installation of the control device and the associated CISWI reaches the charge rate at which it will operate, but no later than 180 days after the device's initial startup.
- (b) Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless the owner or operator obtains written approval from the state agency establishing a date whereby all necessary repairs of the designated facility must be completed.

### **Continuous Compliance Requirements**

### **§ 60.2145 How do I demonstrate continuous compliance with the emission limitations and the operating limits?**

(a) General compliance with standards, considering some units may be able to switch between solid waste and non-waste fuel combustion, is specified in [paragraph \(a\)\(1\)](#) through [\(6\)](#) of this section.

(1) The emission standards and operating requirements set forth in this subpart apply at all times;

(2) If you cease combusting solid waste, you may opt to remain subject to the provisions of this subpart. Consistent with the definition of CISWI, you are subject to the requirements of this subpart at least 6 months following the last date of solid waste combustion. Solid waste combustion is ceased when solid waste is not in the combustion chamber (*i.e.*, the solid waste feed to the combustor has been cut off for a period of time not less than the solid waste residence time);

(3) If you cease combusting solid waste, you must be in compliance with any newly applicable standards on the effective date of the waste-to-fuel switch. The effective date of the waste-to-fuel switch is a date selected by you, that must be at least 6 months from the date that you ceased combusting solid waste, consistent with [§ 60.2145\(a\)\(2\)](#). Your source must remain in compliance with this subpart until the effective date of the waste-to-fuel switch;

(4) If you own or operate an existing commercial or industrial combustion unit that combusted a fuel or non-waste material, and you commence or recommence combustion of solid waste, you are subject to the provisions of this subpart as of the first day you introduce or reintroduce solid waste to the combustion chamber, and this date constitutes the effective date of the fuel-to-waste switch. You must complete all initial compliance demonstrations for any section 112 standards that are applicable to your facility before you commence or recommence combustion of solid waste. You must provide 30 days prior notice of the effective date of the waste-to-fuel switch. The notification must identify:

(i) The name of the owner or operator of the CISWI, the location of the source, the emissions unit(s) that will cease burning solid waste, and the date of the notice;

(ii) The currently applicable subcategory under this subpart, and any [40 CFR part 63 subpart](#) and subcategory that will be applicable after you cease combusting solid waste;

(iii) The fuel(s), non-waste material(s) and solid waste(s) the CISWI is currently combusting and has combusted over the past 6 months, and the fuel(s) or non-waste materials the unit will commence combusting;

(iv) The date on which you became subject to the currently applicable emission limits; and

(v) The date upon which you will cease combusting solid waste, and the date (if different) that you intend for any new requirements to become applicable (*i.e.*, the effective date of the waste-to-fuel switch), consistent with [paragraphs \(a\)\(2\)](#) and [\(3\)](#) of this section.



(5) All air pollution control equipment necessary for compliance with any newly applicable emissions limits which apply as a result of the cessation or commencement or recommencement of combusting solid waste must be installed and operational as of the effective date of the waste-to-fuel, or fuel-to-waste switch.

(6) All monitoring systems necessary for compliance with any newly applicable monitoring requirements which apply as a result of the cessation or commencement or recommencement of combusting solid waste must be installed and operational as of the effective date of the waste-to-fuel, or fuel-to-waste switch. All calibration and drift checks must be performed as of the effective date of the waste-to-fuel, or fuel-to-waste switch. Relative accuracy tests must be performed as of the performance test deadline for PM CEMS (if PM CEMS are elected to demonstrate continuous compliance with the particulate matter emission limits). Relative accuracy testing for other CEMS need not be repeated if that testing was previously performed consistent with Clean Air Act section 112 monitoring requirements or monitoring requirements under this subpart.

(b) You must conduct an annual performance test for the pollutants listed in table 1 of this subpart or tables 5 through 8 of this subpart and opacity for each CISWI as required under [§ 60.2125](#). The annual performance test must be conducted using the test methods listed in table 1 of this subpart or tables 5 through 8 of this subpart and the procedures in [§ 60.2125](#). Annual performance tests are not required if you use CEMS or continuous opacity monitoring systems to determine compliance.

(c) You must continuously monitor the operating parameters specified in [§ 60.2110](#) or established under [§ 60.2115](#) and as specified in [§ 60.2170](#). Use 3-hour block average values to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under [§ 60.2115](#) or, for energy recovery units, where the averaging time for each operating parameter is a 30-day rolling, calculated each hour as the average of the previous 720 operating hours. Operation above the established maximum, below the established minimum, or outside the allowable range of 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.

(d) You must burn only the same types of waste and fuels used to establish subcategory applicability (for energy recovery units) and operating limits during the performance test.

(e) For energy recovery units, incinerators, and small remote units, you must perform an annual visual emissions test for ash handling.

(f) For energy recovery units, you must conduct an annual performance test for opacity (except where particulate matter CEMS or continuous opacity monitoring systems are used) and the pollutants listed in table 6 of this subpart.

(g) You may elect to demonstrate initial and continuous compliance with the carbon monoxide emission limit using a carbon monoxide CEMS, as described in [§ 60.2165\(o\)](#).

(h) Coal and liquid/gas energy recovery units with average annual heat input rates greater than or equal to 250 million British thermal units/hour (MMBtu/hr) may elect to demonstrate initial and continuous compliance with the particulate matter emissions limit using a particulate matter CEMS according to the procedures in [§ 60.2165\(n\)](#) instead of the PM CPMS specified in [§ 60.2145](#). Coal and liquid/gas energy recovery units with annual average heat input rates less than 250 MMBtu/hr, incinerators, and small remote incinerators may also elect to demonstrate initial and continuous compliance using a particulate matter CEMS according to the procedures in [§ 60.2165\(n\)](#) instead of particulate matter testing with EPA Method 5 at [40 CFR part 60, appendix A-3](#) and, if applicable, the continuous opacity monitoring requirements in [paragraph \(i\)](#) of this section.

(i) For energy recovery units with annual average heat input rates greater than or equal to 10 MMBtu/hr and less than 250 MMBtu/hr that do not use a wet scrubber, fabric filter with bag leak detection system, an electrostatic precipitator, particulate matter CEMS, or particulate matter CPMS, you must install, operate, certify and maintain a continuous opacity monitoring system (COMS) according to the procedures in [§ 60.2165\(m\)](#).

(j) For waste-burning kilns, you must conduct an annual performance test for particulate matter, cadmium, lead, carbon monoxide, dioxins/furans and hydrogen chloride as listed in Table 7 of this subpart, unless you choose to demonstrate initial and continuous compliance using CEMS, as allowed in [paragraph \(u\)](#) of this section. If you do not use an acid gas wet scrubber or dry scrubber, you must determine compliance with the hydrogen chloride emissions limit using a HCl CEMS according to the requirements in [paragraph \(j\)\(1\)](#) of this section. You must determine compliance with the mercury emissions limit using a mercury CEMS or an integrated sorbent trap monitoring system according to [paragraph \(j\)\(2\)](#) of this section. You must determine compliance with nitrogen oxides and sulfur dioxide using CEMS. You must determine continuing compliance with the particulate matter emissions limit using a PM CPMS according to [paragraph \(x\)](#) of this section.

(1) If you monitor compliance with the HCl emissions limit by operating an HCl CEMS, you must do so in accordance with Performance Specification 15 (PS 15) of appendix B to 40 CFR part 60 or PS 18 of appendix B to 40 CFR part 60. You must operate, maintain, and quality assure a HCl CEMS installed and certified under PS 15 according to the quality assurance requirements in Procedure 1 of appendix F to 40 CFR part 60 except that the Relative Accuracy Test Audit requirements of Procedure 1 must be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of PS 15. You must operate, maintain and quality assure a HCl CEMS installed and certified under PS 18 according to the quality assurance requirements in Procedure 6 of appendix F to 40 CFR part 60. For any performance specification that you use, you must use Method 321 of appendix A to 40 CFR part 63 as the reference test method for conducting relative accuracy testing. The span value and calibration requirements in [paragraphs \(j\)\(1\)\(i\)](#) and [\(ii\)](#) of this section apply to all HCl CEMS used under this subpart:

(i) You must use a measurement span value for any HCl CEMS of 0-10 ppmvw unless the monitor is installed on a kiln without an inline raw mill. Kilns without an inline raw mill may use a higher span value sufficient to quantify all expected emissions concentrations. The HCl CEMS data recorder output range must include the full range of expected HCl concentration values which would include those expected during “mill off” conditions. The corresponding data recorder range shall be documented in the site-specific monitoring plan and associated records;

(ii) In order to quality assure data measured above the span value, you must use one of the three options in [paragraphs \(j\)\(1\)\(ii\)\(A\)](#) through [\(C\)](#) of this section:

(A) Include a second span that encompasses the HCl emission concentrations expected to be encountered during “mill off” conditions. This second span may be rounded to a multiple of 5 ppm of total HCl. The requirements of the appropriate HCl monitor performance specification shall be followed for this second span with the exception that a RATA with the mill off is not required;

(B) Quality assure any data above the span value by proving instrument linearity beyond the span value established in [paragraph \(j\)\(1\)\(i\)](#) of this section using the following procedure. Conduct a weekly “above span linearity” calibration challenge of the monitoring system using a reference gas with a certified value greater than your highest expected hourly concentration or greater than 75% of the highest measured hourly concentration. The “above span” reference gas must meet the requirements of the applicable performance specification and must be introduced to the measurement system at the probe. Record and report the results of this procedure as you would for a daily calibration. The “above span linearity” challenge is successful if the value measured by the HCl CEMS falls within 10 percent of the certified value of the reference gas. If the value measured by the HCl CEMS during the above span linearity challenge exceeds 10 percent of the certified value of the reference gas, the monitoring system must be evaluated and repaired and a new “above span linearity” challenge met before returning the HCl CEMS to service, or data above span from the HCl CEMS must be subject to the quality assurance procedures established in [\(j\)\(1\)\(ii\)\(D\)](#) of this section. In this manner values measured by the HCl CEMS during the above span linearity challenge exceeding  $\pm 20$  percent of the certified value of the reference gas must be normalized using equation 6;

(C) Quality assure any data above the span value established in [paragraph \(j\)\(1\)\(i\)](#) of this section using the following procedure. Any time two consecutive one-hour average measured concentration of HCl exceeds the span value you must, within 24 hours before or after, introduce a higher, “above span” HCl reference gas standard to the HCl CEMS. The “above span” reference gas must meet the requirements of the applicable performance specification and target a concentration level between 50 and 150 percent of the highest expected hourly concentration measured during the period of measurements above span, and must be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may

include above span calibrations done before or after the above-span measurement period. Record and report the results of this procedure as you would for a daily calibration. The “above span” calibration is successful if the value measured by the HCl CEMS is within 20 percent of the certified value of the reference gas. If the value measured by the HCl CEMS is not within 20 percent of the certified value of the reference gas, then you must normalize the stack gas values measured above span as described in [paragraph \(j\)\(1\)\(ii\)\(D\)](#) of this section. If the “above span” calibration is conducted during the period when measured emissions are above span and there is a failure to collect the one data point in an hour due to the calibration duration, then you must determine the emissions average for that missed hour as the average of hourly averages for the hour preceding the missed hour and the hour following the missed hour. In an hour where an “above span” calibration is being conducted and one or more data points are collected, the emissions average is represented by the average of all valid data points collected in that hour;

(D) In the event that the “above span” calibration is not successful (*i.e.*, the HCl CEMS measured value is not within 20 percent of the certified value of the reference gas), then you must normalize the one-hour average stack gas values measured above the span during the 24-hour period preceding or following the “above span” calibration for reporting based on the HCl CEMS response to the reference gas as shown in equation 6:

$$\frac{\text{Certified reference gas value}}{\text{Measured value of reference gas}} \times \text{Measured stack gas result} = \text{Normalized stack gas result}$$

Only one “above span” calibration is needed per 24-hour period.

(2) Compliance with the mercury emissions limit must be determined using a mercury CEMS or integrated sorbent trap monitoring system according to the following requirements:

(i) You must operate a mercury CEMS system in accordance with performance specification 12A of [40 CFR part 60, appendix B](#) or an integrated sorbent trap monitoring system in accordance with performance specification 12B of [40 CFR part 60, appendix B](#); these monitoring systems must be quality assured according to procedure 5 of [40 CFR 60, appendix F](#). For the purposes of emissions calculations when using an integrated sorbent trap monitoring system, the mercury concentration determined for each sampling period must be assigned to each hour during the sampling period. If you choose to comply with the production-rate based mercury limit for your waste-burning kiln, you must also monitor hourly clinker production and determine the hourly mercury emissions rate in pounds per million ton of clinker produced. You must demonstrate compliance with the mercury emissions limit using a 30-day rolling average of these 1-hour mercury concentrations or mass emissions rates, including CEMS and integrated sorbent trap monitoring system data during startup and shutdown as defined in this subpart, calculated using equation 19-19 in [section 12.4.1](#) of EPA Reference Method 19 at [40 CFR part 60, appendix A-7](#) of this part. Integrated sorbent trap monitoring system and CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content;

(ii) Owners or operators using a mercury CEMS or integrated sorbent trap monitoring system to determine mass emission rate must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the mercury mass emissions rate to the atmosphere according to the requirements of performance specification 6 of [40 CFR part 60, appendix B](#), and conducting an annual relative accuracy test of the continuous emission rate monitoring system according to [section 8.2](#) of performance specification 6; and

(iii) The owner or operator of a waste-burning kiln must demonstrate initial compliance by operating a mercury CEMS or integrated sorbent trap monitoring system while the raw mill of the in-line kiln/raw mill is operating under normal conditions and including at least one period when the raw mill is off.

(k) If you use an air pollution control device to meet the emission limitations in this subpart, you must conduct an initial and annual inspection of the air pollution control device. The inspection must include, at a minimum, the following:

(1) Inspect air pollution control device(s) for proper operation; and

(2) Develop a site-specific monitoring plan according to the requirements in [paragraph \(l\)](#) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under [§ 60.13\(i\)](#).

(l) For each continuous monitoring system required in this section, you must develop and submit to the EPA Administrator for approval a site-specific monitoring plan according to the requirements of this [paragraph \(l\)](#) that addresses [paragraphs \(l\)\(1\)\(i\)](#) through [\(vi\)](#) of this section:

(1) You must submit this site-specific monitoring plan at least 60 days before your initial performance evaluation of your continuous monitoring system:

(i) Installation of the continuous monitoring system 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.

(iii) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations);

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of [§ 60.11\(d\)](#);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of [§ 60.13](#); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of [§ 60.7\(b\)](#), [\(c\)](#) introductory text, [\(c\)\(1\)](#) and [\(4\)](#), and [\(d\)](#) through [\(g\)](#).

(2) You must conduct a performance evaluation of each continuous monitoring system in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the continuous monitoring system in continuous operation according to the site-specific monitoring plan.

(m) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in [paragraphs \(l\)](#) and [\(m\)\(1\)](#) through [\(4\)](#) of this section:

(1) Install the flow sensor and other necessary equipment in a position that provides a representative flow;

(2) Use a flow sensor with a measurement sensitivity at full scale of no greater than 2 percent;

(3) Minimize the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances; and

(4) Conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(n) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in [paragraphs \(l\)](#) and [\(n\)\(1\)](#) through [\(6\)](#) of this section:

(1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (*e.g.*, PM scrubber pressure drop);

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion;

(3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less;

(4) Perform checks at the frequency outlined in your site-specific monitoring plan to ensure pressure measurements are not obstructed (*e.g.*, check for pressure tap plugging daily);

(5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually; and

(6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring

system continues to meet the performance requirements in your monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(o) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in [paragraphs \(l\)](#) and [\(o\)\(1\)](#) through [\(4\)](#) of this section:

- (1) Install the pH sensor in a position that provides a representative measurement of scrubber effluent pH;
- (2) Ensure the sample is properly mixed and representative of the fluid to be measured;
- (3) Conduct a performance evaluation of the pH monitoring system in accordance with your monitoring plan at least once each process operating day; and
- (4) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than quarterly.

(p) If you have an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator, you must meet the requirements in [paragraphs \(l\)](#) and [\(p\)\(1\)](#) and [\(2\)](#) of this section:

- (1) Install sensors to measure (secondary) voltage and current to the precipitator collection plates; and
- (2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(q) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (*e.g.*, weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in [paragraphs \(l\)](#) and [\(q\)\(1\)](#) and [\(2\)](#) of this section:

- (1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate; and
- (2) Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(r) If you elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in [paragraphs \(l\)](#) and [\(r\)\(1\)](#) through [\(5\)](#) of this section:

- (1) Install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute particulate matter loadings for each exhaust stack, roof vent, or compartment (*e.g.*, for a positive pressure fabric filter) of the fabric filter;
- (2) Use a bag leak detection system certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less;
- (3) Conduct a performance evaluation of the bag leak detection system in accordance with your monitoring plan and consistent with the guidance provided in EPA-454/R-98-015 (incorporated by reference, *see* [§ 60.17](#));
- (4) Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor; and
- (5) Use a bag leak detection system equipped with a system that will sound an alarm when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is observed readily by plant operating personnel.

(s) For facilities using a CEMS to demonstrate initial and continuous compliance with the sulfur dioxide emission limit, compliance with the sulfur dioxide emission limit may be demonstrated by using the CEMS specified in [§ 60.2165\(l\)](#) to measure sulfur dioxide. The sulfur dioxide CEMS must follow the procedures and methods specified in [paragraph \(s\)](#) of this section. For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for inlet sulfur dioxide CEMS should be no greater than 20 percent of the mean value of the reference method test data in terms of the units of the emission standard, or 5 parts per million dry volume absolute value of the mean difference between the reference method and the CEMS, whichever is greater:

(1) During each relative accuracy test run of the CEMS required by performance specification 2 in [appendix B of this part](#), collect sulfur dioxide and oxygen (or carbon dioxide) data concurrently (or within a 30- to 60-minute period) with both the CEMS and the test methods specified in [paragraphs \(s\)\(1\)\(i\)](#) and [\(ii\)](#) of this section:

(i) For sulfur dioxide, EPA Reference Method 6 or 6C, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, *see* [§ 60.17](#)) must be used; and

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, *see* [§ 60.17](#)), must be used.

(2) The span value of the CEMS at the inlet to the sulfur dioxide control device must be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the unit subject to this subpart. The span value of the CEMS at the outlet of the sulfur dioxide control device must be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the unit subject to this subpart.



(3) Conduct accuracy determinations quarterly and calibration drift tests daily in accordance with procedure 1 in [appendix F of this part](#).

(t) For facilities using a CEMS to demonstrate initial and continuous compliance with the nitrogen oxides emission limit, compliance with the nitrogen oxides emission limit may be demonstrated by using the CEMS specified in [§ 60.2165](#) to measure nitrogen oxides. The nitrogen oxides CEMS must follow the procedures and methods specified in [paragraphs \(t\)\(1\)](#) through [\(4\)](#) of this section:

(1) During each relative accuracy test run of the CEMS required by performance specification 2 of [appendix B of this part](#), collect nitrogen oxides and oxygen (or carbon dioxide) data concurrently (or within a 30- to 60-minute period) with both the CEMS and the test methods specified in [paragraphs \(t\)\(1\)\(i\)](#) and [\(ii\)](#) of this section:

(i) For nitrogen oxides, EPA Reference Method 7 or 7E at [40 CFR part 60, appendix A-4](#) must be used; and

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B at [40 CFR part 60, appendix A-3](#), or as an alternative ANSI/ASME PTC 19-10.1981 (incorporated by reference, *see* [§ 60.17](#)), as applicable, must be used.

(2) The span value of the continuous emission monitoring system must be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of the unit.

(3) Conduct accuracy determinations quarterly and calibration drift tests daily in accordance with procedure 1 in [appendix F of this part](#).

(4) The owner or operator of an affected facility may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels must be established during the initial performance test according to the procedures and methods specified in [paragraphs \(t\)\(4\)\(i\)](#) through [\(iv\)](#) of this section. This relationship may be re-established during performance compliance tests:

(i) The fuel factor equation in Method 3B must be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, *see* [§ 60.17](#)), as applicable, must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor;

(ii) Samples must be taken for at least 30 minutes in each hour;

(iii) Each sample must represent a 1-hour average; and

(iv) A minimum of three runs must be performed.

(u) For facilities using a CEMS or an integrated sorbent trap monitoring system for mercury to demonstrate initial and continuous compliance with any of the emission limits of this subpart, you must complete the following:

(1) Demonstrate compliance with the appropriate emission limit(s) using a 30-day rolling average of 1-hour arithmetic average emission concentrations, including CEMS or integrated sorbent trap monitoring systems data during startup and shutdown as defined in this subpart, calculated using equation 19-19 in [section 12.4.1](#) of EPA Reference Method 19 at appendix A-7 of this part. The 1-hour arithmetic averages for CEMS must be calculated using the data points required under [§ 60.13\(e\)\(2\)](#). Except for CEMS or integrated sorbent trap monitoring systems data during startup and shutdown, the 1-hour arithmetic averages used to calculate the 30-day rolling average emission concentrations must be corrected to 7 percent oxygen (dry basis). Integrated sorbent trap monitoring systems or CEMS data during startup and shutdown, as defined in the subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content; and

(2) Operate all CEMS and integrated sorbent trap monitoring systems in accordance with the applicable procedures under appendices B and F of this part.

(v) Use of the bypass stack at any time is an emissions standards deviation for PM, HCl, lead, cadmium, mercury, nitrogen oxides, sulfur dioxide, and dioxin/furans.

(w) For energy recovery units with a design heat input capacity of 100 MMBtu/hr or greater that do not use a carbon monoxide CEMS, you must install, operate, and maintain a oxygen analyzer system as defined in [§ 60.2265](#) according to the procedures in [paragraphs \(w\)\(1\)](#) through [\(4\)](#) of this section:

(1) The oxygen analyzer system must be installed by the initial performance test date specified in [§ 60.2140](#);

(2) You must operate the oxygen trim system within compliance with [paragraph \(w\)\(3\)](#) of this section at all times;

(3) You must maintain the oxygen level such that the 30-day rolling average that is established as the operating limit for oxygen is not below the lowest hourly average oxygen concentration measured during the most recent CO performance test; and

(4) You must calculate and record a 30-day rolling average oxygen concentration using equation 19-19 in [section 12.4.1](#) of EPA Reference Method 19 of appendix A-7 of this part.

(x) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hr and waste-burning kilns, you must install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in [paragraphs \(x\)\(1\)](#) through [\(8\)](#) of this section. For other energy recovery units, you may elect to use PM CPMS operated in accordance with this section. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (*e.g.*, bag leak detectors, ESP secondary power, PM scrubber pressure):

(1) Install, calibrate, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with [paragraphs \(l\)](#) and [\(x\)\(1\)\(i\)](#) through [\(iii\)](#) of this section:

(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation detection of the exhaust gas or representative sample. The reportable measurement output from the PM CPMS must be expressed as milliamps or the digital signal equivalent;

(ii) The PM CPMS must have a cycle time (*i.e.*, period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes; and

(iii) The PM CPMS must be capable of detecting and responding to particulate matter concentrations increments no greater than 0.5 mg/actual cubic meter.

(2) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, you must adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in [§ 60.2110](#).

(3) Collect PM CPMS hourly average output data for all energy recovery unit or waste-burning kiln operating hours. Express the PM CPMS output as milliamps.

(4) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output collected during all energy recovery unit or waste-burning kiln operating hours data (milliamps or their digital equivalent).

(5) You must collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in [paragraph \(x\)\(1\)\(ii\)](#) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in your site-specific monitoring plan.

(6) You must use all the data collected during all energy recovery unit or waste-burning kiln operating hours in assessing the compliance with your operating limit except:

(i) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities conducted during monitoring system malfunctions are not used in calculations (report any such periods in your annual deviation report);

(ii) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or

quality control activities conducted during out-of-control periods are not used in calculations (report emissions or operating levels and report any such periods in your annual deviation report);

(iii) Any PM CPMS data recorded during periods of CEMS data during startup and shutdown, as defined in this subpart.

(7) You must record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with your site-specific monitoring plan.

(8) For any deviation of the 30-day rolling average PM CPMS average value from the established operating parameter limit, you must:

(i) Within 48 hours of the deviation, visually inspect the air pollution control device;

(ii) If inspection of the air pollution control device identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value;

(iii) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit. Within 45 days of the deviation, you must re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under [paragraph \(x\)](#) of this section; and

(iv) PM CPMS deviations leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a violation of this subpart.

(y) When there is an alkali bypass and/or an in-line coal mill that exhaust emissions through a separate stack(s), the combined emissions are subject to the emission limits applicable to waste-burning kilns. To determine the kiln-specific emission limit for demonstrating compliance, you must:

(1) Calculate a kiln-specific emission limit using equation 7:

$$C_{ks} = ((\text{Emission limit} \times (Q_{ab} + Q_{cm} + Q_{ks})) - (Q_{ab} \times C_{ab}) - (Q_{cm} \times C_{cm})) / Q_{ks}$$

Where:

$C_{ks}$  = Kiln stack concentration (ppmvd, mg/dscm, ng/dscm, depending on pollutant. Each corrected to 7% O<sub>2</sub>.)

$Q_{ab}$  = Alkali bypass flow rate (volume/hr)

$C_{ab}$  = Alkali bypass concentration (ppmvd, mg/dscm, ng/dscm, depending on pollutant. Each corrected to 7% O<sub>2</sub>.)

$Q_{cm}$  = In-line coal mill flow rate (volume/hr)

$C_{cm}$  = In-line coal mill concentration (ppmvd, mg/dscm, ng/dscm, depending on pollutant. Each corrected to 7% O<sub>2</sub>.)

$Q_{ks}$  = Kiln stack flow rate (volume/hr)

(2) Particulate matter concentration must be measured downstream of the in-line coal mill. All other pollutant concentrations must be measured either upstream or downstream of the in-line coal mill; and

(3) For purposes of determining the combined emissions from kilns equipped with an alkali bypass or that exhaust kiln gases to a coal mill that exhausts through a separate stack, instead of installing a CEMS or PM CPMS on the alkali bypass stack or in-line coal mill stack, the results of the initial and subsequent performance test can be used to demonstrate compliance with the relevant emissions limit. A performance test must be conducted on an annual basis (no later than 13 calendar months following the previous performance test).

[84 FR 15853, Apr. 16, 2019, as amended at 85 FR 63404, Oct. 7, 2020]

## **§ 60.2150 By what date must I conduct the annual performance test?**

You must conduct annual performance tests no later than 13 calendar months following the previous performance test.

[85 FR 63404, Oct. 7, 2020]

## **§ 60.2151 By what date must I conduct the annual air pollution control device inspection?**

On an annual basis (no more than 12 months following the previous annual air pollution control device inspection), you must complete the air pollution control device inspection as described in § 60.2141.

## **§ 60.2155 May I conduct performance testing less often?**

(a) You must conduct annual performance tests according to the schedule specified in § 60.2150, with the following exceptions:

(1) You may conduct a repeat performance test at any time to establish new values for the operating limits, as specified in [§ 60.2160](#). New operating limits become effective on the date that the performance test report is submitted to the EPA's Central Data Exchange or postmarked, per the requirements of [§ 60.2235\(b\)](#). The Administrator may request a repeat performance test at any time;

(2) You must repeat the performance test within 60 days of a process change, as defined in [§ 60.2265](#);

(3) You can conduct performance tests less often if you meet the following conditions: your performance tests for the pollutant for at least 2 consecutive performance tests demonstrates that the emission level for the pollutant is no greater than the emission level specified in [paragraph \(a\)\(3\)\(i\)](#) or [\(ii\)](#) of this section, as applicable; there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions; and you are not required to conduct a performance test for the pollutant in response to a request by the Administrator in [paragraph \(a\)\(1\)](#) of this section or a process change in [paragraph \(a\)\(2\)](#) of this section. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test for the pollutant no more than 37 months following the previous performance test for the pollutant. If the emission level for your CISWI continues to meet the emission level specified in [paragraph \(a\)\(3\)\(i\)](#) or [\(ii\)](#) of this section, as applicable, you may choose to conduct performance tests for the pollutant every third year, as long as there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. Each such performance test must be conducted no more than 37 months after the previous performance test.

(i) For particulate matter, hydrogen chloride, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead and dioxins/furans, the emission level equal to 75 percent of the applicable emission limit in table 1 or tables 5 through 8 of this subpart, as applicable; and

(ii) For fugitive emissions, visible emissions (of combustion ash from the ash conveying system) for 2 percent of the time during each of the three 1-hour observations periods.

(4) If you are conducting less frequent testing for a pollutant as provided in [paragraph \(a\)\(3\)](#) of this section and a subsequent performance test for the pollutant indicates that your CISWI does not meet the emission level specified in [paragraph \(a\)\(3\)\(i\)](#) or [\(ii\)](#) of this section, as applicable, you must conduct annual performance tests for the pollutant according to the schedule specified in [paragraph \(a\)](#) of this section until you qualify for less frequent testing for the pollutant as specified in [paragraph \(a\)\(3\)](#) of this section.

(b) [Reserved]

## **[§ 60.2160 May I conduct a repeat performance test to establish new operating limits?](#)**

(a) Yes. You may conduct a repeat performance test at any time to establish new values for the operating limits. The Administrator may request a repeat performance test at any time.

(b) You must repeat the performance test if your feed stream is different than the feed streams used during any performance test used to demonstrate compliance.

### Monitoring

## § 60.2165 What monitoring equipment must I install and what parameters must I monitor?

(a) If you are using a wet scrubber to comply with the emission limitation under [§ 60.2105](#), you must install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the value of the operating parameters used to determine compliance with the operating limits listed in table 2 of this subpart. These devices (or methods) must measure and record the values for these operating parameters at the frequencies indicated in table 2 of this subpart at all times except as specified in [§ 60.2170\(a\)](#).

(b) If you use a fabric filter to comply with the requirements of this subpart and you do not use a PM CPMS or PM CEMS for monitoring PM compliance, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in [paragraphs \(b\)\(1\) 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;

(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 alarm system that will alert automatically an operator when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is observed easily by plant operating personnel;

(7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter; and

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(c) If you are using something other than a wet scrubber, activated carbon, selective non-catalytic reduction, an electrostatic precipitator, or a dry scrubber to comply with the emission limitations under [§ 60.2105](#), you must install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor compliance with the site-specific operating limits established using the procedures in [§ 60.2115](#).

(d) If you use activated carbon injection to comply with the emission limitations in this subpart, you must measure the minimum mercury sorbent flow rate once per hour.

(e) If you use selective noncatalytic reduction to comply with the emission limitations, you must complete the following:

(1) Following the date on which the initial performance test is completed or is required to be completed under [§ 60.2125](#), whichever date comes first, ensure that the affected facility does not operate above the maximum charge rate, or below the minimum secondary chamber temperature (if applicable to your CISWI) or the minimum reagent flow rate measured as 3-hour block averages at all times; and

(2) Operation of the affected facility above the maximum charge rate, below the minimum secondary chamber temperature and below the minimum reagent flow rate simultaneously constitute a violation of the nitrogen oxides emissions limit.

(f) If you use an electrostatic precipitator to comply with the emission limits of this subpart and you do not use a PM CPMS for monitoring PM compliance, you must monitor the secondary power to the electrostatic precipitator collection plates and maintain the 3-hour block averages at or above the operating limits established during the mercury or particulate matter performance test.

(g) For waste-burning kilns not equipped with a wet scrubber or dry scrubber, you must install, calibrate, maintain, and operate a CEMS for monitoring hydrogen chloride emissions discharged to the atmosphere, as specified in [§ 60.2145\(j\)](#), and record the output of the system. You may substitute use of a HCl CEMS for conducting the HCl initial and annual testing with EPA Method 321 at [40 CFR part 63, appendix A](#). For units other than waste-burning kilns not equipped with a wet scrubber or dry scrubber, a facility may substitute use of a hydrogen chloride CEMS for conducting the hydrogen chloride initial and annual performance test. For units equipped with a hydrogen chloride CEMS, you are not required to monitor the minimum hydrogen chloride sorbent flow rate, the minimum scrubber liquor pH, or the monitoring minimum injection rate.



(h) To demonstrate compliance with the particulate matter emissions limit, a facility may substitute use of a particulate matter CEMS for conducting the PM initial and annual performance test. For units equipped with a particulate matter CEMS, you are not required to use other CMS for monitoring PM compliance (*e.g.*, bag leak detectors, ESP secondary power, PM scrubber pressure).

(i) To demonstrate initial and continuous compliance with the dioxin/furan emissions limit, a facility may substitute use of a continuous automated sampling system for the dioxin/furan initial and annual performance tests. You must record the output of the system and analyze the sample according to EPA Method 23 at [40 CFR part 60, appendix A-7](#) of this part. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to dioxin/furan from continuous monitors is published in the Federal Register. The owner or operator who elects to continuously sample dioxin/furan emissions instead of sampling and testing using EPA Method 23 at [40 CFR part 60, appendix A-7](#) must install, calibrate, maintain, and operate a continuous automated sampling system and must comply with the requirements specified in [§ 60.58b\(p\)](#) and [\(q\)](#). A facility may substitute continuous dioxin/furan monitoring for the minimum sorbent flow rate, if activated carbon sorbent injection is used solely for compliance with the dioxin/furan emission limit.

(j) To demonstrate initial and continuous compliance with the mercury emissions limit, a facility may substitute use of a mercury CEMS or an integrated sorbent trap monitoring system for the mercury initial and annual performance test. The owner or operator who elects to continuously measure mercury emissions instead of sampling and testing using EPA Reference Method 29 or 30B at [40 CFR part 60, appendix A-8](#), ASTM D6784-02 (Reapproved 2008) (incorporated by reference, see [§ 60.17](#)), or an approved alternative method for measuring mercury emissions, must install, calibrate, maintain, and operate the mercury CEMS or integrated sorbent trap monitoring system and must comply with performance specification 12A or performance specification 12B, respectively, and quality assurance procedure 5. For the purposes of emissions calculations when using an integrated sorbent trap monitoring system, the mercury concentration determined for each sampling period must be assigned to each hour during the sampling period. Waste-burning kilns must install, calibrate, maintain, and operate a mercury CEMS or an integrated sorbent trap monitoring system as specified in [§ 60.2145\(j\)](#). For units equipped with a mercury CEMS or an integrated sorbent trap monitoring system, you are not required to monitor the minimum sorbent flow rate, if activated carbon sorbent injection is used solely for compliance with the mercury emission limit.

(k) To demonstrate initial and continuous compliance with the nitrogen oxides emissions limit, a facility may substitute use of a CEMS for the nitrogen oxides initial and annual performance test to demonstrate compliance with the nitrogen oxides emissions limits. For units equipped with a nitrogen oxides CEMS, you are not required to monitor the charge rate, secondary chamber temperature, and reagent flow for selective noncatalytic reduction, if applicable:

(1) Install, calibrate, maintain, and operate a CEMS for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of [appendix B of this part](#), the quality assurance procedure 1

of [appendix F of this part](#) and the procedures under [§ 60.13](#) must be followed for installation, evaluation, and operation of the CEMS; and

(2) Compliance with the emission limit for nitrogen oxides must be determined based on the 30-day rolling average of the hourly emission concentrations using CEMS outlet data, as outlined in [§ 60.2145\(u\)](#).

(l) To demonstrate initial and continuous compliance with the sulfur dioxide emissions limit, a facility may substitute use of a CEMS for the sulfur dioxide initial and annual performance test to demonstrate compliance with the sulfur dioxide emissions limits:

(1) Install, calibrate, maintain, and operate a CEMS for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of [appendix B of this part](#), the quality assurance requirements of procedure one of [appendix F of this part](#) and procedures under [§ 60.13](#) must be followed for installation, evaluation, and operation of the CEMS; and

(2) Compliance with the sulfur dioxide emission limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations using CEMS outlet data, as outlined in [§ 60.2145\(u\)](#).

(m) For energy recovery units over 10 MMBtu/hr but less than 250 MMBtu/hr annual average heat input rates that do not use a wet scrubber, fabric filter with bag leak detection system, an electrostatic precipitator, particulate matter CEMS, or particulate matter CPMS you must install, operate, certify, and maintain a continuous opacity monitoring system according to the procedures in [paragraphs \(m\)\(1\) through \(5\)](#) of this section by the compliance date specified in [§ 60.2105](#). Energy recovery units that use a CEMS to demonstrate initial and continuing compliance according to the procedures in [§ 60.2165\(n\)](#) are not required to install a continuous opacity monitoring system and must perform the annual performance tests for the opacity consistent with [§ 60.2145\(f\)](#):

(1) Install, operate, and maintain each continuous opacity monitoring system according to performance specification 1 of [40 CFR part 60, appendix B](#);

(2) Conduct a performance evaluation of each continuous opacity monitoring system according to the requirements in [§ 60.13](#) and according to PS-1 of [40 CFR part 60, appendix B](#);

(3) As specified in [§ 60.13\(e\)\(1\)](#), each continuous opacity monitoring system 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) Reduce the continuous opacity monitoring system data as specified in [§ 60.13\(h\)\(1\)](#); and

(5) Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected.

(n) For coal and liquid/gas energy recovery units, incinerators, and small remote incinerators, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring particulate matter emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who continuously monitors particulate matter emissions instead of conducting performance testing using EPA Method 5 at [40 CFR part 60, appendix A-3](#) or monitoring with a particulate matter CPMS according to [paragraph \(r\)](#) of this section, must install, calibrate, maintain, and operate a PM CEMS and must comply with the requirements specified in [paragraphs \(n\)\(1\)](#) through [\(10\)](#) of this section:

(1) The PM CEMS must be installed, evaluated, and operated in accordance with the requirements of performance specification 11 of [appendix B of this part](#) and quality assurance requirements of procedure 2 of [appendix F of this part](#) and [§ 60.13](#). Use Method 5 or Method 5I of [appendix A of this part](#) for the PM CEMS correlation testing;

(2) The initial performance evaluation must be completed no later than 180 days after the date of initial startup of the affected facility, as specified under [§ 60.2125](#) or within 180 days of notification to the Administrator of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5 performance tests, whichever is later;

(3) The owner or operator of an affected facility may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility must be established according to the procedures and methods specified in [§ 60.2145\(t\)\(4\)\(i\)](#) through [\(iv\)](#);

(4) The owner or operator of an affected facility must conduct an initial performance test for particulate matter emissions. If PM CEMS are elected for demonstrating compliance, and the initial performance test has not yet been conducted, then initial compliance must be determined by using the CEMS specified in [paragraph \(n\)](#) of this section to measure particulate matter. You must calculate a 30-day rolling average of 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown, as defined in this subpart, using equation 19-19 in [section 12.4.1](#) of EPA Reference Method 19 at [40 CFR part 60, appendix A-7](#);

(5) Continuous compliance with the particulate matter emission limit must be determined based on the 30-day rolling average calculated using equation 19-19 in [section 12.4.1](#) of EPA Reference Method 19 at [40 CFR part 60, appendix A-7](#) from the 1-hour arithmetic average CEMS outlet data;

(6) At a minimum, valid continuous monitoring system hourly averages must be obtained as specified in [§ 60.2170\(e\)](#);

(7) The 1-hour arithmetic averages required under [paragraph \(n\)\(5\)](#) of this section must be expressed in milligrams per dry standard cubic meter corrected to 7 percent oxygen (dry basis) and must be used to calculate the 30-day rolling average emission concentrations.

CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages must be calculated using the data points required under [§ 60.13\(e\)\(2\)](#);

(8) All valid CEMS data must be used in calculating average emission concentrations even if the minimum CEMS data requirements of [paragraph \(n\)\(6\)](#) of this section are not met.

(9) The CEMS must be operated according to performance specification 11 in [appendix B of this part](#); and,

(10) Quarterly and yearly accuracy audits and daily drift, system optics, and sample volume checks must be performed in accordance with procedure 2 in [appendix F of this part](#).

(o) To demonstrate initial and continuous compliance with the carbon monoxide emissions limit, you may substitute use of a CEMS for the carbon monoxide initial and annual performance test:

(1) Install, calibrate, maintain, and operate a CEMS for measuring carbon monoxide emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 4A or 4B of [appendix B of this part](#), the quality assurance procedure 1 of [appendix F of this part](#) and the procedures under [§ 60.13](#) must be followed for installation, evaluation, and operation of the CEMS; and

(2) Compliance with the carbon monoxide emission limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this subpart, using CEMS outlet data, as outlined in [§ 60.2145\(u\)](#).

(p) The owner/operator of an affected source with a bypass stack shall install, calibrate (to manufacturers' specifications), maintain, and operate a device or method for measuring the use of the bypass stack including date, time and duration.

(q) For energy recovery units with a design heat input capacity of 100 MMBtu/hr or greater that do not use a carbon monoxide CEMS, you must install, operate, and maintain a oxygen analyzer system as defined in [§ 60.2265](#) according to the procedures in [paragraphs \(q\)\(1\) through \(4\)](#) of this section:

(1) The oxygen analyzer system must be installed by the initial performance test date specified in [§ 60.2140](#);

(2) You must operate the oxygen trim system within compliance with [paragraph \(q\)\(3\)](#) of this section at all times;

(3) You must maintain the oxygen level such that the 30-day rolling average that is established as the operating limit for oxygen according to [paragraph \(q\)\(4\)](#) of this section is

not below the lowest hourly average oxygen concentration measured during the most recent CO performance test; and

(4) You must calculate and record a 30-day rolling average oxygen concentration using equation 19-19 in [section 12.4.1](#) of EPA Reference Method 19 of appendix A-7 of this part.

(r) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hr and waste-burning kilns, you must install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in [paragraphs \(r\)\(1\)](#) through [\(8\)](#) of this section. If you elect to use a particulate matter CEMS as specified in [paragraph \(n\)](#) of this section, you are not required to use a PM CPMS to monitor particulate matter emissions. For other energy recovery units, you may elect to use PM CPMS operated in accordance with this section. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (*e.g.*, bag leak detectors, ESP secondary power, PM scrubber pressure):

(1) Install, calibrate, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with [§ 60.2145\(l\)](#) and [paragraphs \(r\)\(1\)\(i\)](#) through [\(iii\)](#) of this section:

(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation detection of PM in the exhaust gas or representative sample. The reportable measurement output from the PM CPMS must be expressed as milliamps or a digital signal equivalent;

(ii) The PM CPMS must have a cycle time (*i.e.*, period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes; and

(iii) The PM CPMS must be capable of detecting and responding to particulate matter concentration increments no greater than 0.5 mg/actual cubic meter.

(2) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, you must adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in [§ 60.2110](#).

(3) Collect PM CPMS hourly average output data for all energy recovery unit or waste-burning kiln operating hours. Express the PM CPMS output as milliamps or the digital signal equivalent.

(4) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output collected during all energy recovery unit or waste-burning kiln operating hours data (milliamps or digital bits).

(5) You must collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in [paragraph \(r\)\(1\)\(ii\)](#) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring

system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in your site-specific monitoring plan.

(6) You must use all the data collected during all energy recovery unit or waste-burning kiln operating hours in assessing the compliance with your operating limit except:

(i) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities conducted during monitoring system malfunctions are not used in calculations (report any such periods in your annual deviation report);

(ii) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods are not used in calculations (report emissions or operating levels and report any such periods in your annual deviation report); and

(iii) Any PM CPMS data recorded during periods of CEMS data during startup and shutdown, as defined in this subpart.

(7) You must record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with your site-specific monitoring plan.

(8) For any deviation of the 30-day rolling average PM CPMS average value from the established operating parameter limit, you must:

(i) Within 48 hours of the deviation, visually inspect the air pollution control device;

(ii) If inspection of the air pollution control device identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value;

(iii) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify the operation of the emissions control device(s). Within 45 days of the deviation, you must re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph; and

(iv) PM CPMS deviations leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a violation of this subpart.

(s) If you use a dry scrubber to comply with the emission limits of this subpart, you must monitor the injection rate of each sorbent and maintain the 3-hour block averages at or above the operating limits established during the hydrogen chloride performance test.

(t) If you are required to monitor clinker production because you comply with the production-rate based mercury limit for your waste-burning kiln, you must:

(1) Determine hourly clinker production by one of two methods:

(i) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of clinker produced. The system of measuring hourly clinker production must be maintained within  $\pm 5$  percent accuracy, or

(ii) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of feed to the kiln. The system of measuring feed must be maintained within  $\pm 5$  percent accuracy. Calculate your hourly clinker production rate using a kiln-specific feed to clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. Update this ratio monthly. Note that if this ratio changes at clinker reconciliation, you must use the new ratio going forward, but you do not have to retroactively change clinker production rates previously estimated.

(2) Determine the accuracy of the system of measuring hourly clinker production (or feed mass flow if applicable) before the effective date and during each quarter of source operation.

(3) Conduct accuracy checks in accordance with the procedures outlined in your site-specific monitoring plan under [§ 60.2145\(l\)](#).

## **§ 60.2170 Is there a minimum amount of monitoring data I must obtain?**

For each continuous monitoring system required or optionally allowed under [§ 60.2165](#), you must collect data according to this section:

(a) You must operate the monitoring system and collect data at all required intervals at all times compliance is required except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods (as specified in 60.2210(o)), and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). 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 effect 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;

(b) You may not use data recorded during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. You must use all the data collected during all other periods, including data normalized for above scale readings, in assessing the operation of the control device and associated control system; and

(c) Except for periods of monitoring system malfunctions or out-of-control periods, 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 and required zero and span adjustments, failure to collect required data is a deviation of the monitoring requirements.

### **Recordkeeping and Reporting**

## **§ 60.2175 What records must I keep?**

You must maintain the items (as applicable) as specified in [paragraphs \(a\)](#), [\(b\)](#), and [\(e\)](#) through [\(x\)](#) of this section for a period of at least 5 years:

(a) Calendar date of each record; and

(b) Records of the data described in [paragraphs \(b\)\(1\)](#) through [\(7\)](#) of this section:

(1) The CISWI charge dates, times, weights, and hourly charge rates;

(2) Liquor flow rate to the wet scrubber inlet every 15 minutes of operation, as applicable;

(3) Pressure drop across the wet scrubber system every 15 minutes of operation or amperage to the wet scrubber every 15 minutes of operation, as applicable;

(4) Liquor pH as introduced to the wet scrubber every 15 minutes of operation, as applicable;

(5) For affected CISWIs that establish operating limits for controls other than wet scrubbers under [§ 60.2110\(d\)](#) through [\(g\)](#) or [§ 60.2115](#), you must maintain data collected for all operating parameters used to determine compliance with the operating limits. For energy recovery units using activated carbon injection or a dry scrubber, you must also maintain records of the load fraction and corresponding sorbent injection rate records;

(6) If a fabric filter is used to comply with the emission limitations, you must record the date, time, and duration of each alarm and 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 operating time during each 6-month period that the alarm sounds, calculated as specified in [§ 60.2110\(c\)](#);

(7) If you monitor clinker production in accordance with [§ 60.2165\(t\)](#):

(i) Hourly clinker rate produced if clinker production is measured directly;

(ii) Hourly measured kiln feed rates and calculated clinker production rates if clinker production is not measured directly;

(iii) 30-day rolling averages for mercury in pounds per million tons of clinker produced;

(iv) The initial and quarterly accuracy of the system of measuring hourly clinker production (or feed mass flow).

(c)-(d) [Reserved]

(e) Identification of calendar dates and times for which data show a deviation from the operating limits in table 2 of this subpart or a deviation from other operating limits established under [§ 60.2110\(d\)](#) through [\(g\)](#) or [§ 60.2115](#) with a description of the deviations, reasons for such deviations, and a description of corrective actions taken;

(f) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating limits, as applicable. Retain a copy of the complete test report including calculations;

(g) All documentation produced as a result of the siting requirements of [§§ 60.2045](#) and [60.2050](#);

(h) Records showing the names of CISWI operators who have completed review of the information in [§ 60.2095\(a\)](#) as required by [§ 60.2095\(b\)](#), including the date of the initial review and all subsequent annual reviews;

(i) Records showing the names of the CISWI operators who have completed the operator training requirements under [§ 60.2070](#), met the criteria for qualification under [§ 60.2080](#), and maintained or renewed their qualification under [§ 60.2085](#) or [§ 60.2090](#). Records must include documentation of training, the dates of the initial and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications;

(j) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours;

(k) Records of calibration of any monitoring devices as required under [§ 60.2165](#);

(l) Equipment vendor specifications and related operation and maintenance requirements for the incinerator, emission controls, and monitoring equipment;

(m) The information listed in [§ 60.2095\(a\)](#);

(n) On a daily basis, keep a log of the quantity of waste burned and the types of waste burned (always required);

(o) Maintain records of the annual air pollution control device inspections that are required for each CISWI subject to the emissions limits in table 1 of this subpart or tables 5 through 8 of this subpart, any required maintenance, and any repairs not completed within 10 days of an inspection or the timeframe established by the state regulatory agency;

(p) For continuously monitored pollutants or parameters, you must document and keep a record of the following parameters measured using continuous monitoring systems. If you monitor emissions with a CEMS, you must indicate which data are CEMS data during startup and shutdown:

(1) All 6-minute average levels of opacity;

(2) All 1-hour average concentrations of sulfur dioxide emissions;

(3) All 1-hour average concentrations of nitrogen oxides emissions;

(4) All 1-hour average concentrations of carbon monoxide emissions;

(5) All 1-hour average concentrations of particulate matter emissions;

(6) All 1-hour average concentrations of mercury emissions;

(7) All 1-hour average concentrations of HCl CEMS outputs;

(8) All 1-hour average percent oxygen concentrations; and

(9) All 1-hour average PM CPMS readings or particulate matter CEMS outputs;

(q) Records indicating use of the bypass stack, including dates, times, and durations.

(r) If you choose to stack test less frequently than annually, consistent with [§ 60.2155\(a\)](#) through [\(c\)](#), you must keep annual records that document that your emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.

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

(t) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(u) Records of actions taken during periods of malfunction to minimize emissions in accordance with [§ 60.11\(d\)](#), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(v) 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 of [§ 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\(a\)](#).

(w) Records of the criteria used to establish that the unit qualifies as a small power production facility under section 3(17)(C) of the Federal Power Act ([16 U.S.C. 796\(17\)\(C\)](#)) and that the waste material the unit is proposed to burn is homogeneous.

(x) Records of the criteria used to establish that the unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act ([16 U.S.C. 796\(18\)\(B\)](#)) and that the waste material the unit is proposed to burn is homogeneous.

## **§ 60.2180 Where and in what format must I keep my records?**

All records must be available onsite in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.

## **§ 60.2185 What reports must I submit?**

See table 4 of this subpart for a summary of the reporting requirements.

## **§ 60.2190 What must I submit prior to commencing construction?**

You must submit a notification prior to commencing construction that includes the five items listed in [paragraphs \(a\)](#) through [\(e\)](#) of this section:

- (a) A statement of intent to construct;
- (b) The anticipated date of commencement of construction;
- (c) All documentation produced as a result of the siting requirements of [§ 60.2050](#);
- (d) The waste management plan as specified in [§§ 60.2055](#) through [60.2065](#); and
- (e) Anticipated date of initial startup.

### **§ 60.2195 What information must I submit prior to initial startup?**

You must submit the information specified in [paragraphs \(a\)](#) through [\(e\)](#) of this section prior to initial startup:

- (a) The type(s) of waste to be burned;
- (b) The maximum design waste burning capacity;
- (c) The anticipated maximum charge rate;
- (d) If applicable, the petition for site-specific operating limits under [§ 60.2115](#); and
- (e) The anticipated date of initial startup.

### **§ 60.2200 What information must I submit following my initial performance test?**

You must submit the information specified in [paragraphs \(a\)](#) through [\(c\)](#) of this section no later than 60 days following the initial performance test. All reports must be signed by the facilities manager:

- (a) The complete test report for the initial performance test results obtained under [§ 60.2135](#), as applicable;
- (b) The values for the site-specific operating limits established in [§ 60.2110](#) or [§ 60.2115](#); and
- (c) If you are using a fabric filter to comply with the emission limitations, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by [§ 60.2165\(b\)](#).

### **§ 60.2205 When must I submit my annual report?**

You must submit an annual report no later than 12 months following the submission of the information in [§ 60.2200](#). You must submit subsequent reports no more than 12 months following the previous report. (If the unit is subject to permitting requirements under title V of the Clean Air Act, you may be required by the permit to submit these reports more frequently.)

## **§ 60.2210 What information must I include in my annual report?**

The annual report required under [§ 60.2205](#) must include the items listed in [paragraphs \(a\) through \(p\)](#) of this section. If you have a deviation from the operating limits or the emission limitations, you must also submit deviation reports as specified in [§§ 60.2215, 60.2220, and 60.2225](#):

- (a) Company name and address;
- (b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report;
- (c) Date of report and beginning and ending dates of the reporting period;
- (d) The values for the operating limits established pursuant to [§ 60.2110](#) or [§ 60.2115](#);
- (e) If no deviation from any emission limitation or operating limit that applies to you has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period;
- (f) The highest recorded 3-hour average and the lowest recorded 3-hour average (30-day average for energy recovery units), as applicable, for each operating parameter recorded for the calendar year being reported;
- (g) Information recorded under [§ 60.2175\(b\)\(6\)](#) and [\(c\)](#) through [\(e\)](#) for the calendar year being reported;
- (h) For each performance test conducted during the reporting period, if any performance test is conducted, the process unit(s) tested, the pollutant(s) tested and the date that such performance test was conducted. Submit, following the procedure specified in [§ 60.2235\(b\)\(1\)](#), the performance test report no later than the date that you submit the annual report;
- (i) If you met the requirements of [§ 60.2155\(a\)](#) or [\(b\)](#), and did not conduct a performance test during the reporting period, you must state that you met the requirements of [§ 60.2155\(a\)](#) or [\(b\)](#), and, therefore, you were not required to conduct a performance test during the reporting period;
- (j) Documentation of periods when all qualified CISWI operators were unavailable for more than 8 hours, but less than 2 weeks;

(k) 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 that occurred during the reporting period and that 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 [§ 60.11\(d\)](#), including actions taken to correct a malfunction;

(l) For each deviation from an emission or operating limitation that occurs for a CISWI for which you are not using a continuous monitoring system to comply with the emission or operating limitations in this subpart, the annual report must contain the following information:

(1) The total operating time of the CISWI at which the deviation occurred during the reporting period; and

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(m) If there were periods during which the continuous monitoring system, including the CEMS, was out of control as specified in [paragraph \(o\)](#) of this section, the annual report must contain the following information for each deviation from an emission or operating limitation occurring for a CISWI for which you are using a continuous monitoring system to comply with the emission and operating limitations in this subpart:

(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 continuous monitoring system was out-of-control, including start and end dates and hours and descriptions of corrective actions taken;

(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 continuous monitoring system downtime during the reporting period, and the total duration of continuous monitoring system downtime as a percent of the total operating time of the CISWI at which the continuous monitoring system downtime occurred during that reporting period;

(8) An identification of each parameter and pollutant that was monitored at the CISWI;

(9) A brief description of the CISWI;

(10) A brief description of the continuous monitoring system;

(11) The date of the latest continuous monitoring system certification or audit; and

(12) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.

(n) If there were periods during which the continuous monitoring system, including the CEMS, was not out of control as specified in [paragraph \(o\)](#) of this section, a statement that there were not periods during which the continuous monitoring system was out of control during the reporting period.

(o) A continuous monitoring system is out of control in accordance with the procedure in [40 CFR part 60, appendix F](#) of this part, as if any of the following occur:

(1) The zero (low-level), mid-level (if applicable), or high-level calibration drift exceeds two times the applicable calibration drift specification in the applicable performance specification or in the relevant standard;

(2) The continuous monitoring system fails a performance test audit (*e.g.*, cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit; and

(3) The continuous opacity monitoring system calibration drift exceeds two times the limit in the applicable performance specification in the relevant standard.

(p) For energy recovery units, include the annual heat input and average annual heat input rate of all fuels being burned in the unit to verify which subcategory of energy recovery unit applies.

[[84 FR 15853](#), Apr. 16, 2019, as amended at [85 FR 63404](#), Oct. 7, 2020]

## **§ 60.2215 What else must I report if I have a deviation from the operating limits or the emission limitations?**

(a) You must submit a deviation report if any recorded 3-hour average (30-day average for energy recovery units or for PM CPMS) parameter level is above the maximum operating limit or below the minimum operating limit established under this subpart, if the bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period, if a performance test was conducted that deviated from any emission limitation, if a 30-day average measured using CEMS deviated from any emission limitation.

(b) The deviation report must be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data you collected during the second half of the calendar year (July 1 to December 31).

## **§ 60.2220 What must I include in the deviation report?**

In each report required under [§ 60.2215](#), for any pollutant or parameter that deviated from the emission limitations or operating limits specified in this subpart, include the six items described in [paragraphs \(a\)](#) through [\(d\)](#) of this section:

- (a) The calendar dates and times your unit deviated from the emission limitations or operating limit requirements;
- (b) The averaged and recorded data for those dates;
- (c) Durations and causes of the following:
  - (1) Each deviation from emission limitations or operating limits and your corrective actions;
  - (2) Bypass events and your corrective actions; and
- (d) A copy of the operating limit monitoring data during each deviation and for any test report that documents the emission levels the process unit(s) tested, the pollutant(s) tested and the date that the performance test was conducted. Submit, following the procedure specified in [§ 60.2235\(b\)\(1\)](#), the performance test report no later than the date that you submit the deviation report.

## **§ 60.2225 What else must I report if I have a deviation from the requirement to have a qualified operator accessible?**

- (a) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in [paragraphs \(a\)\(1\)](#) and [\(2\)](#) of this section:
  - (1) Submit a notification of the deviation within 10 days that includes the three items in [paragraphs \(a\)\(1\)\(i\)](#) through [\(iii\)](#) of this section:
    - (i) A statement of what caused the deviation;
    - (ii) A description of what you are doing to ensure that a qualified operator is accessible; and
    - (iii) The date when you anticipate that a qualified operator will be available.
  - (2) Submit a status report to the Administrator every 4 weeks that includes the three items in [paragraphs \(a\)\(2\)\(i\)](#) through [\(iii\)](#) of this section:



- (i) A description of what you are doing to ensure that a qualified operator is accessible;
  - (ii) The date when you anticipate that a qualified operator will be accessible; and
  - (iii) Request approval from the Administrator to continue operation of the CISWI.
- (b) If your unit was shut down by the Administrator, under the provisions of [§ 60.2100\(b\)\(2\)](#), due to a failure to provide an accessible qualified operator, you must notify the Administrator that you are resuming operation once a qualified operator is accessible.

## **§ 60.2230 Are there any other notifications or reports that I must submit?**

- (a) Yes. You must submit notifications as provided by [§ 60.7](#).
- (b) If you cease combusting solid waste but continue to operate, you must provide 30 days prior notice of the effective date of the waste-to-fuel switch, consistent with 60.2145(a). The notification must identify:
- (1) The name of the owner or operator of the CISWI, the location of the source, the emissions unit(s) that will cease burning solid waste, and the date of the notice;
  - (2) The currently applicable subcategory under this subpart, and any [40 CFR part 63 subpart](#) and subcategory that will be applicable after you cease combusting solid waste;
  - (3) The fuel(s), non-waste material(s) and solid waste(s) the CISWI is currently combusting and has combusted over the past 6 months, and the fuel(s) or non-waste materials the unit will commence combusting;
  - (4) The date on which you became subject to the currently applicable emission limits; and
  - (5) The date upon which you will cease combusting solid waste, and the date (if different) that you intend for any new requirements to become applicable (*i.e.*, the effective date of the waste-to-fuel switch), consistent with [paragraphs \(b\)\(2\)](#) and [\(3\)](#) of this section.

## **§ 60.2235 In what form can I submit my reports?**

- (a) Submit initial, annual and deviation reports electronically or in paper format, postmarked on or before the submittal due dates. Beginning on April 16, 2021 or once the reporting form has been available in CEDRI for 1 year, whichever is later, you must submit subsequent reports on or before the submittal dates to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). Use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the CEDRI website (<https://www3.epa.gov/ttn/chief/cedri/index.html>). The date forms

become available in CEDRI will be listed on the CEDRI website. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the report is submitted.

(b) Submit results of each performance test and CEMS performance evaluation required by this subpart as follows:

(1) Within 60 days after the date of completing each performance test (*see* § 60.8) required by this subpart, you must submit the results of the performance test following the procedure specified in either [paragraph \(b\)\(1\)\(i\)](#) or [\(b\)\(1\)\(ii\)](#) 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 website ([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 CEDRI. (CEDRI can be accessed through the EPA's 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 XML schema listed on the EPA's ERT website. 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 website, 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; and

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in [§ 60.4](#).

(2) Within 60 days after the date of completing each continuous emissions monitoring system performance evaluation you must submit the results of the performance evaluation following the procedure specified in either [paragraph \(b\)\(2\)\(i\)](#) or [\(b\)\(2\)\(ii\)](#) 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 website 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 website. 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 website, 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; and

(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 website at the time of the evaluation, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in [§ 60.4](#).

(c) If you are required to electronically submit a report through the Compliance and Emissions Data Reporting Interface (CEDRI) in the EPA's Central Data Exchange (CDX), and due to a planned or actual outage of either the EPA's CEDRI or CDX systems within the period of time beginning 5 business days prior to the date that the submission is due, you will be or are precluded from accessing CEDRI or CDX and submitting a required report within the time prescribed, you may assert a claim of EPA system outage for failure to timely comply with the reporting requirement. 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 caused a delay in reporting. You must provide to the Administrator a written description identifying the date, time and length of the outage; a rationale for attributing the delay in reporting beyond the regulatory deadline to the EPA system outage; describe the measures taken or to be taken to minimize the delay in reporting; and identify a date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported. In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved. 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.

(d) If you are required to electronically submit a report through CEDRI in the EPA's CDX and 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 5 business days prior to the date the submission is due, the owner or operator may assert a claim of force majeure for failure to timely comply with the reporting requirement. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (*e.g.*, hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (*e.g.*, large scale power outage). If you intend to assert a claim of force majeure, 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 caused a delay in reporting. You must provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event; describe the measures

taken or to be taken to minimize the delay in reporting; and identify a date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported. In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs. The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

## **§ 60.2240 Can reporting dates be changed?**

If the Administrator agrees, you may change the semiannual or annual reporting dates. See [§ 60.19\(c\)](#) for procedures to seek approval to change your reporting date.

### **Title V Operating Permits**

## **§ 60.2242 Am I required to apply for and obtain a Title V operating permit for my unit?**

Yes. Each CISWI and ACI subject to standards under this subpart must operate pursuant to a permit issued under Section 129(e) and Title V of the Clean Air Act.

### **Air Curtain Incinerators (ACIs)**

## **§ 60.2245 What is an air curtain incinerator?**

(a) An ACI operates by forcefully projecting a curtain of air across an open chamber or open pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.

(b) Air curtain incinerators that burn only the materials listed in [paragraphs \(b\)\(1\) through \(3\)](#) of this section are only required to meet the requirements under [§ 60.2242](#) and under “Air Curtain Incinerators” ([§§ 60.2245 through 60.2260](#)):

- (1) 100 percent wood waste;
- (2) 100 percent clean lumber; and
- (3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

## **§ 60.2250 What are the emission limitations for air curtain incinerators?**

Within 60 days after your ACI reaches the charge rate at which it will operate, but no later than 180 days after its initial startup, you must meet the two limitations specified in [paragraphs \(a\) and \(b\)](#) of this section:

- (a) Maintain opacity to less than or equal to 10 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values), except as described in [paragraph \(b\)](#) of this section; and
- (b) Maintain opacity to less than or equal to 35 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) during the startup period that is within the first 30 minutes of operation.

### **§ 60.2255 How must I monitor opacity for air curtain incinerators?**

- (a) Use Method 9 of [appendix A of this part](#) to determine compliance with the opacity limitation.
- (b) Conduct an initial test for opacity as specified in [§ 60.8](#).
- (c) After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of your previous test.

### **§ 60.2260 What are the recordkeeping and reporting requirements for air curtain incinerators?**

- (a) Prior to commencing construction on your ACI, submit the three items described in [paragraphs \(a\)\(1\) through \(3\)](#) of this section:
  - (1) Notification of your intent to construct the ACI;
  - (2) Your planned initial startup date; and
  - (3) Types of materials you plan to burn in your ACI.
- (b) Keep records of results of all initial and annual opacity tests onsite in either paper copy or electronic format, unless the Administrator approves another format, for at least 5 years.
- (c) Make all records available for submittal to the Administrator or for an inspector's onsite review.
- (d) You must submit the results (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) of the initial opacity tests no later than 60

days following the initial test. Submit annual opacity test results within 12 months following the previous report.

(e) Submit initial and annual opacity test reports as electronic or paper copy on or before the applicable submittal date.

(f) Keep a copy of the initial and annual reports onsite for a period of 5 years.

## **Definitions**

### **§ 60.2265 What definitions must I know?**

Terms used but not defined in this subpart are defined in the Clean Air Act and subpart A (General Provisions) of this part.

*30-day rolling average* means the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes periods when this unit is not operating. The 720 hours should be consecutive, but not necessarily continuous if operations are intermittent.

*Administrator* means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative or Administrator of a State Air Pollution Control Agency.

*Air curtain incinerator (ACI)* means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.

*Annual heat input* means the heat input for the 12 months preceding the compliance demonstration.

*Auxiliary fuel* means natural gas, liquified petroleum gas, fuel oil, or diesel fuel.

*Average annual heat input rate* means annual heat input divided by the hours of operation for the 12 months preceding the compliance demonstration.

*Bag leak detection system* means an instrument that is 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 triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

*Burn-off oven* means any rack reclamation unit, part reclamation unit, or drum reclamation unit. A burn-off oven is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

*Bypass stack* means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

*Calendar quarter* means three consecutive months (nonoverlapping) beginning on: January 1, April 1, July 1, or October 1.

*Calendar year* means 365 consecutive days starting on January 1 and ending on December 31.

*CEMS data during startup and shutdown* means the following:

(1) For incinerators and small remote incinerators: CEMS data collected during the first hours of a CISWI startup from a cold start until waste is fed to the unit and the hours of operation following the cessation of waste material being fed to the CISWI during a unit shutdown. For each startup event, the length of time that CEMS data may be claimed as being CEMS data during startup must be 48 operating hours or less. For each shutdown event, the length of time that CEMS data may be claimed as being CEMS data during shutdown must be 24 operating hours or less;

(2) For energy recovery units: CEMS data collected during the startup or shutdown periods of operation. Startup begins with either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy (such as steam or heat) for heating, cooling or process purposes, or producing electricity, or the firing of fuel in a boiler or process heater for any purpose after a shutdown event. Startup ends four hours after when the boiler or process heater makes useful thermal energy (such as heat or steam) for heating, cooling, or process purposes, or generates electricity, whichever is earlier. Shutdown begins when the boiler or process heater no longer makes useful thermal energy (such as heat or steam) for heating, cooling, or process purposes and/or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown ends when the boiler or process heater no longer makes useful thermal energy (such as steam or heat) for heating, cooling, or process purposes and/or generates electricity, and no fuel is being combusted in the boiler or process heater; and

(3) For waste-burning kilns: CEMS data collected during the periods of kiln operation that do not include normal operations. Startup means the time from when a shutdown kiln first begins firing fuel until it begins producing clinker. Startup begins when a shutdown kiln turns on the induced draft fan and begins firing fuel in the main burner. Startup ends when feed is being continuously introduced into the kiln for at least 120 minutes or when the feed rate exceeds 60 percent of the kiln design limitation rate, whichever occurs first. Shutdown means the cessation of kiln operation. Shutdown begins when feed to the kiln is halted and ends when continuous kiln rotation ceases.

*Chemical recovery unit* means combustion units burning materials to recover chemical constituents or to produce chemical compounds where there is an existing commercial market for such recovered chemical constituents or compounds. A chemical recovery unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart. The following seven types of units are considered chemical recovery units:

- (1) Units burning only pulping liquors (*i.e.*, black liquor) that are reclaimed in a pulping liquor recovery process and reused in the pulping process;
- (2) Units burning only spent sulfuric acid used to produce virgin sulfuric acid;
- (3) Units burning only wood or coal feedstock for the production of charcoal;
- (4) Units burning only manufacturing byproduct streams/residue containing catalyst metals that are reclaimed and reused as catalysts or used to produce commercial grade catalysts;
- (5) Units burning only coke to produce purified carbon monoxide that is used as an intermediate in the production of other chemical compounds;
- (6) Units burning only hydrocarbon liquids or solids to produce hydrogen, carbon monoxide, synthesis gas, or other gases for use in other manufacturing processes; and
- (7) Units burning only photographic film to recover silver.

*Chemotherapeutic waste* means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.

*Clean lumber* means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.

*Commercial and industrial solid waste incineration unit (CISWI)* means any distinct operating unit of any commercial or industrial facility that combusts, or has combusted in the preceding 6 months, any solid waste as that term is defined in [40 CFR part 241](#). If the operating unit burns materials other than traditional fuels as defined in [§ 241.2](#) that have been discarded, and you do not keep and produce records as required by [§ 60.2175\(v\)](#), the operating unit is a CISWI. While not all CISWIs will include all of the following components, a CISWI includes, but is not limited to, the solid waste feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The CISWI does not include air pollution control equipment or the stack. The CISWI boundary starts at the solid waste hopper (if applicable) and extends through two areas: The combustion unit flue gas system, which ends immediately after the last combustion chamber or after the waste heat recovery equipment, if any; and the combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. The CISWI includes all ash handling systems connected to the bottom ash handling system.

*Contained gaseous material* means gases that are in a container when that container is combusted.



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

*Continuous monitoring system (CMS)* means the total equipment, required under the emission monitoring sections in applicable subparts, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters. A particulate matter continuous parameter monitoring system (PM CPMS) is a type of CMS.

*Cyclonic burn barrel* means a combustion device for waste materials that is attached to a 55 gallon, open-head drum. The device consists of a lid, which fits onto and encloses the drum, and a blower that forces combustion air into the drum in a cyclonic manner to enhance the mixing of waste material and air. A cyclonic burn barrel is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

*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, operating limit, or operator qualification and accessibility requirements; and
- (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.

*Dioxins/furans* means tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.

*Discard* means, for purposes of this subpart and [40 CFR part 60, subpart DDDD](#), only, burned in an incineration unit without energy recovery.

*Drum reclamation unit* means a unit that burns residues out of drums (*e.g.*, 55 gallon drums) so that the drums can be reused.

*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 in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

*Energy recovery* means the process of recovering thermal energy from combustion for useful purposes such as steam generation or process heating.

*Energy recovery unit* means a combustion unit combusting solid waste (as that term is defined by the Administrator in [40 CFR part 241](#)) for energy recovery. Energy recovery units include units that would be considered boilers and process heaters if they did not combust solid waste.

*Energy recovery unit designed to burn biomass (Biomass)* means an energy recovery unit that burns solid waste, biomass, and non-coal solid materials but less than 10 percent coal, on a heat input basis on an annual average, either alone or in combination with liquid waste, liquid fuel or gaseous fuels.

*Energy recovery unit designed to burn coal (Coal)* means an energy recovery unit that burns solid waste and at least 10 percent coal on a heat input basis on an annual average, either alone or in combination with liquid waste, liquid fuel or gaseous fuels.

*Energy recovery unit designed to burn liquid waste materials and gas (Liquid/gas)* means an energy recovery unit that burns a liquid waste with liquid or gaseous fuels not combined with any solid fuel or waste materials.

*Energy recovery unit designed to burn solid materials (Solids)* includes energy recovery units designed to burn coal and energy recovery units designed to burn biomass.

*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.

*Foundry sand thermal reclamation unit* means a type of part reclamation unit that removes coatings that are on foundry sand. A foundry sand thermal reclamation unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

*Incinerator* means any furnace used in the process of combusting solid waste (as that term is defined by the Administrator in [40 CFR part 241](#)) for the purpose of reducing the volume of the waste by removing combustible matter. Incinerator designs include single chamber and two-chamber.

*In-line coal mill* means those coal mills using kiln exhaust gases in their process. Coal mills with a heat source other than the kiln or coal mills using exhaust gases from the clinker cooler alone are not an in-line coal mill.

*In-line kiln/raw mill* means a system in a Portland Cement production process where a dry kiln system is integrated with the raw mill so that all or a portion of the kiln exhaust gases are used to perform the drying operation of the raw mill, with no auxiliary heat source used. In this system the kiln is capable of operating without the raw mill operating, but the raw mill cannot operate without the kiln gases, and consequently, the raw mill does not generate a separate exhaust gas stream.

*Kiln* means an oven or furnace, including any associated preheater or precalciner devices, in-line raw mills, in-line coal mills or alkali bypasses used for processing a substance by burning, firing or drying. Kilns include cement kilns that produce clinker by heating limestone and other materials for subsequent production of Portland Cement. Because the alkali bypass, in-line raw mill and in-line coal mill are considered an integral part of the kiln, the kiln emissions limits also apply to the exhaust of the alkali bypass, in-line raw mill and in-line coal mill.

*Laboratory analysis unit* means units that burn samples of materials for the purpose of chemical or physical analysis. A laboratory analysis unit is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

*Load fraction* means the actual heat input of an energy recovery unit 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).

*Low-level radioactive waste* means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable federal or state standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or byproduct material as defined by the Atomic Energy Act of 1954 ([42 U.S.C. 2014\(e\)\(2\)](#)).

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.

*Minimum voltage or amperage* means 90 percent of the lowest test-run average voltage or amperage to the electrostatic precipitator measured during the most recent particulate matter or mercury performance test demonstrating compliance with the applicable emission limits.

*Modification or modified CISWI* means a CISWI that has been changed later than August 7, 2013 and that meets one of two criteria:

(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the CISWI (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI used to calculate these costs, see the definition of CISWI; and

(2) Any physical change in the CISWI or change in the method of operating it that increases the amount of any air pollutant emitted for which section 129 or section 111 of the Clean Air Act has established standards.

*Municipal solid waste or municipal-type solid waste* means household, commercial/retail, or institutional waste. Household waste includes material discarded by residential dwellings, hotels, motels, and other similar permanent or temporary housing. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes materials discarded by schools, by hospitals (nonmedical), by nonmanufacturing activities at prisons and government facilities, and other similar establishments or facilities. Household, commercial/retail, and institutional waste does include yard waste and refuse-derived fuel. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition

wastes (which include railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff).

*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 amount of solid waste is combusted at any time in the CISWI.

*Oxygen analyzer system* means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler or process heater flue gas, boiler or process heater, firebox, or other appropriate location. This definition includes oxygen trim systems and certified oxygen CEMS. The source owner or operator is responsible to install, calibrate, maintain, and operate the oxygen analyzer system in accordance with the manufacturer's recommendations.

*Oxygen trim system* means a system of monitors that is used to maintain excess air at the desired level in a combustion device over its operating 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.

*Part reclamation unit* means a unit that burns coatings off parts (e.g., tools, equipment) so that the parts can be reconditioned and reused.

*Particulate matter* means total particulate matter emitted from CISWIs as measured by Method 5 or Method 29 of [appendix A of this part](#).

*Pathological waste* means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

*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.

*Process change* means any of the following physical or operational changes:

- (1) A physical change (maintenance activities excluded) to the CISWI which may increase the emission rate of any air pollutant to which a standard applies;
- (2) An operational change to the CISWI where a new type of non-hazardous secondary material is being combusted;

(3) A physical change (maintenance activities excluded) to the air pollution control devices used to comply with the emission limits for the CISWI (e.g., replacing an electrostatic precipitator with a fabric filter); and

(4) An operational change to the air pollution control devices used to comply with the emission limits for the affected CISWI (e.g., change in the sorbent injection rate used for activated carbon injection).

*Rack reclamation unit* means a unit that burns the coatings off racks used to hold small items for application of a coating. The unit burns the coating overspray off the rack so the rack can be reused.

*Raw mill* means a ball or tube mill, vertical roller mill or other size reduction equipment, that is not part of an in-line kiln/raw mill, used to grind feed to the appropriate size. Moisture may be added or removed from the feed during the grinding operation. If the raw mill is used to remove moisture from feed materials, it is also, by definition, a raw material dryer. The raw mill also includes the air separator associated with the raw mill.

*Reconstruction* means rebuilding a CISWI and meeting two criteria:

(1) The reconstruction begins on or after August 7, 2013; and

(2) The cumulative cost of the construction over the life of the incineration unit exceeds 50 percent of the original cost of building and installing the CISWI (not including land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI used to calculate these costs, see the definition of CISWI.

*Refuse-derived fuel* means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. This includes all classes of refuse-derived fuel including two fuels:

(1) Low-density fluff refuse-derived fuel through densified refuse-derived fuel; and

(2) Pelletized refuse-derived fuel.

*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 applying for or subject to a permit 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 representatives is approved in advance by the permitting authority;

(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 EPA); or

(4) For affected facilities:

(i) The designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the Clean Air Act or the regulations promulgated thereunder are concerned; or

(ii) The designated representative for any other purposes under part 60.

*Shutdown* means, for incinerators and small, remote incinerators, the period of time after all waste has been combusted in the primary chamber.

*Small, remote incinerator* means an incinerator that combusts solid waste (as that term is defined by the Administrator in [40 CFR part 241](#)) and combusts 3 tons per day or less solid waste and is more than 25 miles driving distance to the nearest municipal solid waste landfill.

*Soil treatment unit* means a unit that thermally treats petroleum-contaminated soils for the sole purpose of site remediation. A soil treatment unit may be direct-fired or indirect fired. A soil treatment unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

*Solid waste* means the term solid waste as defined in [40 CFR 241.2](#).

*Solid waste incineration unit* means a distinct operating unit of any facility which combusts any solid waste (as that term is defined by the Administrator in [40 CFR part 241](#)) material from commercial or industrial establishments or the general public (including single and multiple residences, hotels and motels). Such term does not include incinerators or other units required to have a permit under section 3005 of the Solid Waste Disposal Act. The term “solid waste incineration unit” does not include:

(1) Materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals;

(2) Qualifying small power production facilities, as defined in section 3(17)(C) of the Federal Power Act ([16 U.S.C. 769\(17\)\(C\)](#)), or qualifying cogeneration facilities, as defined in section 3(18)(B) of the Federal Power Act ([16 U.S.C. 796\(18\)\(B\)](#)), which burn homogeneous waste

(such as units which burn tires or used oil, but not including refuse-derived fuel) for the production of electric energy or in the case of qualifying cogeneration facilities which burn homogeneous waste for the production of electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating or cooling purposes; or

(3) Air curtain incinerators provided that such incinerators only burn wood wastes, yard wastes, and clean lumber and that such ACIs comply with opacity limitations to be established by the Administrator by rule.

*Space heater* means a unit that meets the requirements of [40 CFR 279.23](#). A space heater is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

*Standard conditions*, when referring to units of measure, means a temperature of 68 °F (20 °C) and a pressure of 1 atmosphere (101.3 kilopascals).

*Startup period* means, for incinerators and small, remote incinerators, the period of time between the activation of the system and the first charge to the unit.

*Useful thermal energy* means energy (*i.e.*, steam, hot water, or process heat) that meets the minimum operating temperature and/or pressure required by any energy use system that uses energy provided by the affected energy recovery unit.

*Waste-burning kiln* means a kiln that is heated, in whole or in part, by combusting solid waste (as that term is defined by the Administrator in [40 CFR part 241](#)). Secondary materials used in Portland cement kilns shall not be deemed to be combusted unless they are introduced into the flame zone in the hot end of the kiln or mixed with the precalciner fuel.

*Wet scrubber* means an add-on air pollution control device that uses an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvolatile metals and condensed organics) and/or to absorb and neutralize acid gases.

*Wood waste* means untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, and shavings. Wood waste does not include:

- (1) Grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands;
- (2) Construction, renovation, or demolition wastes; and
- (3) Clean lumber.

**Table 1 to Subpart CCCC of Part 60 - Emission Limitations for Incinerators for Which Construction is Commenced After November 30, 1999, But no Later Than June 4, 2010, or for Which Modification or Reconstruction is Commenced on or After June 1, 2001, But no Later Than August 7, 2013**

For the air pollutant	You must meet this emission limitation <sup>1</sup>	Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2</sup>
Cadmium	0.004 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 29 of <a href="#">appendix A of this part</a> ).
Carbon monoxide	157 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 10 at <a href="#">40 CFR part 60, appendix A-4</a> ).
Dioxin/Furan (toxic equivalency basis)	0.41 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters per run)	Performance test (Method 23 of appendix A-7 of this part).
Hydrogen chloride	62 parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 120 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run)	Performance test (Method 26 or 26A at <a href="#">40 CFR part 60, appendix A-8</a> ).
Lead	0.04 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 29 of <a href="#">appendix A of this part</a> ).
Mercury	0.47 milligrams per dry standard	3-run average (1 hour minimum sample time per run)	Performance test (Method 29 of <a href="#">appendix A of this</a>



For the air pollutant	You must meet this emission limitation <sup>1</sup>	Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2</sup>
	cubic meter		<a href="#">part</a> ).
Nitrogen oxides	388 parts per million by dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Performance test (Method 7 or 7E at <a href="#">40 CFR part 60, appendix A-4</a> ).
Opacity	10 percent	6-minute averages	Performance test (Method 9 of <a href="#">appendix A of this part</a> ).
Particulate matter	70 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 5 or 29 of <a href="#">appendix A of this part</a> ).
Sulfur dioxide	20 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 20 liters per run. For Method 6C, collect sample for a minimum duration of 1 hour per run)	Performance test (Method 6 or 6C at <a href="#">40 CFR part 60, appendix A-4</a> ).

<sup>1</sup> All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

<sup>2</sup> In lieu of performance testing, you may use a CEMS or, for mercury, an integrated sorbent trap monitoring system, to demonstrate initial and continuing compliance with an emissions limit, as long as you comply with the CEMS or integrated sorbent trap monitoring system requirements applicable to the specific pollutant in [§§ 60.2145](#) and [60.2165](#). As prescribed in [§ 60.2145\(u\)](#), if you use a CEMS or an integrated sorbent trap monitoring system to demonstrate compliance with an emissions limit, your averaging time is a 30-day rolling average of 1-hour arithmetic average emission concentrations.

## Table 2 to Subpart CCCC of Part 60 - Operating Limits for Wet Scrubbers

For these operating parameters	You must establish these operating limits	And monitoring using these minimum frequencies		
		Data measurement	Data recording	Averaging time
Charge rate	Maximum charge rate	Continuous	Every hour	Daily (batch units) 3-hour rolling (continuous and intermittent units). <sup>1</sup>
Pressure drop across the wet scrubber or amperage to wet scrubber	Minimum pressure drop or amperage	Continuous	Every 15 minutes	3-hour rolling. <sup>1</sup>
Scrubber liquor flow rate	Minimum flow rate	Continuous	Every 15 minutes	3-hour rolling. <sup>1</sup>
Scrubber liquor pH	Minimum pH	Continuous	Every 15 minutes	3-hour rolling. <sup>1</sup>

<sup>1</sup> Calculated each hour as the average of the previous 3 operating hours.

### Table 3 to Subpart CCCC of Part 60 - Toxic Equivalency Factors

Dioxin/furan congener	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	0.5
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01

<b>Dioxin/furan congener</b>	<b>Toxic equivalency factor</b>
octachlorinated dibenzo-p-dioxin	0.001
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.5
1,2,3,7,8-pentachlorinated dibenzofuran	0.05
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.001

### **Table 4 to Subpart CCCC of Part 60 - Summary of Reporting Requirements<sup>1</sup>**

<b>Report</b>	<b>Due date</b>	<b>Contents</b>	<b>Reference</b>
Preconstruction report	Prior to commencing construction	<ul style="list-style-type: none"> <li>• Statement of intent to construct</li> <li>• Anticipated date of commencement of construction</li> <li>• Documentation for siting requirements</li> <li>• Waste management plan</li> <li>• Anticipated date of initial startup</li> </ul>	§ 60.2190.

Report	Due date	Contents	Reference
Startup notification	Prior to initial startup	<ul style="list-style-type: none"> <li>• Type of waste to be burned</li> <li>• Maximum design waste burning capacity</li> <li>• Anticipated maximum charge rate</li> <li>• If applicable, the petition for site-specific operating limits</li> </ul>	§ 60.2195.
Initial test report	No later than 60 days following the initial performance test	<ul style="list-style-type: none"> <li>• Complete test report for the initial performance test</li> <li>• The values for the site-specific operating limits</li> <li>• Installation of bag leak detection system for fabric filter</li> </ul>	§ 60.2200.
Annual report	No later than 12 months following the submission of the initial test report. Subsequent reports are to be submitted no more than 12 months following the previous report	<ul style="list-style-type: none"> <li>• Name and address</li> <li>• Statement and signature by responsible official</li> <li>• Date of report</li> <li>• Values for the operating limits</li> <li>• Highest recorded 3-hour average and the lowest 3-hour average, as applicable, (or 30-day average, if applicable) for each operating parameter recorded for the calendar year being reported</li> <li>• For each performance test conducted during the reporting period, if any performance test is conducted, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted</li> </ul>	§§ 60.2205 and 60.2210.

Report	Due date	Contents	Reference
Emission limitation or operating limit deviation report	By August 1 of that year for data collected during the first half of the calendar year. By February 1 of the following year for data collected during the second half of the calendar year	<ul style="list-style-type: none"> <li>• If a performance test was not conducted during the reporting period, a statement that the requirements of <a href="#">§ 60.2155(a)</a> were met</li> <li>• Documentation of periods when all qualified CISWI operators were unavailable for more than 8 hours but less than 2 weeks</li> <li>• If you are conducting performance tests once every 3 years consistent with <a href="#">§ 60.2155(a)</a>, the date of the last 2 performance tests, a comparison of the emission level you achieved in the last 2 performance tests to the 75 percent emission limit threshold required in <a href="#">§ 60.2155(a)</a> and a statement as to whether there have been any operational changes since the last performance test that could increase emissions</li> <li>• Any malfunction, deviation, or continuous monitoring system out of control periods information as specified in <a href="#">§ 60.2210(k)</a> through <a href="#">(o)</a></li> <li>• Dates and times of deviation</li> <li>• Averaged and recorded data for those dates</li> <li>• Duration and causes of each deviation and the corrective actions taken</li> <li>• Copy of operating limit monitoring data and, if any performance test was conducted that documents emission levels, the process unit(s) tested, the pollutant(s) tested, and</li> </ul>	§ 60.2215 and 60.2220.

Report	Due date	Contents	Reference
		the date that such performance test was conducted	
		<ul style="list-style-type: none"> <li>Dates, times and causes for monitor downtime incidents</li> </ul>	
Qualified operator deviation notification	Within 10 days of deviation	<ul style="list-style-type: none"> <li>Statement of cause of deviation</li> <li>Description of efforts to have an accessible qualified operator</li> <li>The date a qualified operator will be accessible</li> </ul>	§ 60.2225(a)(1).
Qualified operator deviation status report	Every 4 weeks following deviation	<ul style="list-style-type: none"> <li>Description of efforts to have an accessible qualified operator</li> <li>The date a qualified operator will be accessible</li> <li>Request for approval to continue operation</li> </ul>	§ 60.2225(a)(2).
Qualified operator deviation notification of resumed operation	Prior to resuming operation	<ul style="list-style-type: none"> <li>Notification that you are resuming operation</li> </ul>	§ 60.2225(b).

<sup>1</sup> This table is only a summary, see the referenced sections of the rule for the complete requirements.

**Table 5 to Subpart CCCC of Part 60 - Emission Limitations for Incinerators That Commenced Construction After June 4, 2010, or That Commenced Reconstruction or Modification After August 7, 2013**

For the air pollutant	You must meet this emission limitation <sup>1</sup>	Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2</sup>
Cadmium	0.0023 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meter per run)	Performance test (Method 29 at <a href="#">40 CFR part 60, appendix A-8</a> of this part). Use ICPMS for the analytical finish.
Carbon monoxide	17 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 10 at <a href="#">40 CFR part 60, appendix A-4</a> ).
Dioxin/furan (Total Mass Basis)	0.58 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters per run)	Performance test (Method 23 at <a href="#">40 CFR part 60, appendix A-7</a> ).
Dioxin/furan (toxic equivalency basis)	0.13 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meter per run)	Performance test (Method 23 at <a href="#">40 CFR part 60, appendix A-7</a> ).
Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period	Three 1-hour observation periods	Visible emission test (Method 22 at <a href="#">40 CFR part 60, appendix A-7</a> ).
Hydrogen chloride	0.091 parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 360 liters per run. For Method 26A, collect a minimum volume of 3 dry standard cubic meters per run)	Performance test (Method 26 or 26A at <a href="#">40 CFR part 60, appendix A-8</a> ).
Lead	0.015 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters per run)	Performance test (Method 29 of appendix A-8 at <a href="#">40 CFR part 60</a> ). Use ICPMS for the analytical finish.

For the air pollutant	You must meet this emission limitation <sup>1</sup>	Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2</sup>
Mercury	0.00084 milligrams per dry standard cubic meter	3-run average (collect enough volume to meet a detection limit data quality objective of 0.03 ug/dry standard cubic meter)	Performance test (Method 29 or 30B at <a href="#">40 CFR part 60, appendix A-8</a> ) or ASTM D6784-02 (Reapproved 2008). <sup>3</sup>
Nitrogen oxides	23 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Performance test (Method 7 or 7E at <a href="#">40 CFR part 60, appendix A-4</a> ).
Particulate matter (filterable)	18 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters per run)	Performance test (Method 5 or 29 at <a href="#">40 CFR part 60, appendix A-3</a> or appendix A-8 at <a href="#">40 CFR part 60</a> ).
Sulfur dioxide	11 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 6 or 6C at <a href="#">40 CFR part 60, appendix A-4</a> ).

<sup>1</sup> All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Limit or the toxic equivalency basis limit.

<sup>2</sup> In lieu of performance testing, you may use a CEMS or, for mercury, an integrated sorbent trap monitoring system to demonstrate initial and continuing compliance with an emissions limit, as long as you comply with the CEMS or integrated sorbent trap monitoring system requirements applicable to the specific pollutant in §§ [60.2145](#) and [60.2165](#). As prescribed in § [60.2145\(u\)](#), if you use a CEMS or an integrated sorbent trap monitoring system to demonstrate compliance with an emissions limit, your averaging time is a 30-day rolling average of 1-hour arithmetic average emission concentrations.

<sup>3</sup> Incorporated by reference, see § [60.17](#).

**[Table 6 to Subpart CCCC of Part 60 - Emission Limitations for Energy Recovery Units That Commenced Construction After June 4, 2010, or That Commenced Reconstruction or Modification After August 7, 2013](#)**



For the air pollutant	You must meet this emission limitation <sup>1</sup>		Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2</sup>
	Liquid/gas	Solids		
Cadmium	0.023 milligrams per dry standard cubic meter	Biomass - 0.0014 milligrams per dry standard cubic meter. Coal - 0.0017 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters per run)	Performance test (Method 29 at <a href="#">40 CFR part 60, appendix A-8</a> ). Use ICPMS for the analytical finish.
Carbon monoxide	35 parts per million dry volume	Biomass - 240 parts per million dry volume. Coal - 95 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 10 at <a href="#">40 CFR part 60, appendix A-4</a> ).
Dioxin/furans (Total Mass Basis)	No Total Mass Basis limit, must meet the toxic equivalency basis limit below	Biomass - 0.52 nanograms per dry standard cubic meter. Coal - 5.1 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters)	Performance test (Method 23 at <a href="#">40 CFR part 60, appendix A-7</a> ).
Dioxins/furans (toxic equivalency basis)	0.093 nanograms per dry standard cubic meter	Biomass - 0.076 nanograms per dry standard cubic meter. <sup>3</sup> Coal - 0.075 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters per run)	Performance test (Method 23 of appendix A-7 of this part).
Fugitive ash	Visible emissions for no more than 5 percent of the hourly	Three 1-hour observation periods	Visible emission test (Method 22 at <a href="#">40 CFR part 60, appendix A-7</a> )	Fugitive ash.

For the air pollutant	You must meet this emission limitation <sup>1</sup>		Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2</sup>
	Liquid/gas	Solids		
	observation period			
Hydrogen chloride	14 parts per million dry volume	Biomass - 0.20 parts per million dry volume. Coal - 58 parts per million dry volume	3-run average (For Method 26, collect a minimum volume of 360 liters per run. For Method 26A, collect a minimum volume of 3 dry standard cubic meters per run)	Performance test (Method 26 or 26A at <a href="#">40 CFR part 60, appendix A-8</a> ).
Lead	0.096 milligrams per dry standard cubic meter	Biomass - 0.014 milligrams per dry standard cubic meter. Coal - 0.057 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters per run)	Performance test (Method 29 at <a href="#">40 CFR part 60, appendix A-8</a> ). Use ICPMS for the analytical finish.
Mercury	0.00056 milligrams per dry standard cubic meter	Biomass - 0.0022 milligrams per dry standard cubic meter. Coal - 0.013 milligrams per dry standard cubic meter	3-run average (collect enough volume to meet an in-stack detection limit data quality objective of 0.03 ug/dscm)	Performance test (Method 29 or 30B at <a href="#">40 CFR part 60, appendix A-8</a> ) or ASTM D6784-02 (Reapproved 2008). <sup>3</sup>
Nitrogen oxides	76 parts per million dry volume	Biomass - 290 parts per million dry volume. Coal - 460 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Performance test (Method 7 or 7E at <a href="#">40 CFR part 60, appendix A-4</a> ).

For the air pollutant	You must meet this emission limitation <sup>1</sup>		Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2</sup>
	Liquid/gas	Solids		
Particulate matter (filterable)	110 milligrams per dry standard cubic meter	Biomass - 5.1 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter per run)	Performance test (Method 5 or 29 at <a href="#">40 CFR part 60, appendix A-3</a> or appendix A-8).
		Coal - 130 milligrams per dry standard cubic meter		
Sulfur dioxide	720 parts per million dry volume	Biomass - 7.3 parts per million dry volume. Coal - 850 parts per million dry volume	3-run average (for Method 6, collect a minimum of 60 liters, 1 hour minimum sample time per run)	Performance test (Method 6 or 6C at <a href="#">40 CFR part 60, appendix A-4</a> ).

<sup>1</sup> All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Basis limit or the toxic equivalency basis limit.

<sup>2</sup> In lieu of performance testing, you may use a CEMS or, for mercury, an integrated sorbent trap monitoring system to demonstrate initial and continuing compliance with an emissions limit, as long as you comply with the CEMS or integrated sorbent trap monitoring system requirements applicable to the specific pollutant in §§ 60.2145 and 60.2165. As prescribed in § 60.2145(u), if you use a CEMS or an integrated sorbent trap monitoring system to demonstrate compliance with an emissions limit, your averaging time is a 30-day rolling average of 1-hour arithmetic average emission concentrations.

<sup>3</sup> Incorporated by reference, see § 60.17.

[85 FR 63404, Oct. 7, 2020]

**Table 7 to Subpart CCCC of Part 60 - Emission Limitations for Waste-Burning Kilns That Commenced Construction After June 4, 2010, or Reconstruction or Modification After August 7, 2013**

For the air pollutant	You must meet this emission limitation <sup>1</sup>	Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2,3</sup>
Cadmium	0.0014 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters per run)	Performance test (Method 29 at <a href="#">40 CFR part 60, appendix A-8</a> ). Use ICPMS for the analytical finish.
Carbon monoxide	90 (long kilns)/190 (preheater/precalciner) parts per million dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 10 at <a href="#">40 CFR part 60, appendix A-4</a> ).
Dioxins/furans (total mass basis)	0.51 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters per run)	Performance test (Method 23 at <a href="#">40 CFR part 60, appendix A-7</a> ).
Dioxins/furans (toxic equivalency basis)	0.075 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters)	Performance test (Method 23 at <a href="#">40 CFR part 60, appendix A-7</a> ).
Hydrogen chloride	3.0 parts per million dry volume	3-run average (1 hour minimum sample time per run) or 30-day rolling average if HCl CEMS is being used	If a wet scrubber or dry scrubber is used, performance test (Method 321 at <a href="#">40 CFR part 63, appendix A</a> ). If a wet scrubber or dry scrubber is not used, HCl CEMS as specified in <a href="#">§ 60.2145(j)</a> .
Lead	0.014 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard	Performance test (Method 29 at <a href="#">40 CFR part 60, appendix A-8</a> ). Use ICPMS for the analytical finish.

For the air pollutant	You must meet this emission limitation <sup>1</sup>	Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2,3</sup>
		cubic meters)	
Mercury	0.0037 milligrams per dry standard cubic meter. <i>Or</i> 21 pounds/million tons of clinker <sup>3</sup>	30-day rolling average	Mercury CEMS or integrated sorbent trap monitoring system (performance specification 12A or 12B, respectively, of appendix B and procedure 5 of <a href="#">appendix F of this part</a> ), as specified in <a href="#">§ 60.2145(j)</a> .
Nitrogen oxides	200 parts per million dry volume	30-day rolling average	Nitrogen oxides CEMS (performance specification 2 of appendix B and procedure 1 of <a href="#">appendix F of this part</a> ).
Particulate matter (filterable)	4.9 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Performance test (Method 5 or 29 at <a href="#">40 CFR part 60, appendix A-3</a> or appendix-8).
Sulfur dioxide	28 parts per million dry volume	30-day rolling average	Sulfur dioxide CEMS (performance specification 2 of appendix B and procedure 1 of <a href="#">appendix F of this part</a> ).

<sup>1</sup> All emission limitations are measured at 7 percent oxygen (except for CEMS and integrated sorbent trap monitoring system data during startup and shutdown), dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Basis limit or the toxic equivalency basis limit.

<sup>2</sup> In lieu of performance testing, you may use a CEMS or, for mercury, an integrated sorbent trap monitoring system, to demonstrate initial and continuing compliance with an emissions limit, as long as you comply with the CEMS or integrated sorbent trap monitoring system requirements applicable to the specific pollutant in [§§ 60.2145](#) and [60.2165](#). As prescribed in [§ 60.2145\(u\)](#), if you use a CEMS or integrated sorbent trap monitoring system to demonstrate compliance with

an emissions limit, your averaging time is a 30-day rolling average of 1-hour arithmetic average emission concentrations.

<sup>3</sup> Alkali bypass and in-line coal mill stacks are subject to performance testing only, as specified in [§ 60.2145\(y\)\(3\)](#). They are not subject to the CEMS, integrated sorbent trap monitoring system, or CPMS requirements that otherwise may apply to the main kiln exhaust.

[[85 FR 63405](#), Oct. 7, 2020]

## **Table 8 to Subpart CCCC of Part 60 - Emission Limitations for Small, Remote Incinerators That Commenced Construction After June 4, 2010, or That Commenced Reconstruction or Modification After August 7, 2013**

<b>For the air pollutant</b>	<b>You must meet this emission limitation<sup>1</sup></b>	<b>Using this averaging time<sup>2</sup></b>	<b>And determining compliance using this method<sup>2</sup></b>
Cadmium	0.67 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 29 at <a href="#">40 CFR part 60, appendix A-8</a> ).
Carbon monoxide	13 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 10 at <a href="#">40 CFR part 60, appendix A-4</a> ).
Dioxins/furans (total mass basis)	1,800 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 23 at <a href="#">40 CFR part 60, appendix A-7</a> ).
Dioxins/furans (toxic equivalency basis)	31 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters)	Performance test (Method 23 at <a href="#">40 CFR part 60, appendix A-7</a> ).
Fugitive ash	Visible emissions for no more than	Three 1-hour observation periods	Visible emissions test (Method 22 at <a href="#">40 CFR</a>

For the air pollutant	You must meet this emission limitation <sup>1</sup>	Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2</sup>
	5 percent of the hourly observation period		<a href="#">part 60, appendix A-7</a> ).
Hydrogen chloride	200 parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 60 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run)	Performance test (Method 26 or 26A at <a href="#">40 CFR part 60, appendix A-8</a> ).
Lead	2.0 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters)	Performance test (Method 29 at <a href="#">40 CFR part 60, appendix A-8</a> ). Use ICPMS for the analytical finish.
Mercury	0.0035 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008) <sup>2</sup> , collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum volume as specified in Method 30B at <a href="#">40 CFR part 60, appendix A</a> )	Performance test (Method 29 or 30B at <a href="#">40 CFR part 60, appendix A-8</a> ) or ASTM D6784-02 (Reapproved 2008). <sup>3</sup>
Nitrogen oxides	170 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Performance test (Method 7 or 7E at <a href="#">40 CFR part 60, appendix A-4</a> ).
Particulate matter (filterable)	270 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters)	Performance test (Method 5 or 29 at <a href="#">40 CFR part 60, appendix A-3</a> or appendix A-8).

For the air pollutant	You must meet this emission limitation <sup>1</sup>	Using this averaging time <sup>2</sup>	And determining compliance using this method <sup>2</sup>
Sulfur dioxide	1.2 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 6 or 6c at <a href="#">40 CFR part 60, appendix A-4</a> ).

<sup>1</sup> All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Basis limit or the toxic equivalency basis limit.

<sup>2</sup> In lieu of performance testing, you may use a CEMS or, for mercury, an integrated sorbent trap monitoring system to demonstrate initial and continuing compliance with an emissions limit, as long as you comply with the CEMS or integrated sorbent trap monitoring system requirements applicable to the specific pollutant in [§§ 60.2145](#) and [60.2165](#). As prescribed in [§ 60.2145\(u\)](#), if you use a CEMS or an integrated sorbent trap monitoring system to demonstrate compliance with an emissions limit, your averaging time is a 30-day rolling average of 1-hour arithmetic average emission concentrations.

<sup>3</sup> Incorporated by reference, *see* [§ 60.17](#).



**Appendix C**

**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 (AECDs) as specified in [40 CFR 1039.665](#) must meet the

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

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

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

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

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

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

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

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

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

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

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

(c) [Reserved]

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

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

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

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

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

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

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

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

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

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

used solely in either or both of the locations identified in [paragraphs \(g\)\(1\) and \(2\)](#) of this section may instead continue to be certified to the appropriate Tier 3 standards in [40 CFR part 1042](#).

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

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

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

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

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

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

### **Emission Standards for Owners and Operators**

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

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

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for

new CI engines in [§ 60.4201](#) for their 2007 model year and later stationary CI ICE, as applicable.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

(f) Owners and operators of stationary CI ICE certified to the standards in [40 CFR part 1039](#) and equipped with AECs as specified in [40 CFR 1039.665](#) must meet the Tier 1 certification emission standards for new nonroad CI engines in [40 CFR part 1039, appendix I](#), while the 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, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3), 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 the purpose specified in [paragraph \(f\)\(2\)\(i\)](#) 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)-(iii) [Reserved]

(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 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; [87 FR 48605](#), Aug. 10, 2022]

### **Testing Requirements for Owners and Operators**

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

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

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

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

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

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

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

Where:

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

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

Where:

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

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

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

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

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

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

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

(a) Each performance test must be conducted according to the requirements in [§ 60.8](#) and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in [§ 60.8\(c\)](#).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in [§ 60.8\(f\)](#). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in [paragraphs \(d\)\(1\)](#) through [\(3\)](#) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

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

Where:

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

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

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

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

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

Where:

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

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

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

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

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

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

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

Where:

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

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

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

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

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

$$X_{\text{CO}_2} = \frac{5.9}{F_o} \quad (\text{Eq. 5})$$

Where:

$X_{\text{CO}_2}$  = 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:

$$C_{\text{adj}} = C_d \frac{X_{\text{CO}_2}}{\% \text{CO}_2} \quad (\text{Eq. 6})$$

Where:

$C_{\text{adj}}$  = 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:

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

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 for the purpose 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)-(vi) [Reserved]

(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; [87 FR 48606](#), Aug. 10, 2022]

### **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\(f\)\(3\)\(i\)](#).

*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; [87 FR 48606](#), Aug. 10, 2022]

## **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 (25≤HP<50)	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
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)
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	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 III 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 § 60.4202(d) <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)
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)

Maximum engine power	Model year(s)	NMHC + NO <sub>x</sub>	CO	PM
	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 III 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 IIII 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="#">§</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>

Each	Complying with the requirement to	You must	Using	According to the following requirements
			<a href="#">60.17</a> )	
		iv. Measure NO <sub>x</sub> at the inlet and outlet of the control device.	(3) Method 7E of <a href="#">40 CFR part 60, appendix A-4</a> , Method 320 of <a href="#">40 CFR part 63, appendix A</a> , or ASTM D 6348-03 (incorporated by reference, see <a href="#">§ 60.17</a> )	(d) NO <sub>x</sub> concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	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> ,



Each	Complying with the requirement to	You must	Using	According to the following requirements
				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.
	iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and		(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> )	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO <sub>x</sub> concentration.
	iv. Measure NO <sub>x</sub> at the exhaust of the stationary internal combustion engine; if using a control		(3) Method 7E of <a href="#">40 CFR part 60, appendix A-4</a> , Method 320 of <a href="#">40 CFR part</a>	(d) NO <sub>x</sub> concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three

Each	Complying with the requirement to	You must	Using	According to the following requirements
		device, the sampling site must be located at the outlet of the control device.	<a href="#">63, appendix A</a> , or ASTM D 6348-03 (incorporated by reference, see <a href="#">§ 60.17</a> )	1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of <a href="#">40 CFR part 60, appendix A-1</a>	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O <sub>2</sub> at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of <a href="#">40 CFR part 60, appendix A-2</a>	(b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of <a href="#">40 CFR part 60, appendix A-3</a>	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device.	(4) Method 5 of <a href="#">40 CFR part 60, appendix A-3</a>	(d) PM concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration	i. Select the sampling port	(1) Method 1 or 1A of <a href="#">40 CFR</a>	(a) If using a control device, the sampling

Each	Complying with the requirement to	You must	Using	According to the following requirements
	of PM in the stationary CI internal combustion engine exhaust	location and the number of traverse points;	<a href="#">part 60, appendix A-1</a>	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 IIII.
§ 60.12	Circumvention	Yes	
§ 60.13	Monitoring requirements	Yes	Except that <a href="#">§ 60.13</a> only applies to stationary CI ICE with a displacement of ( $\geq 30$ liters per cylinder.

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§ 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	