



**Air Individual Permit
Part 70 Reissuance
12300053-101**

Permittee: Met Council - Metropolitan WWTP
Facility name: Met Council - Metropolitan WWTP
2400 Childs Road
Saint Paul, MN 55106-6724
Ramsey County

Expiration date: January 4, 2029

* All Title I Conditions do not expire

Part 70 Reissuance: January 4, 2024

Permit characteristics: Federal; Part 70/ Major for NSR; Limits to avoid NSR

Each new or revised condition designated "Title I Condition: 40 CFR 52.1220 (PM10 SIP)" is not effective or enforceable until approved by U.S. Environmental Protection Agency (EPA) as a State Implementation Plan (SIP) revision under Title I of the Clean Air Act.

The emission units, control equipment and emission stacks at the stationary source authorized in this permit reissuance are as described in the submittals listed in the Permit Applications Table.

This permit reissuance supersedes Air Emission Permit No. 12300053- 006 and authorizes the Permittee to operate and modify the stationary source at the address listed above unless otherwise noted in the permit. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. (Any additions or changes to conditions incorporated into Minnesota's State Implementation Plan (SIP) under 40 CFR § 52.1220, designated "Title I Condition: 40 CFR 52.1220 (PM10 SIP)" must go through the federal SIP approval process before becoming effective.) Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the SIP under 40 CFR § 52.1220 and as such are enforceable by U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

Signature: *Toni Volkmeier*

This document has been electronically signed.

for Steven S. Pak, P.E., Manager
Air Quality Permits Section
Industrial Division

for the Minnesota Pollution Control Agency

Table of Contents

	Page
1. Permit applications table	3
2. Where to send submittals.....	4
3. Facility description	5
4. Summary of subject items	7
5. Limits and other requirements	13
6. Submittal/action requirements	213
7. Appendices.....	261
Appendix A. Insignificant activities and general applicable requirements.....	261
Appendix B. Modeling Parameters and Emission Rates	264
Appendix C: Inherent Process Equipment	268
Appendix D. Metal Ash Content	269
Appendix E. 40 CFR Part 62, Subpart LLL—Federal Plan Requirements for Sewage Sludge Incineration Units Constructed on or Before October 14, 2010.....	270
Appendix F. 40 CFR Part 60, Subpart LLLL - Standards of Performance for New Sewage Sludge Incineration Units	323
Appendix G. 40 CFR Part 60, Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	375
Appendix H. MCES Metro Plant - SSI Site Specific Monitoring Plan (SSMP) 2021	409
Appendix I. Fugitive Control Plan.....	412
Appendix J. General Public Preclusion Plan	413
Appendix K. 40 CFR Part 60, Subpart A—General Provisions	415
Appendix L. 40 CFR Part 63, Subpart A—General Provisions	538
Appendix M. 40 CFR Part 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.....	638

1. Permit applications table

Permit applications:

Title description	Application receipt date	Action number
Major Amendment	03/31/2021	12300053-101
Part 70 Reissuance	08/27/2014	12300053-101
Administrative Amendment	11/07/2019	12300053-101
Minor Amendment	06/02/2017	12300053-101

2. Where to send submittals

Send submittals that are required to be submitted to the EPA regional office to:

Chief Air Enforcement
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by Minn. R. 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204M)
Washington, D.C. 20460

Send any application for a permit or permit amendment to:

Fiscal Services – 6th Floor
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Document Coordinator notices of:

- a. Accumulated insignificant activities
- b. Installation of control equipment
- c. Replacement of an emissions unit, and
- d. Changes that contravene a permit term

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Or

Email a signed and scanned PDF copy to:
submitstacktest.pca@state.mn.us
(for submittals related to stack testing)
AQRoutineReport.PCA@state.mn.us
(for other compliance submittals)
(See complete email instructions in “Routine Air Report Instructions Letter” at
<https://www.pca.state.mn.us/sites/default/files/aq-f6-15.pdf>)

3. Facility description

The Met Council - Metropolitan WWTP (Facility) is located at 2400 Childs Road, Saint Paul, Ramsey County, Minnesota.

The Metropolitan Council Environmental Services (MCES) - Metropolitan Wastewater Treatment Plant (WWTP) is an advanced secondary wastewater treatment facility located at Mississippi River mile 836 in St. Paul, Ramsey County, Minnesota. This plant is the principal sewage treatment facility for the Minneapolis and St. Paul metropolitan area serving more than 65 percent of the area's sewered population, as well as commercial, institutional, and industrial wastewater generators. The facility has a permitted average wet weather design flow of 314 million gallons per day; discharge of treated wastewater to the Mississippi River is authorized by NPDES/SDS permit number MN0029815. Primary and secondary sludges from the wastewater treatment process, as well as sludges from other MCES treatment facilities, are blended and thickened prior to incineration on-site.

The primary source of emissions at this facility is the incineration of sewage sludge, along with small amounts of spent activated carbon and scum generated on-site in three fluidized bed reactors (FBR). Each identical FBR is equipped with a pollution control train consisting of carbon injection, a fabric filter baghouse, a wet scrubber and a high efficiency wet electrostatic precipitator (ESP). The pollution control equipment utilizes a wet ESP, fabric filter baghouse, and wet scrubber for particulate matter, particulate matter less than 10 microns (PM10), and particulate matter less than 2.5 microns (PM2.5), carbon injection for mercury, and a wet scrubber for acid gases. Exhaust gases are continuously monitored for oxygen (O2). A number of operating parameters, including the combustion chamber temperature, scrubber pressure drop, scrubber liquid flow rate, scrubber liquid pH, fabric filter leak detection alarm, ESP secondary voltage, ESP influent water flow rate, carbon injection rate, and carbon injection carrier gas flow rate are monitored continuously.

The FBRs normally fire natural gas as an auxiliary fuel, but are capable of using No. 2 fuel oil. The usage of both natural gas and No. 2 fuel oil are authorized. Emissions also result from aeration of the wastewater during the treatment process, operation of auxiliary steam boilers for plant heating, operation of emergency generators, ash and materials handling, fuel storage activities, and other routine maintenance activities. In addition, MCES is authorized to operate an alkaline stabilization loadout process. Ash collected from the waste heat boilers and baghouses are collected and conveyed to ash storage silos. The ash is then loaded and transported by truck for disposal.

MCES is authorized to add FBR 4, two centrifuges, one cake bin, two cake pumps, a new sludge cake receiving facility, and an engine-driven fire pump. This permit action (12300053-101) authorizes the existing pressure-based ash conveyance system to be replaced with a new vacuum ash conveyance system and the existing SMB housekeeping ash system will be replaced. This permit action also authorizes MCES to change the backup fuel for the auxiliary boilers and incinerators auxiliary backup fuel from fuel oil to propane. In addition, some of the existing transporters are authorized to exhaust to bin vent filters instead of stack STRU 3 (SV023).

The authorized FBR 4 will have approximately the same design capacity as the existing three existing incinerators (130 dry tons per day). Energy recovery and air pollution control equipment proposed for FBR 4 will be similar to the equipment for the three existing incinerators. Carbon monoxide and oxygen will be continuously monitored for FBR4.

The permit action will also authorize the conversion of part of the dense phase (pressurized) ash transport system to a vacuum transport system which will add two additional dust collectors, while discontinuing the use of part of the existing system. A small emission increase is expected for the ash transport system with the throughput increase.

The authorized emergency fire pump engine will be a certified engine with its use restricted to maintenance, testing,

and periods with power loss, as allowed by EPA for emergency engines under 40 CFR 60 Subpart IIII.

Additional dewatering equipment is authorized. Odorous air emissions from dewatering will be exhausted to any of the four FBRs, or to the existing alkaline stabilization loadout scrubber. The incinerators and scrubber will either oxidize or neutralize the odorous emissions.

A cake receiving facility is also authorized with this project. Similar to dewatering, the cake receiving facility odorous emissions will exhaust to either the FBRs or to the existing alkaline stabilization loadout scrubber.

As part of the plant modification, the carbon silo will be replaced. The throughput for the silo was also increased to account for the additional incinerator. The carbon is part of the air pollution control equipment for the existing and proposed incinerators. The existing silo is currently located within the proposed building expansion footprint.

4. Summary of subject items

SI ID: Description	Relationship type	Related SI ID: Description
TFAC 3: Metropolitan Wastewater Treatment Plant		
ACTV 5: All IAs		
COMG 9: Fluidized Bed Reactors (FBRs 1-3)	has members	EQUI 3, EQUI 4, EQUI 5, STRU 6, STRU 7, STRU 8, TREA 11, TREA 37, TREA 40, TREA 46, TREA 47, TREA 48, TREA 52, TREA 53, TREA 54, TREA 55, TREA 56, TREA 57
COMG 10: Auxiliary Boilers	has members	EQUI 10, EQUI 11, STRU 9, STRU 10
COMG 11: Alkaline Stabilization Cell Ventilation	has members	EQUI 6, EQUI 7, EQUI 8, EQUI 9, STRU 32, STRU 33, STRU 34, STRU 35, TREA 1, TREA 2, TREA 3, TREA 4, TREA 5, TREA 6, TREA 7, TREA 8
COMG 18: Continuous Emission Monitors (CEMs)	has members	EQUI 57, EQUI 60, EQUI 128, EQUI 136
COMG 20: Fluidized Bed Reactors (FBRs) 1-4	has members	EQUI 3, EQUI 4, EQUI 5, EQUI 133
EQUI 1: Sludge Storage Tanks - SST(8)	sends to	STRU 23: Sludge Storage Tank Stack
EQUI 1: Sludge Storage Tanks - SST(8)	sends to	STRU 24: Sludge Storage Tanks
EQUI 3: Fluidized Bed Sewage Sludge Reactor 1	is monitored by	EQUI 128: FBR #1 Oxygen
EQUI 3: Fluidized Bed Sewage Sludge Reactor 1	sends to	STRU 6: Fluidized Bed Reactor #1 Stack

SI ID: Description	Relationship type	Related SI ID: Description
EQUI 3: Fluidized Bed Sewage Sludge Reactor 1	is controlled by	TREA 37: FBR Baghouse 1
EQUI 3: Fluidized Bed Sewage Sludge Reactor 1	is controlled by	TREA 46: FBR Enhanced Hg Removal System CRT 1
EQUI 3: Fluidized Bed Sewage Sludge Reactor 1	is controlled by	TREA 52: FBR Wet Scrubber 1
EQUI 3: Fluidized Bed Sewage Sludge Reactor 1	is controlled by	TREA 55: FBR Wet Electrostatic Precipitator 1
EQUI 4: Fluidized Bed Sewage Sludge Reactor 2	is monitored by	EQUI 57: FBR #2 Oxygen
EQUI 4: Fluidized Bed Sewage Sludge Reactor 2	sends to	STRU 7: Fluidized Bed Reactor #2 Stack
EQUI 4: Fluidized Bed Sewage Sludge Reactor 2	is controlled by	TREA 40: FBR Baghouse 2
EQUI 4: Fluidized Bed Sewage Sludge Reactor 2	is controlled by	TREA 47: FBR Enhanced Hg Removal System CRT 2
EQUI 4: Fluidized Bed Sewage Sludge Reactor 2	is controlled by	TREA 53: FBR Wet Scrubber 2
EQUI 4: Fluidized Bed Sewage Sludge Reactor 2	is controlled by	TREA 56: FBR Wet Electrostatic Precipitator 2
EQUI 5: Fluidized Bed Sewage Sludge Reactor 3	is monitored by	EQUI 60: FBR #3 Oxygen
EQUI 5: Fluidized Bed Sewage Sludge Reactor 3	sends to	STRU 8: Fluidized Bed Reactor #3 Stack
EQUI 5: Fluidized Bed Sewage Sludge Reactor 3	is controlled by	TREA 11: FBR Baghouse 3
EQUI 5: Fluidized Bed Sewage Sludge Reactor 3	is controlled by	TREA 48: FBR Enhanced Hg Removal

SI ID: Description	Relationship type	Related SI ID: Description
		System CRT 3
EQUI 5: Fluidized Bed Sewage Sludge Reactor 3	is controlled by	TREA 54: FBR Wet Scrubber 3
EQUI 5: Fluidized Bed Sewage Sludge Reactor 3	is controlled by	TREA 57: FBR Wet Electrostatic Precipitator 3
EQUI 6: Alkaline Stabilization Cell	sends to	STRU 32: Alkaline Stabilization Cells
EQUI 6: Alkaline Stabilization Cell	is controlled by	TREA 1: Alk Stab Cell Baghouse
EQUI 6: Alkaline Stabilization Cell	is controlled by	TREA 5: Chemical Neutralization
EQUI 7: Alkaline Stabilization Cell	sends to	STRU 33: Alkaline Stabilization Cells
EQUI 7: Alkaline Stabilization Cell	is controlled by	TREA 2: Alk Stab Cell Baghouse
EQUI 7: Alkaline Stabilization Cell	is controlled by	TREA 6: Chemical Neutralization
EQUI 8: Alkaline Stabilization Cell	sends to	STRU 34: Alkaline Stabilization Cells
EQUI 8: Alkaline Stabilization Cell	is controlled by	TREA 3: Alk Stab Cell Baghouse
EQUI 8: Alkaline Stabilization Cell	is controlled by	TREA 7: Chemical Neutralization
EQUI 9: Alkaline Stabilization Loading Area	sends to	STRU 35: Alkaline Stabilization Loading
EQUI 9: Alkaline Stabilization Loading Area	is controlled by	TREA 4: Alk Loadout Baghouse DC 888

SI ID: Description	Relationship type	Related SI ID: Description
EQUI 9: Alkaline Stabilization Loading Area	is controlled by	TREA 8: Alk Loadout Odor Scrubber OCS 888
EQUI 10: Auxiliary Boiler No. 1	sends to	STRU 9: Auxiliary Boiler No. 1
EQUI 11: Auxiliary Boiler No. 2	sends to	STRU 10: Auxiliary Boiler No. 2
EQUI 12: Generator 8 (EPT1 Building)	sends to	STRU 11: Metro Generator #8 Stack
EQUI 13: Ash Loadout Transporters Vents (LOTRs 1-4)		
EQUI 14: Alk Loadout Transporter Vents (ALKTRs 1-3)		
EQUI 15: Lime Kiln Dust Transporter Vent (LIMETR)		
EQUI 16: Centrifuge Feed Tanks	is controlled by	TREA 8: Alk Loadout Odor Scrubber OCS 888
EQUI 18: Cake Bins	is controlled by	TREA 8: Alk Loadout Odor Scrubber OCS 888
EQUI 20: Bar Screens	is controlled by	TREA 49: Biofilter 1
EQUI 22: Grit Chambers	is controlled by	TREA 49: Biofilter 1
EQUI 36: Local Exhaust Control Ash Loadout Building Transporter Vent (ASHTR 3)	is controlled by	TREA 33: BF 08
EQUI 36: Local Exhaust Control Ash Loadout Building Transporter Vent (ASHTR 3)	is controlled by	TREA 36: BF 01
EQUI 37: Generator 5	sends to	STRU 17:

SI ID: Description	Relationship type	Related SI ID: Description
(CMP 1 Building)		Metro Generator #5 Stack
EQUI 45: Generator 6 (EPS 3 Building)	sends to	STRU 18: Metro Generator #6 Stack 2
EQUI 45: Generator 6 (EPS 3 Building)	sends to	STRU 25: Metro Generator #6 Stack 1
EQUI 48: Generator 2 (CMP 1 Building)	sends to	STRU 28: Metro Generator #2 Stack
EQUI 49: Generator 1 (FLT 1 Building)	sends to	STRU 31: Metro Generator #1 Stack
EQUI 50: Ash Loadout Building Housekeeping Vacuum (PV 01)	is controlled by	TREA 36: BF 01
EQUI 51: Generator 10 (West of Main Electrical Substation)	sends to	STRU 15: Metro Generator #10 Stack
EQUI 52: Generator 11 (West of Main Electrical Substation)	sends to	STRU 16: Metro Generator #11 Stack
EQUI 57: FBR #2 Oxygen		
EQUI 60: FBR #3 Oxygen		
EQUI 126: Generator 4 (EPR 2 Building)	sends to	STRU 26: Metro Generator #4 Stack
EQUI 128: FBR #1 Oxygen		
EQUI 129: Sand Truck Unloading	sends to	STRU 12: Sand and Limestone Truck Unloading Vent
EQUI 129: Sand Truck Unloading	is controlled by	TREA 9: Sand Silo Bin Vent Filters (6)

SI ID: Description	Relationship type	Related SI ID: Description
EQUI 130: Carbon Truck Unloading	sends to	STRU 13: Carbon Truck Unloading Vent
EQUI 131: Lime Kiln Dust (LKD) Handling - vents inside		
EQUI 132: Ash Handling - vents inside		
EQUI 133: Fluidized Bed Sewage Sludge Reactor 4	is monitored by	EQUI 135: FBR #4 CO
EQUI 133: Fluidized Bed Sewage Sludge Reactor 4	is monitored by	EQUI 136: FBR #4 Oxygen
EQUI 133: Fluidized Bed Sewage Sludge Reactor 4	sends to	STRU 77: Fluidized Bed Reactor #4
EQUI 133: Fluidized Bed Sewage Sludge Reactor 4	is controlled by	TREA 58: FBR4 Baghouse
EQUI 133: Fluidized Bed Sewage Sludge Reactor 4	is controlled by	TREA 59: FBR4 Wet Scrubber
EQUI 133: Fluidized Bed Sewage Sludge Reactor 4	is controlled by	TREA 60: FBR4 Powder Activated Carbon Injection System
EQUI 133: Fluidized Bed Sewage Sludge Reactor 4	is controlled by	TREA 61: FBR4 Wet ESP
EQUI 133: Fluidized Bed Sewage Sludge Reactor 4	is controlled by	TREA 62: FRB #4 SNCR
EQUI 134: FBR #4 Baghouse Bag Leak Detector	monitors	TREA 58: FBR4 Baghouse
EQUI 135: FBR #4 CO		
EQUI 136: FBR #4 Oxygen		
EQUI 137: Fire Pump Engine	sends to	STRU 78: Metro Generator #13 Stack
EQUI 138: Liquid Waste Receiving		

SI ID: Description	Relationship type	Related SI ID: Description
EQUI 139: Gravity Thickening		
EQUI 140: FBR #1 Baghouse Bag Leak Detector		
EQUI 141: FBR #2 Baghouse Bag Leak Detector		
EQUI 142: FBR #3 Baghouse Bag Leak Detector		
FUGI 1: West Secondary		
FUGI 2: East Primary	is controlled by	TREA 49: Biofilter 1
FUGI 2: East Primary	is controlled by	TREA 50: Biofilter 2
FUGI 4: East Secondary		
FUGI 7: Paved Roads		
STRU 3: BF08 Stack		
STRU 6: Fluidized Bed Reactor #1 Stack		
STRU 7: Fluidized Bed Reactor #2 Stack		
STRU 8: Fluidized Bed Reactor #3 Stack		
STRU 9: Auxiliary Boiler No. 1		
STRU 10: Auxiliary Boiler No. 2		
STRU 11: Metro Generator #8 Stack		
STRU 12: Sand and Limestone Truck Unloading Vent		
STRU 13: Carbon Truck Unloading Vent		
STRU 15: Metro Generator #10 Stack		
STRU 16: Metro Generator #11 Stack		
STRU 17: Metro Generator #5 Stack		
STRU 18: Metro Generator #6 Stack 2		
STRU 19: BF 01 Stack (Plenum Room Vent)		
STRU 20: BF 01 Stack (Plenum Room Vent)		
STRU 21: BF 01 Stack		

SI ID: Description	Relationship type	Related SI ID: Description
(Plenum Room Vent)		
STRU 22: BF 01 Stack (Plenum Room Vent)		
STRU 23: Sludge Storage Tank Stack		
STRU 24: Sludge Storage Tanks		
STRU 25: Metro Generator #6 Stack 1		
STRU 26: Metro Generator #4 Stack		
STRU 28: Metro Generator #2 Stack		
STRU 29: BF 01 Stack (Plenum Room Vent)		
STRU 30: BF 01 Stack (Plenum Room Vent)		
STRU 31: Metro Generator #1 Stack		
STRU 32: Alkaline Stabilization Cells		
STRU 33: Alkaline Stabilization Cells		
STRU 34: Alkaline Stabilization Cells		
STRU 35: Alkaline Stabilization Loading		
STRU 56: Administration		
STRU 57: Filtration and Incineration		
STRU 58: Filtration and Incineration		
STRU 59: Compressor Building		
STRU 60: Gravity Thickener		
STRU 61: Sludge Storage Tanks		
STRU 62: Flotation Thickener		
STRU 63: East Pretreatment		
STRU 64: Maintenance and Warehouse		
STRU 65: East Primary		
STRU 66: Effluent Pumping Station		
STRU 67: Return Liquor		
STRU 68: Solids		

SI ID: Description	Relationship type	Related SI ID: Description
Management Building		
STRU 69: Substation		
STRU 77: Fluidized Bed Reactor #4		
STRU 78: Metro Generator #13 Stack		
TREA 1: Alk Stab Cell Baghouse	is controlled in series by	TREA 5: Chemical Neutralization
TREA 2: Alk Stab Cell Baghouse	is controlled in series by	TREA 6: Chemical Neutralization
TREA 3: Alk Stab Cell Baghouse	is controlled in series by	TREA 7: Chemical Neutralization
TREA 4: Alk Loadout Baghouse DC 888	is controlled in series by	TREA 8: Alk Loadout Odor Scrubber OCS 888
TREA 5: Chemical Neutralization	sends to	STRU 32: Alkaline Stabilization Cells
TREA 6: Chemical Neutralization	sends to	STRU 33: Alkaline Stabilization Cells
TREA 7: Chemical Neutralization	sends to	STRU 34: Alkaline Stabilization Cells
TREA 8: Alk Loadout Odor Scrubber OCS 888	sends to	STRU 35: Alkaline Stabilization Loading
TREA 9: Sand Silo Bin Vent Filters (6)		
TREA 10: Carbon Silo Bin Vent Filter		
TREA 11: FBR	is monitored	EQUI 142: FBR

SI ID: Description	Relationship type	Related SI ID: Description
Baghouse 3	by	#3 Baghouse Bag Leak Detector
TREA 11: FBR Baghouse 3	is controlled in series by	TREA 48: FBR Enhanced Hg Removal System CRT 3
TREA 33: BF 08	sends to	STRU 3: BF08 Stack
TREA 36: BF 01	sends to	STRU 19: BF 01 Stack (Plenum Room Vent)
TREA 36: BF 01	sends to	STRU 20: BF 01 Stack (Plenum Room Vent)
TREA 36: BF 01	sends to	STRU 21: BF 01 Stack (Plenum Room Vent)
TREA 36: BF 01	sends to	STRU 22: BF 01 Stack (Plenum Room Vent)
TREA 36: BF 01	sends to	STRU 29: BF 01 Stack (Plenum Room Vent)
TREA 36: BF 01	sends to	STRU 30: BF 01 Stack (Plenum Room Vent)
TREA 37: FBR Baghouse 1	is monitored by	EQUI 140: FBR #1 Baghouse Bag Leak Detector
TREA 37: FBR Baghouse 1	is controlled in series by	TREA 46: FBR Enhanced Hg Removal System CRT 1
TREA 40: FBR Baghouse 2	is monitored by	EQUI 141: FBR #2 Baghouse Bag Leak Detector
TREA 46: FBR Enhanced Hg Removal System CRT 1	is controlled in series by	TREA 52: FBR Wet Scrubber 1
TREA 47: FBR Enhanced Hg Removal System CRT 2	controls in series	TREA 40: FBR Baghouse 2
TREA 47: FBR Enhanced Hg Removal System CRT 2	is controlled in series by	TREA 53: FBR Wet Scrubber 2

SI ID: Description	Relationship type	Related SI ID: Description
TREA 48: FBR Enhanced Hg Removal System CRT 3	is controlled in series by	TREA 54: FBR Wet Scrubber 3
TREA 49: Biofilter 1		
TREA 50: Biofilter 2		
TREA 52: FBR Wet Scrubber 1	is controlled in series by	TREA 55: FBR Wet Electrostatic Precipitator 1
TREA 53: FBR Wet Scrubber 2	is controlled in series by	TREA 56: FBR Wet Electrostatic Precipitator 2
TREA 54: FBR Wet Scrubber 3	is controlled in series by	TREA 57: FBR Wet Electrostatic Precipitator 3
TREA 55: FBR Wet Electrostatic Precipitator 1		
TREA 56: FBR Wet		

SI ID: Description	Relationship type	Related SI ID: Description
Electrostatic Precipitator 2		
TREA 57: FBR Wet Electrostatic Precipitator 3		
TREA 58: FBR4 Baghouse	is controlled in series by	TREA 60: FBR4 Powder Activated Carbon Injection System
TREA 59: FBR4 Wet Scrubber	is controlled in series by	TREA 61: FBR4 Wet ESP
TREA 60: FBR4 Powder Activated Carbon Injection System	is controlled in series by	TREA 59: FBR4 Wet Scrubber
TREA 61: FBR4 Wet ESP		
TREA 62: FRB #4 SNCR		

5. Limits and other requirements

Requirement number	Requirement and citation
TFAC 3	Metropolitan Wastewater Treatment Plant
5.1.1	Episode Emission Reduction Plan: Submit to the commissioner an episode emission reduction plan to be implemented at the facility or stationary source in the event of a declaration by the commissioner of an air pollution episode. The plan shall be submitted to the commissioner within 90 days of the designation of the area as having exceeded the alert levels in Minn. R. 7009.1060, Table 1, following all requirements found in Minn. R. 7009.1000 to 7009.1110. [Minn. R. 7009.1000-7009.1110]
5.1.2	Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in Appendices. Appendix A. Insignificant Activities and Applicable Requirements Appendix C. Inherent Process Equipment Appendix D. Metal Ash Content Appendix E. 40 CFR Part 62, Subpart LLL Appendix F. 40 CFR Part 60, Subpart LLLL Appendix G. 40 CFR Part 60, Subpart IIII Appendix H. Site Specific Monitoring Plan Appendix I. Fugitive Emission Control Plan Appendix J. General Public Preclusion Plan Appendix K. 40 CFR Part 60, Subpart A Appendix L. 40 CFR Part 63, Subpart A Appendix M. 40 CFR Part 63, Subpart ZZZZ Modeling parameters in Appendix B (Modeled PM-10 Stacks) are included for reference only as described elsewhere in this permit. [Minn. R. 7007.0800, subp. 2]
5.1.3	The Permittee must comply with Minn. Stat. 116.385. The Permittee may not use trichloroethylene at its permitted facility including in any manufacturing, processing, or cleaning processes, except as described in Minn. Stat. 116.385, subd. 2(b) and 4. This is a state-only requirement and is not enforceable by the U.S. Environmental Protection Agency (EPA) Administrator and citizens under the Clean Air Act. [Minn. R. 7007.0100, subp. 7(X), Minn. Stat. 116.385]
5.1.4	PERMIT SHIELD: Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements. This permit shall not alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance. [Minn. R. 7007.1800(A)(2)]
5.1.5	Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and recordkeeping specified in the fugitive dust control plan in Appendix I of this permit. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, then the Permittee may be required to amend the control plan and/or to

Requirement number	Requirement and citation
	install and operate particulate matter ambient monitors as requested by the Commissioner. [Minn. R. 7007.0100, Minn. R. 7007.0800, subp. 2, Minn. R. 7009.0020, Minn. R. 7011.0150, Minn. Stat. 116.07, subd. 4a]
5.1.6	The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0090. Compliance shall be demonstrated upon written request by the MPCA. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.7	Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted. [Minn. R. 7011.0020]
5.1.8	Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated. [40 CFR 50.6, Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP)]
5.1.9	Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 16(J)]
5.1.10	Operation Changes: In any shutdown, breakdown, or deviation the Permittee must immediately or as soon as possible considering plant and personnel safety take all practical steps to modify operations to reduce the emission of any regulated air pollutant. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment are permitted to operate. [Minn. R. 7019.1000, subp. 4]
5.1.11	Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150. [Minn. R. 7011.0150]
5.1.12	Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7030.0010-7030.0080]
5.1.13	Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A). [Minn. R. 7007.0800, subp. 9(A)]
5.1.14	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16. [Minn. R. 7007.0800, subp. 16]
5.1.15	Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in this permit. [Minn. R. ch. 7017]
5.1.16	Performance Test Notifications and Submittals: Performance Test Notification and Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due seven days before each Performance Test Performance Test Report: due 45 days after each Performance Test

Requirement number	Requirement and citation
	Performance tests completed only for 40 CFR 62 Subp. LLL must meet notification requirements from 40 CFR 60 Subp. A described in Appendix K rather than MN Rule 7017. The Notification, Test Plan, and Test Report must be submitted in a format specified by the commissioner. [Minn. R. 7017.2017, Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2]
5.1.17	Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval, unless otherwise noted in this permit for 40 CFR 62 Subp. LLL or 40 CFR 60 Subp. LLLL performance tests. Operating limits for EQUIs 3, 4, 5, or 133 combustion chamber temperature and control equipment operating parameters shall be based on the most recent 40 CFR 62 Subp. LLL or 40 CFR 60 Subp. LLLL performance test, and will not be reset by subsequent performance testing if the operating parameter during the subsequent test is within 10% of the current operating parameter set by the most recent 40 CFR 62 Subp. LLL or 40 CFR 60 Subp. LLLL performance testing, as described in the approved test plan. If the subsequent sludge feedrate is above the current sludge feedrate limit, the operating parameters will be reviewed and possibly reset. For EQUIs, other than EQUIs 3, 4, 5 and 133, preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. the limit is final upon issuance of a permit amendment incorporating the change. [40 CFR 60.4870(a), 40 CFR 62.15985(a), Minn. R. 7017.2025, subp. 3]
5.1.18	Monitoring Equipment Calibration - The Permittee shall either: 1. Calibrate or replace required monitoring equipment every 12 months; or 2. Calibrate at the frequency stated in the manufacturer's specifications. For each monitor, the Permittee shall maintain a record of all calibrations, including the date conducted, and any corrective action that resulted. The Permittee shall include the calibration frequencies, procedures, and manufacturer's specifications (if applicable) in the Operations and Maintenance Plan. Any requirements applying to continuous emission monitors are listed separately in this permit. [Minn. R. 7007.0800, subp. 4(D)]
5.1.19	Operation of Monitoring Equipment: Unless noted elsewhere in this permit, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system. [Minn. R. 7007.0800, subp. 4(D)]
5.1.20	Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, for five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A). [Minn. R. 7007.0800, subp. 5(C)]
5.1.21	Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes. [Minn. R. 7007.0800, subp. 5(B)]

Requirement number	Requirement and citation
5.1.22	If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. These records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format. [Minn. R. 7007.1200, subp. 4]
5.1.23	These following 40 CFR Section 52.21(r)(6) requirements apply if a reasonable possibility (RP) as defined in 40 CFR Section 52.21(r)(6)(vi) exists that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test (either by itself or as part of the hybrid test at 40 CFR Section 52.21(a)(2)(iv)(f)) and found to not be part of a major modification, may result in a significant emissions increase (SEI). If the ATPA test is not used for the project, or if there is no RP that the proposed project could result in a SEI, these requirements do not apply to that project. The Permittee is only subject to the Preconstruction Documentation requirement for a project where a RP occurs only within the meaning of 40 CFR Section 52.21(r)(6)(vi)(b). Even though a particular modification is not subject to New Source Review (NSR), or where there isn't a RP that a proposed project could result in a SEI, a permit amendment, recordkeeping, or notification may still be required by Minn. R. 7007.1150 - 7007.1500. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000]
5.1.24	Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following: 1. Project description 2. Identification of any emission unit whose emissions of an NSR pollutant could be affected 3. Pre-change potential emissions of any affected existing emission unit, and the projected post-change potential emissions of any affected existing or new emission unit. 4. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the emission unit could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. The Permittee shall maintain records of this documentation. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.1200, subp. 4, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000]
5.1.25	The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions in the hybrid test. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if the hybrid test was used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000]
5.1.26	The Permittee must submit a report to the Agency if the annual summed (actual, plus potential if used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline

Requirement number	Requirement and citation
	actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain: - The name and ID number of the Facility, and the name and telephone number of the Facility contact person. - The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded. - Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000]
5.1.27	Shutdown Notifications: Notify the commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the Permittee does not have advance knowledge of the shutdown, the Permittee must notify the commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in items A, B, and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator must inform the commissioner of the cause of the shutdown and the estimated duration. The owner or operator must notify the commissioner when the shutdown is over. [Minn. R. 7019.1000, subp. 3]
5.1.28	Breakdown Notifications: Notify the commissioner within 24 hours of a breakdown of more than one hour of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in items A, B, and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the Permittee must inform the commissioner of the cause of the breakdown and the estimated duration. The Permittee must notify the commissioner when the breakdown is over. [Minn. R. 7019.1000, subp. 2]
5.1.29	Notification of Deviations Endangering Human Health or the Environment: Immediately after discovery of the deviation or immediately after when the deviation reasonably should have been discovered, notify the commissioner either orally or by e-mail, or telephone the state duty officer at 800-422-0798 or 651-649-5451, of any deviation from permit conditions that could endanger human health or the environment. [Minn. R. 7019.1000, subp. 1]
5.1.30	Notification of Deviations Endangering Human Health or the Environment Report: Within two working days of discovery, notify the commissioner in writing of any deviation from permit conditions that could endanger human health or the environment. Include the following information in this written description: - the cause of the deviation; - the exact dates of the period of the deviation, if the deviation has been corrected; - whether or not the deviation has been corrected; - the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and - steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation. [Minn. R. 7019.1000, subp. 1]
5.1.31	Application for Permit Amendment: If a permit amendment is needed, submit an application in

Requirement number	Requirement and citation
	accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.
	Upon adoption of a new or amended federal applicable requirement, and if there are three or more years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150 - 7007.1500]
5.1.32	Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H). Performance testing deadlines from the General Provisions of 40 CFR pt. 60 and pt. 63 are examples of deadlines for which the MPCA does not have authority to grant extensions and therefore do not meet the requirements of Minn. R. 7007.1400, subp. 1(H). [Minn. R. 7007.1400, subp. 1(H)]
5.1.33	Within 15 days of a request from the Commissioner, the Permittee must provide a complete summary of all performance tests required at the facility including the subject item, pollutant, most recent test date (if applicable), and the date of the next test in an approved format. [Minn. R. 7007.0800, subp. 16(L)]
5.1.34	Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. Submit in a format specified by the Commissioner. [Minn. R. 7019.3000-7019.3100]
5.1.35	Emission Fees: due 30 days after receipt of an MPCA bill. [Minn. R. 7002.0005-7002.0085]
5.1.36	Modeled Parameters for PM10: The parameters used in PM10 modeling 12300053-101 are listed in Appendix B of this permit. The parameters describe the operation of the facility at maximum permitted capacity. The purpose of listing the parameters in the appendix is to provide a benchmark for future changes. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.37	Changes to Modeled PM10 Parameters for EQUIs 3, 4, 5, 6, 7, 8, 9, 10, 11, 36, or 50: Changes that affect any modeled parameter or emission rate for PM10 listed in Appendix B must be a major amendment. Any addition to the information documented in Appendix B requires a major amendment. Any change in the location of the ambient air boundary, as documented in Appendix J, requires a major amendment unless the new boundary completely encompasses the original boundary. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.38	Changes to Modeled PM10 Parameters for EQUIs 133 or FUGI 7: Changes that affect any modeled parameter or emission rate for PM10 listed in Appendix B must apply for an amendment required by Minn. R. 7007.1500. Any addition to the information documented in Appendix B requires an amendment required by Minn. R. 7007.1500. Any change in the location of the ambient air boundary, as documented in Appendix J, requires amendment unless the new boundary completely encompasses the original boundary. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.39	Equivalent or Better Dispersion (EBD) PM10 Modeling Triggers (Modeling Required) for EQUIs 3, 4, 5, 6, 7, 8, 9, 10, 11, 36, or 50: Changes that affect any modeled parameter or emission rate listed in Appendix B, or an addition to the information documented in Appendix B, trigger the EBD Modeling Submittal requirement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.40	Equivalent or Better Dispersion (EBD) PM10 Modeling Triggers (Modeling Required) for EQUIs

Requirement number	Requirement and citation
	133 or FUGI 7: Changes that affect any modeled parameter or emission rate listed in Appendix B, or an addition to the information documented in Appendix B, trigger the EBD Modeling Submittal requirement. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.41	Equivalent or Better Dispersion (EBD) PM10 Modeling Triggers (Modeling Required) for a new PM10 emission unit: Changes that affect PM10 emissions, trigger the EBD Modeling Submittal requirement. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.42	EBD PM10 Modeling Submittal for EQUIS 3, 4, 5, 6, 7, 8, 9, 10, 11, 36, or 50: For changes meeting the criteria in the EBD Modeling Triggers (Modeling Required) requirement, the Permittee shall submit an EBD modeling submittal in accordance with the current version of the MPCA modeling practices manual and shall wait for written approval (in the form of an issued permit major amendment) before making such changes. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.43	EBD PM10 Modeling Submittal for EQUIS 133 and FUGI 7: For changes meeting the criteria in the EBD Modeling Triggers (Modeling Required) requirement, the Permittee shall submit an EBD modeling submittal in accordance with the current version of the MPCA modeling practices manual and shall wait for written approval before making such changes. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.44	EBD PM10 Modeling Submittal for new PM10 emission units: For changes meeting the criteria in the EBD Modeling Triggers (Modeling Required) requirement, the Permittee shall submit an EBD modeling submittal in accordance with the current version of the MPCA modeling practices manual and shall wait for written approval before making such changes. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.45	EBD PM10 Modeling Submittal Content for EQUIS 3, 4, 5, 6, 7, 8, 9, 10, 11, 36, or 50: The information submitted must include, for stack and vent sources, source emission rate, location, height, diameters, exit velocity, exit temperature, discharge direction, use of rain caps or rain hats, and, if applicable, locations and dimensions of nearby buildings. For non-stack/vent sources, this includes the source emission rate, location, size and shape, release height, and, if applicable, any emission rate scalars, and the initial lateral dimensions and initial vertical dimensions and adjacent building heights. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.46	EBD PM10 Modeling Submittal Content for EQUIS 133 or FUGI 7: The information submitted must include, for stack and vent sources, source emission rate, location, height, diameters, exit velocity, exit temperature, discharge direction, use of rain caps or rain hats, and, if applicable, locations and dimensions of nearby buildings. For non-stack/vent sources, this includes the source emission rate, location, size and shape, release height, and, if applicable, any emission rate scalars, and the initial lateral dimensions and initial vertical dimensions and adjacent building heights. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.47	EBD PM10 Modeling Submittal Content for PM10 for new PM10 emission units: The information submitted must include, for stack and vent sources, source emission rate, location, height, diameters, exit velocity, exit temperature, discharge direction, use of rain caps or rain hats, and, if applicable, locations and dimensions of nearby buildings. For non-stack/vent sources, this

Requirement number	Requirement and citation
	includes the source emission rate, location, size and shape, release height, and, if applicable, any emission rate scalars, and the initial lateral dimensions and initial vertical dimensions and adjacent building heights. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.48	Outdated EBD Baseline Modeling for PM10: Prior to conducting the EBD analysis, the Permittee shall use the current version of the MPCA modeling practices manual to determine if the Baseline Modeling (the most recent refined modeling demonstration) is outdated. If the Baseline Modeling is outdated, the Permittee shall update the Baseline Modeling to be consistent with the current version of the MPCA modeling practices manual. The updated modeling will become the new Baseline Modeling. This requirement does not require the Permittee to complete a new refined modeling demonstration using the revisions made for the EBD demonstration. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.49	EBD PM10 Modeling Results for EQUIs 3, 4, 5, 6, 7, 8, 9, 10, 11, 36, or 50: The dispersion characteristics due to the revisions of the information in Appendix B must be equivalent to or better than the dispersion characteristics modeled on February 1, 2022. The Permittee shall demonstrate this equivalency in the proposal. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.50	EBD PM10 Modeling Results for EQUIs 133 or FUGI 7: The dispersion characteristics due to the revisions of the information in Appendix B must be equivalent to or better than the dispersion characteristics modeled on February 1, 2022. The Permittee shall demonstrate this equivalency in the proposal. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.51	EBD PM10 Modeling Results for new PM10 emission units: The dispersion characteristics due to the new PM10 emission units must be equivalent to or better than the dispersion characteristics modeled on February 1, 2022. The Permittee shall demonstrate this equivalency in the proposal. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.52	Computer Dispersion PM10 Modeling Triggers for EQUIs 3, 4, 5, 6, 7, 8, 9, 10, 11, 36, or 50: The Permittee shall conduct a refined remodeling analysis in accordance with the Computer Dispersion Modeling requirements of this permit and the current version of the MPCA modeling practices manual if: (1) the results of the EBD modeling analysis do not demonstrate equivalent or better dispersion characteristics; (2) a conclusion cannot readily be made about the dispersion, (3) the criteria in the EBD Modeling Triggers requirement are met and the Permittee has previously conducted three successive EBD analyses using the same Baseline Modeling, or (4) the location of the ambient air boundary is being modified, unless the new boundary completely encompasses the original boundary, as documented in Appendix J. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. Y, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.53	Computer Dispersion PM10 Modeling Triggers for EQUIs 133 or FUGI 7: The Permittee shall conduct a refined remodeling analysis in accordance with the Computer Dispersion Modeling requirements of this permit and the current version of the MPCA modeling practices manual if: (1) the results of the EBD modeling analysis do not demonstrate equivalent or better dispersion characteristics; (2) a conclusion cannot readily be made about the dispersion, (3) the criteria in the EBD Modeling Triggers requirement are met and the Permittee has previously conducted three successive EBD analyses using the same Baseline Modeling, or (4) the location of the

Requirement number	Requirement and citation
	ambient air boundary is being modified, unless the new boundary completely encompasses the original boundary, as documented in Appendix J. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.54	Computer Dispersion PM10 Modeling Triggers for new PM10 emission units: The Permittee shall conduct a refined remodeling analysis in accordance with the Computer Dispersion Modeling requirements of this permit and the current version of the MPCA modeling practices manual if: (1) the results of the EBD modeling analysis do not demonstrate equivalent or better dispersion characteristics; (2) a conclusion cannot readily be made about the dispersion, (3) the criteria in the EBD Modeling Triggers requirement are met and the Permittee has previously conducted three successive EBD analyses using the same Baseline Modeling, or (4) the location of the ambient air boundary is being modified, unless the new boundary completely encompasses the original boundary, as documented in Appendix J. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.55	Computer Dispersion Modeling Protocol: due 180 days after receipt of written MPCA request for PM10 refined modeling. The Permittee shall submit a Computer Dispersion Modeling Protocol that is complete and approvable by MPCA by the deadline in this requirement. This protocol will describe the proposed modeling methodology and input data, in accordance with the current version of the MPCA modeling practices manual. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.56	Computer Dispersion Modeling Protocol: due 60 days after receipt of written MPCA request for revisions to the submitted protocol for PM10 modeling. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.57	Computer Dispersion Modeling Results: due the later of either 180 days after receipt of written MPCA approval of Computer Dispersion Modeling Protocol for PM10, or 180 days after receipt of any nearby source information required by MPCA to support the final modeling. The Permittee shall submit a final Computer Dispersion Modeling Report that is complete and approvable by MPCA by the deadline in this requirement. The submittal shall adhere to the current version of the MPCA modeling practices manual and the approved Computer Dispersion Modeling Protocol. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.58	General Public Preclusion Plan The Permittee shall develop and comply with a General Public Preclusion Plan. The Permittee shall maintain a copy of the Plan at the facility. The Permittee shall review the General Public Preclusion Plan annually and update if needed to reflect changes associated with controlling the ambient air boundary. The plan as of Permit Issuance is included as Appendix J. This Plan shall, at a minimum, contain the following information: 1. A map of the facility that clearly displays the ambient air boundary. The map must indicate how access is precluded for each section of the boundary and must identify all access points (including roadways, power lines, rail spurs, etc.); 2. Locations where fencing will be implemented; 3. Locations where security patrols will be implemented and the security patrol frequency; 4. Restriction signage spacing (restriction signage may include notices such as "No Trespassing," "Private Property," "Do Not Enter," or "Restricted Area"); 5. Location of remote monitoring devices; 6. Operation and maintenance requirements of remote monitoring software and devices;

Requirement number	Requirement and citation
	7. Contingency plans for downtime for remote monitoring software and devices; and 8. A response plan for when breaches occur. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.59	Recordkeeping for Breaches of the Ambient Air Boundary Within three calendar days of each observed breach, the Permittee shall document each instance that the ambient air boundary was breached by a member of the general public, including documenting the type, location, and duration of each breach. The Permittee shall identify and, within a reasonable amount of time but not to exceed 30 days, implement measures to prevent future breaches. A breach to the ambient boundary occurs when a member of the general public accesses property identified by the Permittee as non-ambient air. The observation of a breach may be direct or indirect. A direct observation includes witnessing a member of the general public on property identified as non-ambient air. Indirect observations rely on evidence of a breach, such as a cut fence, worn paths, motorized vehicle tracks, or other signs of disturbance by a member of the general public on property identified as non-ambient air. The Permittee shall report each breach, including all steps taken or changes made to the General Public Preclusion Plan to prevent additional breaches, in the semiannual Deviations Report required by this permit. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.60	General Public Preclusion Plan - Fencing: The Permittee shall install and maintain fencing along the effective fence line as depicted in Appendix J. The Permittee shall inspect the fence line once per quarter. The Permittee shall maintain records of inspection and required maintenance of fence line. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7007.0800, subp. 5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.61	General Public Preclusion Plan - Control of Access: The Permittee shall control access at any road, trail equal to or wider than 50 inches, and all abandoned railroad grades. The Permittee shall secure these access points with a locked and/or monitored gate or other physical barrier precluding access by the general public. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.62	General Public Preclusion Plan - Security Patrols: The Permittee shall develop, operate, and maintain a security patrol plan as part of the Plan. Patrol routes shall be followed as defined in the Plan. For portions of the effective fence line where patrols are identified, the Permittee shall patrol those portions at a minimum of once per operating day. The Permittee shall maintain records of patrol routes and frequency of patrols. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7007.0800, subp. 5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.63	General Public Preclusion Plan - Remote Monitoring: The Permittee shall operate and maintain remote monitoring equipment to maintain the effective fence line as depicted in Appendix J. The Permittee shall monitor at a minimum of once per day. Remote monitoring devices include but are not limited to fixed cameras and drone mounted cameras. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.64	General Public Preclusion Plan - Boundary Map

Requirement number	Requirement and citation
	Within 60 days after Permit Issuance, the Permittee shall use fencing, control access points, conduct security patrols, place restriction signage, and remote monitoring as specified in Appendix J to maintain control over the effective fence line. Appendix J to this permit is a map that depicts the boundary at which the access of the general public can be controlled and compliance with the National Ambient Air Quality Standards (NAAQS) can be demonstrated. This boundary has been defined as the "effective fence line". Appendix J identifies the forms of control the Permittee will use to restrict access to the general public along portions of the effective fence line. The general public does not include employees or other categories of people who have been directly authorized by the property owner to enter or remain on the property for a limited period of time and for a specific purpose. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]
5.1.65	Activities Requiring A Modification To The SIP: Activities to EQUIs 3, 4, 5, 6, 7, 8, 9, 10, 11, 36, or 50 which require a modification of the SIP, prior to the Permittee commencing the activity, include but are not limited to: 1. Any decrease in the design stack gas volumetric flow rate below that indicated in Appendix B; 2. Any decrease in the design stack gas exit temperature below that contained in Appendix B; 3. Any reduction in stack height below that indicated in Appendix B; 4. Any increase in stack exit diameter above that contained in Appendix B; and/or 5. Any changes in operations that increase potential PM10 emissions. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.66	Activities Not Requiring A Modification To The SIP: The Permittee is authorized to make changes to the facility without obtaining a modification to the SIP as long as the change does not increase from EQUIs 3, 4, 5, 6, 7, 8, 9, 10, 11, 36, or 50, the PM10 emission rates (either lb/hr or gr/dscf) or overall PM10 emissions, or alter equipment or parameters described in Appendix B, which forms the basis of the PM10 modeling. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.67	General Operation and Maintenance Requirements for the SIP: The Permittee shall operate and maintain the process and control equipment described in Appendix B according to the parameters set forth in Appendix B. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.68	State Implementation Plan Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of the required monitoring, sample, measurement, or report that corresponds with a "Title I Condition: State Implementation Plan for PM10" requirement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.1.69	The use of the Limestone Silo, previously exhausting to STRU 12, is prohibited until its emissions have been included in a facility air dispersion modeling that has been approved by the Agency. [Minn. R. 7007.0800, subp. 2(B)]
5.1.70	The Permittee shall maintain a record, on-site, summarizing the active control equipment operating parameters for EQUIs 3, 4, 5, and 133. Sufficient performance test data results to support the selection of all the active operating parameters shall be included. These parameters shall include combustion chamber operating temperature, oxygen, pressure drop across

Requirement number	Requirement and citation
	scrubber, scrubber liquid flow rate, scrubber liquid pH, secondary ESP power, ESP influent flow rate, mercury sorbent injection rate, carrier gas flow rate or carrier gas pressure drop for carbon injection, and sludge throughput. [Minn. R. 7007.0800, subp. 5(A)]
COMG 9	Fluidized Bed Reactors (FBRs 1-3)
5.2.1	HAPs - Volatile <= 1.98 tons per year 12-month rolling sum, sum total from FBR's EQUI 3, EQUI 4, and EQUI 5 combined, based on dry tons of sludge incinerated and Volatile HAPs emission factor from the most recent performance test results. This limit for HAPs - Volatile includes Methylene Chloride, Perchloroethylene, Toluene, Carbon disulfide, and Vinyl Acetate. [Title I Condition: Avoid major source under 40 CFR 63.2]
5.2.2	HAPs - Metal <= 3.72 tons per year 12-month rolling sum, sum total from FBR's EQUI 3, EQUI 4, and EQUI 5 combined, based on dry tons of sludge incinerated and Metal HAPs emission factor from the most recent performance test results. This limit for HAPs - Metals includes antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium. [Title I Condition: Avoid major source under 40 CFR 63.2]
5.2.3	Process Throughput <= 315 tons per day 24-hour block average of dry sludge. This limit is the sum total throughput from FBR's EQUI 3, EQUI 4, and EQUI 5 combined. [Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.2.4	Daily Recordkeeping - Process Throughput: The Permittee shall calculate and record the daily sum total for process throughput by summing the daily dry sludge from FBR's EQUI 3, EQUI 4, and EQUI 5 combined, for the previous operating day. [Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.2.5	Monthly Recordkeeping - Process Throughput: The Permittee shall calculate and record the monthly sum total for process throughput by summing the daily dry sludge total from FBR's EQUI 3, EQUI 4, and EQUI 5 combined, for the previous operating month. [Minn. R. 7007.0800, subp. 5]
5.2.6	Monthly Recordkeeping - HAPs - metal Emissions: By the last day of each month, the Permittee shall calculate and record the 12-month rolling sum total for HAPs - metal emissions by summing the monthly total for HAPs - metal emissions from FBR's EQUI 3, EQUI 4, and EQUI 5 HAPs - metal emissions, for the previous 12 months. See EQUI 3, EQUI 4, and EQUI 5 requirements for each individual 12-month rolling sum. [Minn. R. 7007.0800, subp. 5]
5.2.7	Monthly Recordkeeping - HAPs - volatile Emissions: By the last day of each month, the Permittee shall calculate and record the 12-month rolling sum total for HAPs - volatile emissions by summing the monthly total for HAPs -volatile emissions from FBR's EQUI 3, EQUI 4, and EQUI 5 HAPs - volatile emissions, for the previous 12 months. See EQUI 3, EQUI 4, and EQUI 5 requirements for each individual 12-month rolling sum. [Minn. R. 7007.0800, subp. 5]
COMG 10	Auxiliary Boilers
5.3.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. If EQUI 133 (FBR 4) has not undergone initial startup, AOS 1 will terminate when the Permittee has completed the modification of EQUI 10 and EQUI 11 to allow for the combustion of propane, as a backup fuel. Otherwise, AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. The Permittee shall document when changing from AOS 1 to AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.3.2	Alternative Operating Scenario (AOS) 1. The Permittee shall maintain the use of distillate oil as a backup fuel for EQUI 10 and EQUI 11. AOS 1 requirements include requirements 5.3.3 - 5.3.9. [Minn. R. 7007.0800, subp. 11(B)]
5.3.3	The Permittee must limit PM < 10 micron <= 3.37 tons per year 12-month rolling sum from EQUI

Requirement number	Requirement and citation
	10 and EQUI 11 combined. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.3.4	The Permittee must limit Fuel Usage $\leq$ 2.484507 million gallons per year 12-month rolling sum of distillate fuel oil from EQUI 10 and EQUI 11 combined. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.3.5	The Permittee must limit Steam Production $\leq$ 438 million pounds per year 12-month rolling sum of total steam produced from both EQUI 10 and EQUI 11 combined. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.3.6	Monthly Recordkeeping - Fuel Usage: By the last day of each month, the Permittee shall calculate and record the following for the amount of distillate fuel combusted, as prescribed below: The 12-month rolling sum total of distillate fuel combusted by summing the monthly total from both EQUI 10 and EQUI 11 fuel usage data, for the previous 12 months. Refer to EQUI 10 and EQUI 11 for additional monitoring requirements. [40 CFR 60.48c(g), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.0570]
5.3.7	Monthly Recordkeeping - Steam Production: By the last day of each month, the Permittee shall calculate and record the following for the amount of steam produced, as prescribed below: The 12-month rolling sum total of steam produced by summing the monthly total from both EQUI 10 and EQUI 11 steam production data, for the previous 12 months. Refer to EQUI 10 and EQUI 11 for additional monitoring requirements. [Minn. R. 7007.0800, subp. 5]
5.3.8	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall calculate and record the following for PM10, as prescribed below: The 12-month rolling sum total of PM10 emissions by summing the monthly total from both EQUI 10 and EQUI 11 PM10 emission data, for the previous 12 months. Refer to EQUI 10 and EQUI 11 for additional monitoring requirements. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.3.9	Recordkeeping: Maintain all records for at least five years. [40 CFR 60.48c(l), Minn. R. 7007.0800, subp. 5]
5.3.10	Alternative Operating Scenario (AOS) 2. The Permittee is authorized to combust propane in EQUI 10 and EQUI 11, as a backup fuel. The use of distillate oil is prohibited in EQUI 10 and EQUI 11. AOS 2 requirements include requirements 5.3.11 - 5.3.15. [Minn. R. 7007.0800, subp. 11(B)]
5.3.11	PM < 10 micron $\leq$ 3.37 tons per year 12-month rolling sum of both EQUI 10 and EQUI 11 combined. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.3.12	Nitrogen Oxides $\leq$ 24.33 tons per year 12-month rolling sum of total NOx emissions emitted from both units EQUI 10 and EQUI 11 combined. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.3.13	The Permittee shall limit emissions of PM < 10 micron $\leq$ 18.54 pounds per day 24-hour block average from both EQUI 10 and EQUI 11 combined. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A)]

Requirement number	Requirement and citation
	& (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.3.14	Monthly Recordkeeping - NOx Emissions: By the last day of each month, the Permittee shall calculate and record the following for the NOx emissions, as prescribed below: The 12-month rolling sum total of NOx emissions by summing the monthly total for both EQUI 10 and EQUI 11 NOx emission data, for the previous 12 months. Refer to EQUI 10 and EQUI 11 for additional monitoring requirements. [Minn. R. 7007.0800, subp. 5]
5.3.15	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall calculate and record the following for PM10 emissions, as prescribed below: The 12-month rolling sum total of PM10 emissions by summing the monthly total for both EQUI 10 and EQUI 11 PM10 emission data, for the previous 12 months. Refer to EQUI 10 and EQUI 11 for additional monitoring requirements. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
COMG 11	Alkaline Stabilization Cell Ventilation
5.4.1	The Permittee shall continue to adhere to the following requirements until the initial startup of EQUI 133 (FBR 4). Upon the initial startup of EQUI 133 (FBR 4), COMG 11 will terminate. The H2S requirements will be found in EQUI 9 AOS 2. Upon the initial startup of EQUI 133 (FBR 4), the operation of EQUIs 6, 7, and 8 will be prohibited. [Minn. R. 7007.0800, subp. 11(B)]
5.4.2	Hydrogen Sulfide (H2S) <= 0.18 pounds per hour from all alkaline stabilization cell ventilation stacks (STRU 32, STRU 33, STRU 34, and STRU 35) combined. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.4.3	Operating Hours <= 17520 hours per year 12-month rolling sum for the ID fans associated with EQUI 6, EQUI 7, EQUI 8, and EQUI 9. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.4.4	Monthly Recordkeeping - ID Fan Operating Hours: By the last day of each month, the Permittee shall calculate and record the sum of total operating hours for all of the individual ID fans (from EQUI 6, EQUI 7, EQUI 8, and EQUI 9) for the previous month. The 12-month rolling sum total for the operating hours shall be calculated by summing the monthly total for each of monthly operating hours for the previous 12 months. [Minn. R. 7007.0800, subp. 5]
5.4.5	Recordkeeping: The Permittee shall calculate and record the sum of the alkaline stabilization cell ventilation H2S emissions (STRU 32, STRU 33, STRU 34, and STRU 35) upon completion of performance testing. [Minn. R. 7007.0800, subp. 5]
COMG 18	Continuous Emission Monitors (CEMs)
5.5.1	The CEMS requirements listed below outline the typical standards of 40 CFR pt. 60 when combined with Minn. R. Additional monitoring requirements may also apply to the Facility based on this combination of standards and it is the responsibility of the Facility to meet all applicable requirements. [Minn. R. 7007.0800, subp. 4]
5.5.2	Certification Test Plan due 30 days before Certification Test. Certification Test Pretest Meeting due 7 days before Certification Test. Certification Test Report due 45 days after Certification Test.

Requirement number	Requirement and citation
	The Test Plan and Test Report must be submitted in a format specified by the commissioner. [40 CFR 60.7(a)(5), Minn. R. 7017.1060, subp. 1-3, Minn. R. 7017.1080]
5.5.3	Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. [40 CFR 60.13(e), Minn. R. 7017.1010, subp. 1(A), Minn. R. 7017.1090]
5.5.4	QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan must be on site and available for inspection within 30 days after monitor certification. The plan must contain all of the information required by 40 CFR Part 60, Appendix F, Section 3. The plan must include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list. [40 CFR pt. 60, Appendix F, 3, Minn. R. 7017.1010, subp. 1(C), Minn. R. 7017.1170, subp. 2]
5.5.5	CEMS QA/QC: The Permittee is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1010, subp. 1(A)]
5.5.6	CEMS Daily Calibration Drift Test: Check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, Section 4.3.1 must be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, 4.1, Minn. R. 7017.1010, subp. 1(A), Minn. R. 7017.1170, subp. 3]
5.5.7	Recordkeeping: The Permittee shall retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100, subp. 1]
5.5.8	CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period. [40 CFR 60.13(e)(2), Minn. R. 7017.1010, subp. 1(A)]
5.5.9	The Permittee must submit start-up notification: Due 10 working days after Startup of Monitor Date. [Minn. R. 7007.0800, subp. 2]
5.5.10	CEMS Certification/Recertification Test: due 90 days after the first excess emissions report required for the CEMS or any change which invalidates the monitor's certification status as outlined in Minn. R. 7017.1050, subp. 2. [40 CFR 60.13(b), Minn. R. 7017.1010, subp. 1(A)]
5.5.11	Installation Notification: due 60 days before installing the continuous emissions monitoring system. The notification shall include plans and drawings of the system. [Minn. R. 7017.1040, subp. 1]
COMG 20	Fluidized Bed Reactors (FBRs) 1-4
5.6.1	When all four fluidized bed incinerators (EQUIs 3, 4, 5, and 133) are simultaneously in operation, the alkaline stabilization loadout (EQUI 9) is prohibited from operating. Operation of an incinerator is defined by sludge feeding to the individual incinerator. Operation of alkaline stabilization loadout is defined by when the alkaline stabilization system mixer is running, except during times of periodic maintenance on the alkaline stabilization system mixer. During alkaline

Requirement number	Requirement and citation
	stabilization system maintenance when all four fluidized bed incinerators are operating, sludge will not be fed to the alkaline stabilization system. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.6.2	Mercury <= 7.1 pounds per day (3200 grams per day) sum total from fluidized bed reactor sewage sludge incinerator (FBR) units EQUI 3, EQUI 4, EQUI 5, and EQUI 133 combined. [40 CFR 61.52(b)]
5.6.3	If mercury emissions exceed 3.55 pounds (1,600 grams) per 24-hour period sum total from FBR's EQUI 3, EQUI 4, EQUI 5 and EQUI 133 combined, demonstrated by stack sampling according to 40 CFR 61.53 or sludge sampling according to 40 CFR 61.54, the Permittee shall monitor mercury emissions at intervals of at least once per year by use of the procedures specified in 40 CFR 61.53(d)(2) and (4) or 61.54. The results of monitoring shall be reported and retained according to 40 CFR 61.53 (d)(5) and (6) or 40 CFR 61.54(f) and (g). This permit condition is in addition to the other mercury performance testing required by this permit. [40 CFR 61.55(a)]
EQUI 3	Fluidized Bed Sewage Sludge Reactor 1
5.7.1	The emission limits and standards provided in 40 CFR pt. 62, subp. LLL apply at all times the FBR unit is operating and during periods of malfunction. Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. Emissions, except opacity, shall be calculated under standard conditions corrected to seven percent oxygen on a dry volume basis. [40 CFR 62.15955, 40 CFR 62.15970, 40 CFR 62.16045]
5.7.2	The operating limits apply at all times that sewage sludge is in the combustion chamber (i.e., until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time). [40 CFR 62.15970]
5.7.3	The Permittee must comply with all applicable requirements of 40 CFR pt. 62, subp. LLL as follows: 40 CFR 62.15855(a)-(b) 40 CFR 62.15900(b); 40 CFR 62.15910(b); 40 CFR 62.15915; 40 CFR 62.15920(a)-(c); 40 CFR 62.15925(a)-(c); 40 CFR 62.15930(a)-(b); 40 CFR 62.15935(a)-(e); 40 CFR 62.15940(a)-(b); 40 CFR 62.15945(a)-(b); 40 CFR 62.15950(a); 40 CFR 62.15950(b)(ii); 40 CFR 62.15955; 40 CFR 62.15960(a)-(d); 40 CFR 62.15960(f)-(g); 40 CFR 62.15970; 40 CFR 62.15985(a)-(h)(3)(i); 40 CFR 62.15995(a)-(h); 40 CFR 62.16000(a)-(f); 40 CFR 62.16005(a)-(d);

Requirement number	Requirement and citation
	40 CFR 62.16010(a)-(b); 40 CFR 62.16015(a)-(e); 40 CFR 62.16020(a)-(c); 40 CFR 62.16025(a)-(n); 40 CFR 62.16030(c)-(h); 40 CFR 62.16035; 40 CFR 62.16045; 40 CFR Part 62, Subp. LLL Table 2; 40 CFR Part 62, Subp. LLL Table 4; and, 40 CFR Part 62, Subp. LLL Table 5. A copy of 40 CFR pt. 62, subp. LLL is included in Appendix E. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 62, subp. LLL]
5.7.4	Should, at any time after normal startup, the permitted facility's continuously monitored emissions exceed permit requirements, based on accurate and valid emissions data, the Permittee shall immediately report the exceedance to the commissioner and immediately either commence appropriate modifications to the facility to ensure its ability to meet permitted requirements or commence shutdown if the modifications cannot be completed within 72 hours. Compliance with permit requirements must then be demonstrated based on additional testing. [Minn. R. 7011.1340, subp. 3, Minn. Stat. 116.85, subd. 2]
5.7.5	Should, at any time after normal startup, the permitted facility's periodically tested emissions exceed permit requirements based on accurate and valid emissions data, the Permittee shall immediately report the exceedance to the commissioner, shall undertake appropriate steps to ensure the facility's compliance with permitted requirements, and shall demonstrate compliance within 60 days of the initial report of the exceedance. If the commissioner determines that compliance has not been achieved within 60 days, then the facility shall shut down until compliance with permit requirements is demonstrated based on additional testing. [Minn. R. 7011.1340, subp. 4, Minn. Stat. 116.85, subd. 3]
5.7.6	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter ≥ 99.9 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.7.7	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron ≥ 99.4 percent collection efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.7.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for Lead ≥ 96.5 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.7.9	The Permittee must limit Filterable Particulate Matter ≤ 18 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.10	The Permittee must limit Filterable Particulate Matter ≤ 1.30 pounds per ton dry sludge input, 3-

Requirement number	Requirement and citation
	run average. [40 CFR 60.152(a)(1), Minn. R. 7011.1310(A), Minn. R. 7011.1350]
5.7.11	The Permittee must limit Filterable Particulate Matter $\leq$ 2.57 pounds per hour, 3-run average. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.7.12	The Permittee must limit PM < 10 micron $\leq$ 2.01 pounds per hour, 3-run average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.7.13	The Permittee must limit PM < 10 micron $\leq$ 1.70 pounds per hour, 3-run average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.7.14	The Permittee must limit PM < 2.5 micron $\leq$ 0.550 pounds per hour, 3-run average. This limit is not applicable until after the startup of EQUI133. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.7.15	The Permittee must limit Lead $\leq$ 0.0074 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.16	The Permittee must limit Lead $\leq$ 0.0097 pounds per ton of dry sludge charged, 3-run average. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.7.17	The Permittee must limit Hydrogen Chloride $\leq$ 0.51 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.18	The Permittee must limit Hydrogen Chloride $\leq$ 0.1 pounds per ton of dry sludge charged, 3-run average. [Title I Condition: Avoid major source under 40 CFR 63.2]
5.7.19	The Permittee must limit Mercury $\leq$ 0.037 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.20	The Permittee must limit Mercury $\leq$ 0.0036 pounds per ton of dry sludge charged, 3-run average. [Minn. R. 7007.0800, subp. 2(B)]
5.7.21	PERMANENT MERCURY LIMITS. In amending, modifying, or reissuing a facility's air emissions permit which contains a provision that restricts mercury emissions from the facility, the commissioner shall, at a minimum, continue that permit restriction at the same level unless the applicant demonstrates that no good cause exists to do so. [Minn. Stat. 116.85, subd. 1a(f)]
5.7.22	The Permittee must limit Nitrogen Oxides $\leq$ 150 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.23	The Permittee must limit Total PCDD/PCDF $\leq$ 0.013 nanograms per dscm (toxic equivalency basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. [Minn. R. 7007.0800, subp. 2(B)]
5.7.24	The Permittee must limit Total PCDD/PCDF $\leq$ 0.10 nanograms per dscm (toxic equivalency basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. As an alternative, the Permittee may comply with the dioxin/furan total mass basis limit. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.25	The Permittee must limit Total PCDD/PCDF $\leq$ 1.2 nanograms per dscm (total mass basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. As an alternative, the Permittee may comply with the dioxin/furan toxic equivalency basis limit. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]

Requirement number	Requirement and citation
5.7.26	The Permittee must limit Sulfur Dioxide $\leq$ 15 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.27	The Permittee must limit Cadmium $\leq$ 0.0016 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.28	The Permittee must limit Carbon Monoxide $\leq$ 64 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.29	The Permittee must limit Opacity $\leq$ 20 percent using 6-minute average. [40 CFR 60.152(a)(2), Minn. R. 7011.1310(B), Minn. R. 7011.1350]
5.7.30	The Permittee must limit Visible Emissions $>$ 0 percent for no more than 5 percent of any compliance test hourly observation period, as based on three 1-hour observation periods, for visible emissions of combustion ash from the ash conveying system (including conveyor transfer points). [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.7.31	The Permittee must maintain Temperature $\geq$ 1200 degrees Fahrenheit 8-hour block average for a minimum retention time of 0.3 second, utilizing auxiliary fuel burners if needed to maintain temperature. [Minn. R. 7011.1310]
5.7.32	The Permittee must maintain the combustion chamber operating Temperature $\geq$ 1319 degrees Fahrenheit, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15960(a) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. [40 CFR 62.15960(a), Minn. R. 7017.2025, subp. 3]
5.7.33	The Permittee must maintain Process Throughput $\leq$ 38325 tons per year 12-month rolling sum of dry sludge. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.7.34	The Permittee must maintain Process Throughput $\leq$ 130 tons per day 24-hour block average of dry sludge. [Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.7.35	The Permittee must maintain Process Throughput $\leq$ 5.4 tons per hour of dry sludge, using 8-hour Block Average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the most recent MPCA-approved performance test where compliance was demonstrated. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7017.2025, subp. 3]
5.7.36	No changes shall be made in the operation which would potentially increase mercury emissions above the level determined by the most recent performance test, except as allowed by the Total Facility portion of this permit following results reported to the commissioner of a subsequent performance test on the same unit. [40 CFR 61.53(d)(4)]
5.7.37	The Permittee shall incinerate only sewage sludge, including spent carbon and scum. [Minn. R. 7007.0800, subp. 2(A)]
5.7.38	The Permittee shall burn only natural gas, fuel oil, or propane as auxiliary fuel. Upon the change over from the combustion of fuel oil to propane, the usage of fuel oil shall be prohibited. [Minn. R. 7007.0800, subp. 2(A)]
5.7.39	The Permittee must meet the requirements in 40 CFR 62.16005(d) to confirm the operating limits or re-establish new operating limits using operating data recorded during any performance tests or performance evaluations required in 40 CFR 62.16000. The Permittee must follow the data measurement and recording frequencies and data averaging times specified in Table 4 to 40 CFR part 62, subpart LLL, and the Permittee must follow the testing, monitoring and calibration requirements specified in 40 CFR 62.16015 and 62.16020. The operating limits shall meet the

Requirement number	Requirement and citation
	following requirements: (b) Minimum pressure drop across each wet scrubber used to meet the particulate matter, lead and cadmium emission limits, equal to the lowest 4-hour average pressure drop across each such wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. (c) Minimum scrubber liquid flow rate (measured at the inlet to each wet scrubber), equal to the lowest 4-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with all applicable emission limits. (d) Minimum scrubber liquid pH for each wet scrubber used to meet the sulfur dioxide or hydrogen chloride emission limits, equal to the lowest 1-hour average scrubber liquid pH measured during the most recent performance test demonstrating compliance with the sulfur dioxide and hydrogen chloride emission limits. (e) Minimum combustion chamber operating temperature, equal to the lowest 4-hour average combustion chamber operating temperature measured during the most recent performance test demonstrating compliance with all applicable emission limits. (f) Minimum power input to the electrostatic precipitator collection plates, equal to the lowest 4-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. Power input must be calculated as the product of the secondary voltage and secondary amperage to the electrostatic precipitator collection plates. Both the secondary voltage and secondary amperage must be recorded during the performance test. (g) Minimum influent water flow rate at the inlet of the electrostatic precipitator, equal to the lowest 4-hour average influent water flow rate at the inlet of the electrostatic precipitator measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. Alternative influent water flow rate monitoring for the wet electrostatic precipitator approved by EPA in a letter to Metropolitan Council on September 15, 2022. (h) For activated carbon injection, establish the site-specific operating limits specified in paragraphs (h)(1) through (3) of this section. (1) Minimum mercury sorbent injection rate, equal to the lowest 4-hour average mercury sorbent injection rate measured during the most recent performance test demonstrating compliance with the mercury emission limit. (2) Minimum carrier gas flow rate or pressure drop, as follows: (i) Minimum carrier gas flow rate or pressure drop, equal to the lowest 4-hour average carrier gas flow rate or pressure drop measured during the most recent performance test demonstrating compliance with the applicable emission limit. [40 CFR 62.15960(g), 40 CFR 62.15985(b-h), 40 CFR 62.16005(d), 40 CFR pt. 62, subp. LLL, Table 4]
5.7.40	The FBR unit shall not be operated unless a fully trained and qualified FBR unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified FBR unit operator may operate the FBR unit directly or be the direct supervisor of one or more other plant personnel who operate the FBR. If all qualified FBR unit operators are temporarily not accessible, the Permittee must follow the procedures in 40 CFR 62.15945. [40 CFR 62.15920(a)]
5.7.41	The FBR operator shall obtain operator qualification by completing a state-approved training course or by completing the following training requirements. Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (1) through (3): (1) Training on the 10 subjects listed in paragraphs (1)(i) through (x): (i) Environmental concerns, including types of emissions; (ii) Basic combustion principles, including products of combustion;

Requirement number	Requirement and citation
	(iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, sewage sludge feeding 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 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; and (x) Pollution prevention. (2) An examination designed and administered by the state-approved program or instructor administering the subjects in the above paragraph (1) of this requirement. (3) Written material covering the training course topics that may serve as reference material following completion of the course. Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination. [40 CFR 62.15920(b), 40 CFR 62.15920(c), 40 CFR 62.15930(a), 40 CFR 62.15930(b)]
5.7.42	The operator training course must be completed six months after an employee assumes responsibility for operating the FBR unit or assumes responsibility for supervising the operation of the FBR. [40 CFR 62.15925(c)]
5.7.43	For the operator to maintain qualification, the operator 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, sewage sludge feeding and ash handling; (c) Inspection and maintenance; (d) Prevention of malfunctions or conditions that may lead to malfunction; and (e) Discussion of operating problems encountered by attendees. [40 CFR 62.15935]
5.7.44	Recordkeeping - Operator training: The Permittee must document the following operator training procedures and records. These records must be available and readily accessible at the facility at all times for all FBR operators. (1) Documentation of the following operator training procedures and information: (i) Summary of the applicable standards. (ii) Procedures for receiving, handling and feeding sewage sludge. (iii) Incinerator startup, shutdown, and malfunction preventative and corrective procedures. (iv) Procedures for maintaining proper combustion air supply levels. (v) Procedures for operating the incinerator and associated air pollution control systems within the standards established. (vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits. (vii) Reporting and recordkeeping procedures. (viii) Procedures for handling ash. (ix) A list of the materials burned during the performance test, if in addition to sewage sludge. (x) For each qualified operator and other plant personnel who may operate the unit according to the provisions of 40 CFR 62.15945(a), the phone and/or pager number at which they can be reached during operating hours. (2) Records showing the names of FBR operators and other plant personnel who may operate the unit according to the provisions of 40 CFR 62.15945(a), as follows:

Requirement number	Requirement and citation
	(i) Records showing the names of FBR operators and other plant personnel who have completed review, including the date of the initial review and all subsequent annual reviews. (ii) Records showing the names of the FBR operators who have completed the operator training requirements under 40 CFR 62.15920, met the criteria for qualification under 40 CFR 62.15930, and maintained or renewed their qualification under 40 CFR 62.15935 or 40 CFR 62.15940. Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications. [40 CFR 62.16025(c)(1) and (2), Minn. R. 7007.0800, subp. 5]
5.7.45	The Permittee must maintain at the facility the site-specific documentation of the operator training procedures, as specified under 40 CFR 62.15920(c)(1), and make the documentation readily accessible to all FBR operators. The Permittee must also establish a program for reviewing the training materials with each qualified incinerator operator and other plant personnel who may operate the unit. The subsequent annual reviews must be conducted no later than 12 months following the previous review. [40 CFR 62.15950(a), 40 CFR 62.15950(b)]
5.7.46	Recordkeeping - Operators: The Permittee must document when no qualified operators were accessible. These records must be available and readily accessible at the facility at all times. 1) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks, as required in 40 CFR Section 62.15945(a). 2) Records showing the periods when no qualified operators were accessible for 2 weeks or more along with copies of reports submitted, as required in 40 CFR Section 62.15945(b). [40 CFR 62.15945, 40 CFR 62.16025(c)(3) and (4), Minn. R. 7007.0800, subp. 5]
5.7.47	The Permittee may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. [40 CFR 62.16005(d)(2)]
5.7.48	Comply with Site-Specific Monitoring Plan for Each Site-Specific Monitoring System: The Permittee shall operate and maintain each continuous monitoring system in continuous operation according to the site-specific monitoring plan found in Appendix H. [40 CFR 62.15995(a), 40 CFR 62.16020(a)(2), 40 CFR 62.16025(k)]
5.7.49	If the Permittee's performance tests for the pollutant for at least 2 consecutive years show that the emissions are at or below 75-percent of the emission limit specified in Table 2 of subpart LLL, and there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, then the Permittee does not have to conduct a performance test for that pollutant for the next 2 years. The Permittee must conduct a performance test during the third year and no more than 37 months after the previous performance test. If EQUI 3 continues to meet the emission limit for the pollutant, the Permittee may choose to conduct performance tests for the pollutant every third year if the emissions are at or below 75-percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance test must be conducted no more than 37 months after the previous performance test. If a performance test shows emissions exceeded 75-percent of the emission limit for a pollutant, the Permittee must conduct annual performance tests for that pollutant until all performance tests over 2 consecutive years show compliance. [40 CFR 62.16000(a)(3)]
5.7.50	Recordkeeping: If the Permittee elects to conduct performance tests less frequently than annually, the Permittee must keep annual records that document that the emissions in the two previous consecutive years were at or below 75-percent of the applicable emission, and

Requirement number	Requirement and citation
	document that there were no changes in source operations or air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past 2 years. [40 CFR 62.16025(l)]
5.7.51	The Permittee may choose to conduct stack testing once every three years or according to 40 CFR pt. 62, subp. LLL, whichever is more stringent. The Permittee shall notify the commissioner of its alternative mercury testing schedule, and the commissioner shall include operating conditions in the facility's permit that ensure that the facility will continue to emit mercury emissions less than 50 percent of the applicable standard. If a test conducted shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the Permittee shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the Permittee demonstrates that mercury emissions are again below 50 percent of the facility's permitted mercury limit, the Permittee may resume testing every three years or according to 40 CFR pt. 62, subp. LLL, whichever is more stringent, upon notifying the commissioner. [Minn. Stat. 116.85, subp. 1a]
5.7.52	During each test run, the Permittee must operate the sewage sludge incinerator at a minimum of 85-percent of the maximum permitted capacity. [40 CFR 62.16015(a)(11)]
5.7.53	PERFORMANCE TEST METHODS During performance testing, the Permittee shall utilize the following methods: A. Method 1 for sample and velocity traverses; B. Method 2 for volumetric flow rate; C. Method 3 for gas analysis; and D. Method 5 for concentration of particulate matter and associated moisture content (without condensibles). [40 CFR 60.154(b)(2), Minn. R. 7011.1320, Minn. R. 7011.1350]
5.7.54	Dry sludge charging rate. With each performance test, the Permittee shall determine the dry sludge charging rate in accordance with Minn. R. 7011.1325, subp. 3 and 40 CFR 62.16015(a)(2). [40 CFR 62.16015(a)(2), Minn. R. 7011.1325]
5.7.55	The Permittee must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by: (i) Maintaining a log of the quantity of sewage sludge burned during the performance test by continuously monitoring and recording the average hourly rate that sewage sludge is fed to the incinerator. (ii) Maintaining a log of the moisture content of the sewage sludge burned during the performance test by taking grab samples of the sewage sludge fed to the incinerator for each 8 hour period that testing is conducted. [40 CFR 62.16015(a)(2)]
5.7.56	No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase mercury emissions above the level determined by the most recent sludge test, until the new emission level has been estimated by calculation and the results reported to the commissioner. [40 CFR 61.54(e)]
5.7.57	Records of sludge sampling, charging rate determination and other data needed to determine mercury content of wastewater treatment plant sludges shall be retained at the source and made available, for inspection by the commissioner for a minimum of 2 years. [40 CFR 61.54(g)]
5.7.58	Monitoring Data: Reduce all oxygen, sludge charging rate, wet scrubber pressure drop, auxiliary fuel flow, EQUI 3 outlet temperature, and EQUI 3 bed temperature monitor data to 1-hour averages, in accordance with 40 CFR 60.13(h)(2). [40 CFR 60.13(h)(2)]
5.7.59	The Permittee shall calibrate, maintain, and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to EQUI 3. The flow measuring device

Requirement number	Requirement and citation
	shall be certified by the manufacturer to have an accuracy of +/-5 percent over its operating range. [40 CFR 60.153(a)(1), Minn. R. 7011.1315(A), Minn. R. 7011.1350]
5.7.60	The Permittee must install, operate, calibrate and maintain a flow measuring device which can be used to determine either the mass or volume of sludge charged to EQUI 3. [40 CFR 62.16020, subp. (a)]
5.7.61	The Permittee must monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, as follows: (1) Continuously monitor the sewage sludge feed rate and calculate a daily average for all hours of operation during each 24-hour period. A record of the daily average feed rate shall be maintained. (2) Take at least one grab sample per day of the sewage sludge fed to the sewage sludge incinerator. If more than one grab sample is taken in a day, calculate the daily average for the grab samples. A record of the daily average moisture content shall be maintained. [40 CFR 62.15960(f)]
5.7.62	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the oxygen content of EQUI 3 exhaust gas. The oxygen monitor shall be located upstream of any rabble shaft cooling air inlet into the EQUI 3 exhaust gas stream, fan, ambient air recirculation damper, or any other source of dilution air. The oxygen monitoring device shall be certified by the manufacturer to have a relative accuracy of +/-5 percent over its operating range and shall be calibrated at least once each 24-hour operating period. [40 CFR 60.153(b)(2), Minn. R. 7011.1350]
5.7.63	The Permittee shall calibrate, maintain and continuously operate temperature measuring devices in the bed and outlet of EQUI 3. Each temperature measuring device shall be certified by the manufacturer to have an accuracy of +/-5 percent over its operating range. The Permittee shall record data during all periods of operation. [40 CFR 60.153(b)(3), Minn. R. 7011.1350]
5.7.64	The Permittee must install, operate, calibrate and maintain a combustion chamber operating temperature measuring device for EQUI 3. The combustion chamber operating temperature shall be recorded every 15 minutes. [40 CFR 62.15985, 40 CFR 62.16020(a)]
5.7.65	The Permittee must meet the following requirements for the use of the combustion chamber temperature measurement device. (1) Install the temperature sensor and other necessary equipment in a position that provides a representative temperature. (2) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range. (3) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range. (4) Conduct a temperature measurement device performance evaluation at the time of each performance test but no less frequently than annually. [40 CFR 62.15955(a)(3)(ii)(D)(1)-(4)]
5.7.66	The Permittee shall calibrate, maintain, and operate a device for measuring the auxiliary fuel flow to EQUI 3. The flow measuring device shall be certified by the manufacturer to have an accuracy of +/- 5 percent over its operating range. [40 CFR 60.153(b)(4), Minn. R. 7011.1350]
5.7.67	The auxiliary fuel flow measuring device shall be operated continuously and data recorded during all periods of operation of EQUI 3. [40 CFR 60.153(b)(4), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.1350]

Requirement number	Requirement and citation
5.7.68	The Permittee must collect data using the continuous monitoring systems for flow, pressure, pH and operating temperature at all times EQUI 3 is operating and at the intervals specified in 40 CFR 60.13(e)(2), except for periods of monitoring system malfunctions that occur during periods specified defined in 40 CFR 62.15995(a)(7)(i), repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Any such periods that the Permittee does not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report. [40 CFR 62.16020(a)]
5.7.69	Continuous Operation: All oxygen, sludge charging rate, wet scrubber pressure drop, auxiliary fuel flow, EQUI 3 outlet temperature, and EQUI 3 bed temperature monitors shall be in continuous operation during all periods of emission unit operation. This includes periods of emission unit start-up, shutdown, or malfunction. Exceptions include continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, and other periods allowed by this permit. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2. [40 CFR 60.13(e), 40 CFR 60.153(a)(1), 40 CFR 60.153(b)(3), 40 CFR 60.153(d), Minn. R. 7011.1350]
5.7.70	The Permittee shall provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained. [40 CFR 60.153(a)(2), Minn. R. 7011.1315(B), Minn. R. 7011.1350]
5.7.71	Sludge Sampling: Except as allowed by this permit, the Permittee shall collect and analyze a grab sample of the sludge fed to EQUI 3 once per day. The dry sludge content and the volatile solids content of the sample shall be determined in accordance with Part 2540 G or alternative procedures and subsequent editions of Standard Methods allowed under 40 CFR 60.8(b), "Standard Methods for the Examination of Water and Wastewater", 20th Edition, 1998, American Public Health Association. [40 CFR 60.153(b)(5), Minn. R. 7011.1350]
5.7.72	If the filterable particulate matter emission rate measured during the most recent performance test is less than or equal to 0.38 g/kg of dry sludge input (0.75 lb/ton), the Permittee shall not be required to comply with the following paragraphs in 40 CFR 60.153: (1) Continuous operation of the monitoring devices and data recorders in paragraphs (a)(1), (b)(3), and (b)(4). (2) Daily sampling and analysis of sludge feed in paragraph (b)(5). (3) Recordkeeping specified in paragraph (c)(3). This provision only applies to that provided in 40 CFR 60.153(d)(3). This provision does not apply to any requirements provided in 40 CFR pt. 62, subp. LLL or Minn. R. 7011.1315. [40 CFR 60.153(d), Minn. R. 7011.1350]
5.7.73	Site Specific Monitoring Plan: The Permittee must update and resubmit the site-specific monitoring plan if there are any changes or potential changes in the monitoring procedures or if there is a process change. [40 CFR 62.15995(h)]
5.7.74	The Permittee shall calculate the alarm time for the bag leak detection system as follows: (A) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. (B) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour. (C) If it takes longer than 1 hour to initiate corrective action, each alarm time (i.e., time that the alarm sounds) is counted as the actual amount of time taken by the Permittee to initiate corrective action.

Requirement number	Requirement and citation
	The maximum alarm time is equal to 5-percent of the operating time during a 6-month period. [40 CFR 62.16005(a)(2)(i)]
5.7.75	The Permittee shall meet the operating requirements in the site-specific fugitive emission monitoring plan, to ensure that the ash handling system will meet the emission standard for fugitive emissions from ash handling. A copy of the fugitive emission monitoring plan must be kept on-site. [40 CFR 62.15960(d), Minn. R. 7007.0800, subp. 5]
5.7.76	The Permittee must conduct an annual inspection of each air pollution control device used to comply with the emission limits, no later than 12 months following the previous annual air pollution control device inspection. Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless the Permittee obtains written approval from the Administrator establishing a date whereby all necessary repairs of the affected FBR unit must be completed. The Permittee must maintain records of the results of the annual air pollution control device inspections conducted, including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator. [40 CFR 62.16010, 40 CFR 62.16025(d)]
5.7.77	The Permittee must conduct and record air pollution control device inspections that include, at a minimum, the following: (1) Inspect air pollution control device(s) for proper operation. (2) Generally observe that the equipment is maintained in good operating condition. [40 CFR 62.16015(c)(1) & (2)]
5.7.78	Protocol for Re-Setting the Sludge Process Throughput Limit: The Permittee shall conduct performance testing to measure filterable PM, PM ₁₀ , PM _{2.5} , HCl, Hg, total PCDD/PCDF, HAPs-metal, and HAPs-volatile emission rates as required elsewhere in this permit for limits not set under 40 CFR 62, subp. LLL. If the Sludge Process Throughput Limit is to be re-set, the re-set shall be based on the average values recorded during the most recent MPCA-approved performance test where compliance was demonstrated, as allowed by Minnesota Rule 7017.2025. For operating rate limits, the new limit shall be expressed as an eight-hour block average calculated by totaling total throughput, input, or output as applicable during the eight-hour period and dividing by the total operating time during the eight-hour period. Periods of downtime of 15 or more minutes shall not be counted as operating time. [Minn. R. 7017.2025]
5.7.79	The new Sludge Process Throughput Limit determined using this Protocol shall be effective upon receipt of the Notice of Compliance letter that approves the test results and sets the new Process Throughput Limit and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025]
5.7.80	Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits the new limits shall be implemented upon receipt of the Notice of Compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]
5.7.81	Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.0100, subp. 1]
5.7.82	Recordkeeping - bag leak detection system data. The Permittee shall maintain the bag leak detection system continuous recording the output signal from the sensor. [40 CFR 62.15995(b)(6)]

Requirement number	Requirement and citation
5.7.83	Daily Recordkeeping - Process Throughput: Record the total process throughput (tons of dry sludge) for the previous day of operation. [Minn. R. 7007.0800, subp. 4(D), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.7.84	Monthly Recordkeeping - Process Throughput: By the last day of each month, the Permittee shall calculate and record the total process throughput (tons of dry sludge per month) for the previous month. The 12-month rolling sum total for the process throughput shall be calculated by summing the monthly total for each of process throughput for the previous 12 months. [Minn. R. 7007.0800, subp. 5]
5.7.85	The Permittee shall use the following values for emission factors (EF) in lb/ton units, until superseded as described below: HAPs - metal: 0.00023 lb/ton (5/4/2022 performance test) HAPs - volatile: 0.00008 lb/ton (12/22/2020 performance test) The Permittee must use these values until subsequent testing is conducted. The verified values (as documented in a Notice of Compliance letter) from the most recent performance test for each stack must be used to calculate actual emissions of HAPs - metal, and HAPs -volatile (lb/ton) and to evaluate compliance with the HAPs - metal, and HAPs - volatile limits. [Minn. R. 7007.0800, subp. 2(B), Title I Condition: Avoid major source under 40 CFR 63.2]
5.7.86	Monthly Recordkeeping - HAPs - metal Emissions: By the last day of each month, the Permittee shall calculate and record the following for HAPs - metal emissions, as prescribed in Steps 1-2 below: Step 1) The HAPs - metal emissions (tons/month), for the previous calendar month. $EM = (EF * DS)/2000$ EF = HAPS - metal emission factor (lb/ton) DS = Dry sludge total (tons/month) for the previous month for the sum total of EQUI 3. 2000 = conversion factor (lb/ton) Step 2) The 12-month rolling sum total for HAPs - metal emissions by summing the monthly total for HAPs - metal emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]
5.7.87	Monthly Recordkeeping - HAPs - volatile Emissions: By the last day of each month, the Permittee shall calculate and record the following for HAPs - volatile emissions, as prescribed in Steps 1-2 below: Step 1) The HAPs - volatile emissions (tons/month), for the previous calendar month. $EM = (EF * DS)/2000$ EF = HAPS - volatile emission factor (lb/ton) DS = Dry sludge total (tons/month) for the previous month for the sum total of EQUI 3. 2000 = conversion factor (lb/ton) Step 2) The 12-month rolling sum total for HAPs - volatile emissions by summing the monthly

Requirement number	Requirement and citation
	total for HAPs -volatile emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]
5.7.88	Recordkeeping - Air pollution control device inspections. The Permittee shall maintain the record of the annual air pollution control device inspections, including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator. [40 CFR 62.16025(d), Minn. R. 7007.0800, subp. 5]
5.7.89	Recordkeeping - Performance test reports. The Permittee shall maintain the following records. (1) The results of the initial, annual and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable. (2) A copy of the complete performance test report, including calculations. (3) A record of the hourly dry sludge feed rate measured during performance test runs. (4) Any necessary records to demonstrate that the performance test was conducted under conditions representative of normal operations, including a record of the moisture content measured for each grab sample taken of the sewage sludge burned during the performance test. [40 CFR 62.16025(e), Minn. R. 7007.0800, subp. 5]
5.7.90	Recordkeeping - Continuous monitoring data. The Permittee shall maintain the following records from its continuous parameter monitoring systems: i) All the 1-hour average values recorded for the following operating parameters: (A) Combustion chamber operating temperature. (B) The pressure drop across each wet scrubber system, the liquid flow rate to each wet scrubber, and the scrubber liquid pH for each wet scrubber used to comply with the emission limit. (C) The secondary voltage of the electrostatic precipitator collection plates, the secondary amperage of the electrostatic precipitator collection plates, and influent water flow rate at the inlet of each wet electrostatic precipitator. (D) The sorbent flow rate, and carrier gas flow rate or pressure drop for each carbon injection system. (ii) All daily average values recorded for the feed rate and moisture content of the sewage sludge fed to the FBR, monitored and calculated as specified in 40 CFR 62.15960(f). (iii) For each fabric filter, 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. The Permittee must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in 40 CFR 62.16005. [40 CFR 62.16025(f)(3), Minn. R. 7007.0800, subp. 5]
5.7.91	Recordkeeping - Other records for continuous monitoring systems. The Permittee shall maintain the following records: (1) Records of any notifications to the Administrator of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit. (2) Records of any requests that compliance with the emission limits be determined using carbon dioxide measurements corrected to an equivalent of 7-percent oxygen. (3) If activated carbon injection is used, the type of sorbent used and any changes in the type of sorbent used. [40 CFR 62.16025(g), Minn. R. 7007.0800, subp. 5]
5.7.92	Recordkeeping - Deviation reports. The Permittee shall maintain the records of any deviation reports. [40 CFR 62.16025(h), Minn. R. 7007.0800, subp. 5]
5.7.93	Recordkeeping - Equipment specifications and operation and maintenance requirements. The Permittee shall maintain the records of equipment specifications and related operation and maintenance requirements received from vendors for the incinerator, emission controls and

Requirement number	Requirement and citation
	monitoring equipment. [40 CFR 62.16025(i), Minn. R. 7007.0800, subp. 5]
5.7.94	Recordkeeping - Inspections, calibrations and validation checks of monitoring devices. The Permittee shall maintain the records of inspections, calibration and validation checks of any monitoring devices as required under 40 CFR 62.16015 and 62.16020. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 5]
5.7.95	Recordkeeping - Site specific monitoring plan and performance evaluations for all the continuous monitoring systems. The Permittee shall maintain the records of the monitoring plans required under 40 CFR 62.15995, and records of performance evaluations required under 40 CFR 62.16000(b)(5). [40 CFR 62.16025(k), Minn. R. 7007.0800, subp. 5]
5.7.96	Recordkeeping - Malfunction: The Permittee shall maintain records if a malfunction occurs. The Permittee must keep a record of the information submitted in the annual report. [40 CFR 62.16025(n), Minn. R. 7007.0800, subp. 5]
5.7.97	The Permittee shall include the following in the Semi-annual Deviations Report: 1. A record of average scrubber pressure drop measurements for each period of 15 minutes duration or more during which the pressure drop of the scrubber was less than, by a percentage specified below, the average scrubber pressure drop measured during the most recent performance test. The percent reduction in scrubber pressure drop for which a report is required shall be determined as follows: (i) If EQUI 3 achieved an average filterable particulate matter emission rate of 0.38 kg/Mg (0.75 lb/ton) dry sludge input or less during the most recent performance test, a scrubber pressure drop reduction of more than 30 percent from the average scrubber pressure drop recorded during the most recent performance test shall be reported. (ii) If EQUI 3 achieved an average filterable particulate matter emission rate of greater than 0.38 kg/Mg (0.75 lb/ton) dry sludge input during the most recent performance test, a percent reduction in pressure drop greater than that calculated according to the following equation shall be reported: $P = -111E + 72.15$ where P=Percent reduction in pressure drop, and E=Average filterable particulate matter emissions (kg/megagram). 2. A record of average oxygen content in EQUI 3 exhaust gas for each period of 1-hour duration or more that the oxygen content of EQUI 3 exhaust gas exceeds the average oxygen content measured during the most recent performance test by more than 3 percent. [40 CFR 60.155(a), Minn. R. 7011.1350]
5.7.98	If the average filterable particulate matter emission rate measured during the performance test exceeds 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input), the Permittee shall include in the Semi-annual Deviations Report for each calendar day that a decrease in scrubber pressure drop or increase in oxygen content of exhaust gas is reported a record of the following: (1) Scrubber pressure drop averaged over each 1-hour incinerator operating period. (2) Oxygen content in the incinerator exhaust averaged over each 1-hour incinerator operating period. (3) Temperatures of the bed and outlet of fluidized bed incinerators averaged over each 1-hour incinerator operating period. (4) Rate of sludge charged to the incinerator averaged over each 1-hour incinerator operating

Requirement number	Requirement and citation
	period. (5) Incinerator fuel use averaged over each 8-hour incinerator operating period. (6) Moisture and volatile solids content of the daily grab sample of sludge charged to the incinerator. Items 1-6 above are not required if the filterable particulate matter emission rate measured during the performance test is less than or equal to 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input). [40 CFR 60.155(b), Minn. R. 7011.1350]
5.7.99	Records of mercury emission test results and other data needed to determine total mercury emissions shall be retained at the source and shall be made available, for inspection by the commissioner for a minimum of 5 years. [Minn. R. 7007.0800, subp. 5(C)]
5.7.100	Except as allowed by 40 CFR 60.153(d), the Permittee shall retain the following information and make it available for inspection by the Administrator for a minimum of five years: (1) a record of the measured pressure drop of the gas flow through the Wet Scrubber (2) A record of the measured oxygen content of the exhaust gas (3) A record of the rate of sludge charged, the measured temperatures, the auxiliary fuel flow, and the total solids and volatile solids content of the sludge charged. [40 CFR 60.153(c), Minn. R. 7007.0800, subp. 5(C), Minn. R. 7011.1350]
5.7.101	The Permittee shall submit the PFAS performance test report to the Commissioner within 60 days of completion of the performance tests. The performance test report shall include results for Perfluorobutanoic acid (PFBA), Perfluorohexanesulfonic acid (PFHxS), Perfluorohexanoic acid (PFHxA), Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), and Perfluorobutane sulfonic acid (PFBS) in addition to all other analytes targeted by both OTM-45 and OTM-50, or other MPCA-approved method, if applicable. [Minn. R. 7007.0800, subp. 16(L)]
EQUI 4	Fluidized Bed Sewage Sludge Reactor 2
5.8.1	The emission limits and standards provided in 40 CFR pt. 62, subp. LLL apply at all times the FBR unit is operating and during periods of malfunction. Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. Emissions, except opacity, shall be calculated under standard conditions corrected to seven percent oxygen on a dry volume basis. [40 CFR 62.15955, 40 CFR 62.15970, 40 CFR 62.16045]
5.8.2	The Permittee must comply with all applicable requirements of 40 CFR pt. 62, subp. LLL as follows: 40 CFR 62.15855(a)-(b) 40 CFR 62.15900(b); 40 CFR 62.15910(b); 40 CFR 62.15915; 40 CFR 62.15920(a)-(c); 40 CFR 62.15925(a)-(c); 40 CFR 62.15930(a)-(b); 40 CFR 62.15935(a)-(e); 40 CFR 62.15940(a)-(b); 40 CFR 62.15945(a)-(b); 40 CFR 62.15950(a); 40 CFR 62.15950(b)(ii); 40 CFR 62.15955;

Requirement number	Requirement and citation
	40 CFR 62.15960(a)-(d); 40 CFR 62.15960(f)-(g); 40 CFR 62.15970; 40 CFR 62.15985(a)-(h)(3)(i); 40 CFR 62.15995(a)-(h); 40 CFR 62.16000(a)-(f); 40 CFR 62.16005(a)-(d); 40 CFR 62.16010(a)-(b); 40 CFR 62.16015(a)-(e); 40 CFR 62.16020(a)-(c); 40 CFR 62.16025(a)-(n); 40 CFR 62.16030(c)-(h); 40 CFR 62.16035; 40 CFR 62.16045; 40 CFR Part 62, Subp. LLL Table 2; 40 CFR Part 62, Subp. LLL Table 4; and, 40 CFR Part 62, Subp. LLL Table 5. A copy of 40 CFR pt. 62, subp. LLL is included in Appendix E. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 62, subp. LLL]
5.8.3	The operating limits apply at all times that sewage sludge is in the combustion chamber (i.e., until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time). [40 CFR 62.15970]
5.8.4	Should, at any time after normal startup, the permitted facility's continuously monitored emissions exceed permit requirements, based on accurate and valid emissions data, the Permittee shall immediately report the exceedance to the commissioner and immediately either commence appropriate modifications to the facility to ensure its ability to meet permitted requirements or commence shutdown if the modifications cannot be completed within 72 hours. Compliance with permit requirements must then be demonstrated based on additional testing. [Minn. R. 7011.1340, subp. 3, Minn. Stat. 116.85, subd. 2]
5.8.5	Should, at any time after normal startup, the permitted facility's periodically tested emissions exceed permit requirements based on accurate and valid emissions data, the Permittee shall immediately report the exceedance to the commissioner, shall undertake appropriate steps to ensure the facility's compliance with permitted requirements, and shall demonstrate compliance within 60 days of the initial report of the exceedance. If the commissioner determines that compliance has not been achieved within 60 days, then the facility shall shut down until compliance with permit requirements is demonstrated based on additional testing. [Minn. R. 7011.1340, subp. 4, Minn. Stat. 116.85, subd. 3]
5.8.6	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter ≥ 99.9 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.8.7	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron ≥ 99.4 percent collection efficiency. [40 CFR 50.6, Minn. R.

Requirement number	Requirement and citation
	7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.8.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for Lead $\geq$ 96.5 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.8.9	The Permittee must limit Filterable Particulate Matter $\leq$ 18 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.10	The Permittee must limit Filterable Particulate Matter $\leq$ 1.30 pounds per ton dry sludge input, 3-run average. [40 CFR 60.152(a)(1), Minn. R. 7011.1310(A), Minn. R. 7011.1350]
5.8.11	The Permittee must limit Filterable Particulate Matter $\leq$ 2.57 pounds per hour, 3-run average. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.8.12	The Permittee must limit PM $<$ 10 micron $\leq$ 2.01 pounds per hour, 3-run average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.8.13	The Permittee must limit PM $<$ 10 micron $\leq$ 1.70 pounds per hour, 3-run average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.8.14	The Permittee must limit PM $<$ 2.5 micron $\leq$ 0.550 pounds per hour, 3-run average. This limit is not applicable until after the startup of EQUI 133. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.8.15	The Permittee must limit Lead $\leq$ 0.0074 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.16	The Permittee must limit Lead $\leq$ 0.0097 pounds per ton of dry sludge charged, 3-run average. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.8.17	The Permittee must limit Hydrogen Chloride $\leq$ 0.51 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.18	The Permittee must limit Hydrogen Chloride $\leq$ 0.1 pounds per ton of dry sludge charged, 3-run average. [Title I Condition: Avoid major source under 40 CFR 63.2]
5.8.19	The Permittee must limit Mercury $\leq$ 0.037 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.20	The Permittee must limit Mercury $\leq$ 0.0036 pounds per ton of dry sludge charged, 3-run average. [Minn. R. 7007.0800, subp. 2(B)]
5.8.21	PERMANENT MERCURY LIMITS. In amending, modifying, or reissuing a facility's air emissions permit which contains a provision that restricts mercury emissions from the facility, the commissioner shall, at a minimum, continue that permit restriction at the same level unless the applicant demonstrates that no good cause exists to do so. [Minn. Stat. 116.85, subd. 1a(f)]
5.8.22	The Permittee must limit Nitrogen Oxides $\leq$ 150 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.23	The Permittee must limit Total PCDD/PCDF $\leq$ 0.013 nanograms per dscm (toxic equivalency

Requirement number	Requirement and citation
	basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. [Minn. R. 7007.0800, subp. 2(B)]
5.8.24	The Permittee must limit Total PCDD/PCDF $\leq$ 1.2 nanograms per dscm (total mass basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. As an alternative, the Permittee may comply with the dioxin/furan toxic equivalency basis limit. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.25	The Permittee must limit Total PCDD/PCDF $\leq$ 0.10 nanograms per dscm (toxic equivalency basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. As an alternative, the Permittee may comply with the dioxin/furan total mass basis limit. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.26	The Permittee must limit Sulfur Dioxide $\leq$ 15 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.27	The Permittee must limit Cadmium $\leq$ 0.0016 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.28	The Permittee must limit Carbon Monoxide $\leq$ 64 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.29	The Permittee must limit Opacity $\leq$ 20 percent using 6-minute average. [40 CFR 60.152(a)(2), Minn. R. 7011.1310(B), Minn. R. 7011.1350]
5.8.30	The Permittee must limit Visible Emissions $>$ 0 percent for no more than 5 percent of any compliance test hourly observation period, as based on three 1-hour observation periods, for visible emissions of combustion ash from the ash conveying system (including conveyor transfer points). [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.8.31	The Permittee must maintain Temperature $\geq$ 1200 degrees Fahrenheit 8-hour block average for a minimum retention time of 0.3 second, utilizing auxiliary fuel burners if needed to maintain temperature. [Minn. R. 7011.1310]
5.8.32	The Permittee must maintain the combustion operating chamber Temperature $\geq$ 1324 degrees Fahrenheit, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15960(a) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. [40 CFR 62.15960(a), Minn. R. 7017.2025, subp. 3]
5.8.33	The Permittee must maintain Process Throughput $\leq$ 38325 tons per year 12-month rolling sum of dry sludge. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.8.34	The Permittee must maintain Process Throughput $\leq$ 130 tons per day 24-hour block average of dry sludge. [Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.8.35	The Permittee must maintain Process Throughput $\leq$ 5.4 tons per hour of dry sludge, using 8-hour Block Average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the most recent MPCA-approved performance test where compliance was demonstrated. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7017.2025, subp. 3]
5.8.36	No changes shall be made in the operation which would potentially increase mercury emissions above the level determined by the most recent performance test, except as allowed by the Total Facility portion of this permit following results reported to the commissioner of a subsequent performance test on the same unit. [40 CFR 61.53(d)(4)]
5.8.37	The Permittee shall incinerate only sewage sludge, including spent carbon and scum. [Minn. R.

Requirement number	Requirement and citation
	7007.0800, subp. 2(A)]
5.8.38	The Permittee shall burn only natural gas, fuel oil, or propane as auxiliary fuel. Upon the change over from the combustion of fuel oil to propane, the usage of fuel oil shall be prohibited. [Minn. R. 7007.0800, subp. 2(A)]
5.8.39	The Permittee must meet the requirements in 40 CFR 62.16005(d) to confirm the operating limits or re-establish new operating limits using operating data recorded during any performance tests or performance evaluations required in 40 CFR 62.16000. The Permittee must follow the data measurement and recording frequencies and data averaging times specified in Table 4 to 40 CFR part 62, subpart LLL, and the Permittee must follow the testing, monitoring and calibration requirements specified in 40 CFR 62.16015 and 62.16020. The operating limits shall meet the following requirements: (b) Minimum pressure drop across each wet scrubber used to meet the particulate matter, lead and cadmium emission limits, equal to the lowest 4-hour average pressure drop across each such wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. (c) Minimum scrubber liquid flow rate (measured at the inlet to each wet scrubber), equal to the lowest 4-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with all applicable emission limits. (d) Minimum scrubber liquid pH for each wet scrubber used to meet the sulfur dioxide or hydrogen chloride emission limits, equal to the lowest 1-hour average scrubber liquid pH measured during the most recent performance test demonstrating compliance with the sulfur dioxide and hydrogen chloride emission limits. (e) Minimum combustion chamber operating temperature, equal to the lowest 4-hour average combustion chamber operating temperature measured during the most recent performance test demonstrating compliance with all applicable emission limits. (f) Minimum power input to the electrostatic precipitator collection plates, equal to the lowest 4-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. Power input must be calculated as the product of the secondary voltage and secondary amperage to the electrostatic precipitator collection plates. Both the secondary voltage and secondary amperage must be recorded during the performance test. (g) Minimum influent water flow rate at the inlet of the electrostatic precipitator, equal to the lowest 4-hour average influent water flow rate at the inlet of the electrostatic precipitator measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. Alternative influent water flow rate monitoring for the wet electrostatic precipitator approved by EPA in a letter to Metropolitan Council on September 15, 2022. (h) For activated carbon injection, establish the site-specific operating limits specified in paragraphs (h)(1) through (3) of this section. (1) Minimum mercury sorbent injection rate, equal to the lowest 4-hour average mercury sorbent injection rate measured during the most recent performance test demonstrating compliance with the mercury emission limit. (2) Minimum carrier gas flow rate or pressure drop, as follows: (i) Minimum carrier gas flow rate or pressure drop, equal to the lowest 4-hour average carrier gas flow rate or pressure drop measured during the most recent performance test demonstrating compliance with the applicable emission limit. [40 CFR 62.15960(g), 40 CFR 62.15985(b-h), 40 CFR 62.16005(d), 40 CFR pt. 62, subp. LLL, Table 4]
5.8.40	The FBR unit shall not be operated unless a fully trained and qualified FBR unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified

Requirement number	Requirement and citation
5.8.41	FBR unit operator may operate the FBR unit directly or be the direct supervisor of one or more other plant personnel who operate the FBR. If all qualified FBR unit operators are temporarily not accessible, the Permittee must follow the procedures in 40 CFR 62.15945. [40 CFR 62.15920(a)] The FBR operator shall obtain operator qualification by completing a state-approved training course or by completing the following training requirements. Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (1) through (3): (1) Training on the 10 subjects listed in paragraphs (1)(i) through (x): (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, sewage sludge feeding 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 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; and (x) Pollution prevention. (2) An examination designed and administered by the state-approved program or instructor administering the subjects in the above paragraph (1) of this requirement. (3) Written material covering the training course topics that may serve as reference material following completion of the course. Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination. [40 CFR 62.15920(b), 40 CFR 62.15920(c), 40 CFR 62.15930(a), 40 CFR 62.15930(b)]
5.8.42	The operator training course must be completed six months after an employee assumes responsibility for operating the FBR unit or assumes responsibility for supervising the operation of the FBR. [40 CFR 62.15925(c)]
5.8.43	For the operator to maintain qualification, the operator 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, sewage sludge feeding and ash handling; (c) Inspection and maintenance; (d) Prevention of malfunctions or conditions that may lead to malfunction; and (e) Discussion of operating problems encountered by attendees. [40 CFR 62.15935]
5.8.44	Recordkeeping - Operator training: The Permittee must document the following operator training procedures and records. These records must be available and readily accessible at the facility at all times for all FBR operators. (1) Documentation of the following operator training procedures and information: (i) Summary of the applicable standards. (ii) Procedures for receiving, handling and feeding sewage sludge. (iii) Incinerator startup, shutdown, and malfunction preventative and corrective procedures. (iv) Procedures for maintaining proper combustion air supply levels. (v) Procedures for operating the incinerator and associated air pollution control systems within the standards established.

Requirement number	Requirement and citation
	(vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits. (vii) Reporting and recordkeeping procedures. (viii) Procedures for handling ash. (ix) A list of the materials burned during the performance test, if in addition to sewage sludge. (x) For each qualified operator and other plant personnel who may operate the unit according to the provisions of 40 CFR 62.15945(a), the phone and/or pager number at which they can be reached during operating hours. (2) Records showing the names of FBR operators and other plant personnel who may operate the unit according to the provisions of 40 CFR 62.15945(a), as follows: (i) Records showing the names of FBR operators and other plant personnel who have completed review, including the date of the initial review and all subsequent annual reviews. (ii) Records showing the names of the FBR operators who have completed the operator training requirements under 40 CFR 62.15920, met the criteria for qualification under 40 CFR 62.15930, and maintained or renewed their qualification under 40 CFR 62.15935 or 40 CFR 62.15940. Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications. [40 CFR 62.16025(c)(1) and (2), Minn. R. 7007.0800, subp. 5]
5.8.45	The Permittee must maintain at the facility the site-specific documentation of the operator training procedures, as specified under 40 CFR 62.15920(c)(1), and make the documentation readily accessible to all FBR operators. The Permittee must also establish a program for reviewing the training materials with each qualified incinerator operator and other plant personnel who may operate the unit. The subsequent annual reviews must be conducted no later than 12 months following the previous review. [40 CFR 62.15950(a), 40 CFR 62.15950(b)]
5.8.46	Recordkeeping - Operators: The Permittee must document when no qualified operators were accessible. These records must be available and readily accessible at the facility at all times. 1) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks, as required in 40 CFR Section 62.15945(a). 2) Records showing the periods when no qualified operators were accessible for 2 weeks or more along with copies of reports submitted, as required in 40 CFR Section 62.15945(b). [40 CFR 62.15945, 40 CFR 62.16025(c)(3) and (4), Minn. R. 7007.0800, subp. 5]
5.8.47	The Permittee may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. [40 CFR 62.16005(d)(2)]
5.8.48	Comply with Site-Specific Monitoring Plan for Each Site-Specific Monitoring System: The Permittee shall operate and maintain each continuous monitoring system in continuous operation according to the site-specific monitoring plan found in Appendix H. [40 CFR 62.15995(a), 40 CFR 62.16020(a)(2), 40 CFR 62.16025(k)]
5.8.49	If the Permittee's performance tests for the pollutant for at least 2 consecutive years show that the emissions are at or below 75-percent of the emission limit specified in Table 2 of subpart LLL, and there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, then the Permittee does not have to conduct a performance test for that pollutant for the next 2 years. The Permittee must conduct a performance test during the third year and no more than 37 months after the previous performance test. If EQUI 4 continues to meet the emission limit for the pollutant, the Permittee may choose to conduct performance tests for the pollutant every third year if the emissions are at or below 75-

Requirement number	Requirement and citation
	percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance test must be conducted no more than 37 months after the previous performance test. If a performance test shows emissions exceeded 75-percent of the emission limit for a pollutant, the Permittee must conduct annual performance tests for that pollutant until all performance tests over 2 consecutive years show compliance. [40 CFR 62.16000(a)(3)]
5.8.50	The Permittee may choose to conduct stack testing once every three years or according to 40 CFR pt. 62, subp. LLL, whichever is more stringent. The Permittee shall notify the commissioner of its alternative mercury testing schedule, and the commissioner shall include operating conditions in the facility's permit that ensure that the facility will continue to emit mercury emissions less than 50 percent of the applicable standard. If a test conducted shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the Permittee shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the Permittee demonstrates that mercury emissions are again below 50 percent of the facility's permitted mercury limit, the Permittee may resume testing every three years or according to 40 CFR pt. 62, subp. LLL, whichever is more stringent, upon notifying the commissioner. [Minn. Stat. 116.85, subp. 1a]
5.8.51	Recordkeeping: If the Permittee elects to conduct performance tests less frequently than annually, the Permittee must keep annual records that document that the emissions in the two previous consecutive years were at or below 75-percent of the applicable emission, and document that there were no changes in source operations or air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past 2 years. [40 CFR 62.16025(l)]
5.8.52	During each test run, the Permittee must operate the sewage sludge incinerator at a minimum of 85-percent of the maximum permitted capacity. [40 CFR 62.16015(a)(11)]
5.8.53	PERFORMANCE TEST METHODS During performance testing, the Permittee shall utilize the following methods: A. Method 1 for sample and velocity traverses; B. Method 2 for volumetric flow rate; C. Method 3 for gas analysis; and D. Method 5 for concentration of particulate matter and associated moisture content (without condensibles). [40 CFR 60.154(b)(2), Minn. R. 7011.1320, Minn. R. 7011.1350]
5.8.54	Dry sludge charging rate. With each performance test, the Permittee shall determine the dry sludge charging rate in accordance with Minn. R. 7011.1325, subp. 3 and 40 CFR 62.16015(a)(2). [40 CFR 62.16015(a)(2), Minn. R. 7011.1325]
5.8.55	The Permittee must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by: (i) Maintaining a log of the quantity of sewage sludge burned during the performance test by continuously monitoring and recording the average hourly rate that sewage sludge is fed to the incinerator. (ii) Maintaining a log of the moisture content of the sewage sludge burned during the performance test by taking grab samples of the sewage sludge fed to the incinerator for each 8 hour period that testing is conducted. [40 CFR 62.16015(a)(2)]
5.8.56	No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase mercury emissions above the level determined by the most recent sludge test, until the new emission level has been estimated by calculation and the results

Requirement number	Requirement and citation
	reported to the commissioner. [40 CFR 61.54(e)]
5.8.57	Records of sludge sampling, charging rate determination and other data needed to determine mercury content of wastewater treatment plant sludges shall be retained at the source and made available, for inspection by the commissioner for a minimum of 2 years. [40 CFR 61.54(g)]
5.8.58	Monitoring Data: Reduce all oxygen, sludge charging rate, wet scrubber pressure drop, auxiliary fuel flow, EQUI 4 outlet temperature, and EQUI 4 bed temperature monitor data to 1-hour averages, in accordance with 40 CFR 60.13(h)(2). [40 CFR 60.13(h)(2)]
5.8.59	The Permittee shall calibrate, maintain, and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to EQUI 4. The flow measuring device shall be certified by the manufacturer to have an accuracy of +/-5 percent over its operating range. [40 CFR 60.153(a)(1), Minn. R. 7011.1315(A), Minn. R. 7011.1350]
5.8.60	The Permittee must install, operate, calibrate and maintain a flow measuring device which can be used to determine either the mass or volume of sludge charged to EQUI 4. [40 CFR 62.16020, subp. (a)]
5.8.61	The Permittee must monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, as follows: (1) Continuously monitor the sewage sludge feed rate and calculate a daily average for all hours of operation during each 24-hour period. A record of the daily average feed rate shall be maintained. (2) Take at least one grab sample per day of the sewage sludge fed to the sewage sludge incinerator. If more than one grab sample is taken in a day, calculate the daily average for the grab samples. A record of the daily average moisture content shall be maintained. [40 CFR 62.15960(f)]
5.8.62	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the oxygen content of EQUI 4 exhaust gas. The oxygen monitor shall be located upstream of any rabble shaft cooling air inlet into the EQUI 4 exhaust gas stream, fan, ambient air recirculation damper, or any other source of dilution air. The oxygen monitoring device shall be certified by the manufacturer to have a relative accuracy of +/-5 percent over its operating range and shall be calibrated at least once each 24-hour operating period. [40 CFR 60.153(b)(2), Minn. R. 7011.1350]
5.8.63	The Permittee shall calibrate, maintain and continuously operate temperature measuring devices in the bed and outlet of EQUI 4. Each temperature measuring device shall be certified by the manufacturer to have an accuracy of +/-5 percent over its operating range. The Permittee shall record data during all periods of operation. [40 CFR 60.153(b)(3), Minn. R. 7011.1350]
5.8.64	The Permittee must install, operate, calibrate and maintain a combustion chamber operating temperature measuring device for EQUI 4. The combustion chamber operating temperature shall be recorded every 15 minutes. [40 CFR 62.15985, 40 CFR 62.16020(a)]
5.8.65	The Permittee must meet the following requirements for the use of the combustion chamber temperature measurement device. (1) Install the temperature sensor and other necessary equipment in a position that provides a representative temperature. (2) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range. (3) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees

Requirement number	Requirement and citation
	Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range. (4) Conduct a temperature measurement device performance evaluation at the time of each performance test but no less frequently than annually. [40 CFR 62.15955(a)(3)(ii)(D)(1)-(4)]
5.8.66	The Permittee shall calibrate, maintain, and operate a device for measuring the auxiliary fuel flow to EQUI 4. The flow measuring device shall be certified by the manufacturer to have an accuracy of +/- 5 percent over its operating range. [40 CFR 60.153(b)(4), Minn. R. 7011.1350]
5.8.67	The auxiliary fuel flow measuring device shall be operated continuously and data recorded during all periods of operation of EQUI 4. [40 CFR 60.153(b)(4), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.1350]
5.8.68	The Permittee must collect data using the continuous monitoring systems for flow, pressure, pH and operating temperature at all times EQUI 4 is operating and at the intervals specified in 40 CFR 60.13(e)(2), except for periods of monitoring system malfunctions that occur during periods specified defined in 40 CFR 62.15995(a)(7)(i), repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Any such periods that the Permittee does not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report. [40 CFR 62.16020(a)]
5.8.69	Continuous Operation: All oxygen, sludge charging rate, wet scrubber pressure drop, auxiliary fuel flow, EQUI 4 outlet temperature, and EQUI 4 bed temperature monitors shall be in continuous operation during all periods of emission unit operation. This includes periods of emission unit start-up, shutdown, or malfunction. Exceptions include continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, and other periods allowed by this permit. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2. [40 CFR 60.13(e), 40 CFR 60.153(a)(1), 40 CFR 60.153(b)(3), 40 CFR 60.153(d), Minn. R. 7011.1350]
5.8.70	The Permittee shall provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained. [40 CFR 60.153(a)(2), Minn. R. 7011.1315(B), Minn. R. 7011.1350]
5.8.71	Sludge Sampling: Except as allowed by this permit, the Permittee shall collect and analyze a grab sample of the sludge fed to EQUI 4 once per day. The dry sludge content and the volatile solids content of the sample shall be determined in accordance with Part 2540 G or alternative procedures and subsequent editions of Standard Methods allowed under 40 CFR 60.8(b), "Standard Methods for the Examination of Water and Wastewater", 20th Edition, 1998, American Public Health Association. [40 CFR 60.153(b)(5), Minn. R. 7011.1350]
5.8.72	If the filterable particulate matter emission rate measured during the most recent performance test is less than or equal to 0.38 g/kg of dry sludge input (0.75 lb/ton), the Permittee shall not be required to comply with the following paragraphs in 40 CFR 60.153: (1) Continuous operation of the monitoring devices and data recorders in paragraphs (a)(1), (b)(3), and (b)(4). (2) Daily sampling and analysis of sludge feed in paragraph (b)(5). (3) Recordkeeping specified in paragraph (c)(3). This provision only applies to that provided in 40 CFR 60.153(d)(3). This provision does not apply to any requirements provided in 40 CFR pt. 62, subp. LLL or Minn. R. 7011.1315. [40 CFR 60.153(d), Minn. R. 7011.1350]
5.8.73	Site Specific Monitoring Plan: The Permittee must update and resubmit the site-specific

Requirement number	Requirement and citation
	monitoring plan if there are any changes or potential changes in the monitoring procedures or if there is a process change. [40 CFR 62.15995(h)]
5.8.74	The Permittee shall calculate the alarm time for the bag leak detection system as follows: (A) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. (B) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour. (C) If it takes longer than 1 hour to initiate corrective action, each alarm time (i.e., time that the alarm sounds) is counted as the actual amount of time taken by the Permittee to initiate corrective action. The maximum alarm time is equal to 5-percent of the operating time during a 6-month period. [40 CFR 62.16005(a)(2)(i)]
5.8.75	The Permittee shall meet the operating requirements in the site-specific fugitive emission monitoring plan, to ensure that the ash handling system will meet the emission standard for fugitive emissions from ash handling. A copy of the fugitive emission monitoring plan must be kept on-site. [40 CFR 62.15960(d), Minn. R. 7007.0800, subp. 5]
5.8.76	The Permittee must conduct an annual inspection of each air pollution control device used to comply with the emission limits, no later than 12 months following the previous annual air pollution control device inspection. Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless the Permittee obtains written approval from the Administrator establishing a date whereby all necessary repairs of the affected FBR unit must be completed. The Permittee must maintain records of the results of the annual air pollution control device inspections conducted, including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator. [40 CFR 62.16010, 40 CFR 62.16025(d)]
5.8.77	The Permittee must conduct and record air pollution control device inspections that include, at a minimum, the following: (1) Inspect air pollution control device(s) for proper operation. (2) Generally observe that the equipment is maintained in good operating condition. [40 CFR 62.16015(c)(1) & (2)]
5.8.78	Protocol for Re-Setting the Sludge Process Throughput Limit: The Permittee shall conduct performance testing to measure filterable PM, PM₁₀, PM_{2.5}, HCl, Hg, total PCDD/PCDF, HAPs-metal, and HAPs-volatile emission rates as required elsewhere in this permit for limits not set under 40 CFR 62, subp. LLL. If the Sludge Process Throughput Limit is to be re-set, the re-set shall be based on the average values recorded during the most recent MPCA-approved performance test where compliance was demonstrated, as allowed by Minnesota Rule 7017.2025. For operating rate limits, the new limit shall be expressed as an eight-hour block average calculated by totaling total throughput, input, or output as applicable during the eight-hour period and dividing by the total operating time during the eight-hour period. Periods of downtime of 15 or more minutes shall not be counted as operating time. [Minn. R. 7017.2025]
5.8.79	The new Sludge Process Throughput Limit determined using this Protocol shall be effective upon receipt of the Notice of Compliance letter that approves the test results and sets the new Process Throughput Limit and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025]
5.8.80	Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits the new

Requirement number	Requirement and citation
	limits shall be implemented upon receipt of the Notice of Compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]
5.8.81	Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.0100, subp. 1]
5.8.82	Recordkeeping - bag leak detection system data. The Permittee shall maintain the bag leak detection system continuous recording the output signal from the sensor. [40 CFR 62.15995(b)(6)]
5.8.83	Daily Recordkeeping - Process Throughput: Record the total process throughput (tons of dry sludge) for the previous day of operation. [Minn. R. 7007.0800, subp. 4(D), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.8.84	Monthly Recordkeeping - Process Throughput: By the last day of each month, the Permittee shall calculate and record the total process throughput (tons of dry sludge per month) for the previous month. The 12-month rolling sum total for the process throughput shall be calculated by summing the monthly total for each of process throughput for the previous 12 months. [Minn. R. 7007.0800, subp. 5]
5.8.85	The Permittee shall use the following values for emission factors (EF) in lb/ton units, until superseded as described below: HAPs - metal: 0.00025 lb/ton (2/9/2022 performance test) HAPs - volatile: 0.0202 lb/ton (11/29/2018 performance test) The Permittee must use these values until subsequent testing is conducted. The verified values (as documented in a Notice of Compliance letter) from the most recent performance test for each stack must be used to calculate actual emissions of HAPs - metal, and HAPs -volatile (lb/ton) and to evaluate compliance with the HAPs - metal, and HAPs - volatile limits. [Minn. R. 7007.0800, subp. 2(B), Title I Condition: Avoid major source under 40 CFR 63.2]
5.8.86	Monthly Recordkeeping - HAPs - metal Emissions: By the last day of each month, the Permittee shall calculate and record the following for HAPs - metal emissions, as prescribed in Steps 1-2 below: Step 1) The HAPs - metal emissions (tons/month), for the previous calendar month. $EM = (EF * DS)/2000$ EF = HAPs - metal emission factor (lb/ton) DS = Dry sludge total (tons/month) for the previous month for the sum total of EQUI 4. 2000 = conversion factor (lb/ton) Step 2) The 12-month rolling sum total for HAPs - metal emissions by summing the monthly total for HAPs - metal emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]
5.8.87	Monthly Recordkeeping - HAPs - volatile Emissions: By the last day of each month, the Permittee shall calculate and record the following for HAPs - volatile emissions, as prescribed in Steps 1-2 below:

Requirement number	Requirement and citation
	Step 1) The HAPs - volatile emissions (tons/month), for the previous calendar month. $EM = (EF * DS) / 2000$ EF = HAPS - volatile emission factor (lb/ton) DS = Dry sludge total (tons/month) for the previous month for the sum total of EQUI 4. 2000 = conversion factor (lb/ton) Step 2) The 12-month rolling sum total for HAPs - volatile emissions by summing the monthly total for HAPs -volatile emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]
5.8.88	Recordkeeping - Air pollution control device inspections. The Permittee shall maintain the record of the annual air pollution control device inspections, including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator. [40 CFR 62.16025(d), Minn. R. 7007.0800, subp. 5]
5.8.89	Recordkeeping - Performance test reports. The Permittee shall maintain the following records. (1) The results of the initial, annual and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable. (2) A copy of the complete performance test report, including calculations. (3) A record of the hourly dry sludge feed rate measured during performance test runs. (4) Any necessary records to demonstrate that the performance test was conducted under conditions representative of normal operations, including a record of the moisture content measured for each grab sample taken of the sewage sludge burned during the performance test. [40 CFR 62.16025(e), Minn. R. 7007.0800, subp. 5]
5.8.90	Recordkeeping - Continuous monitoring data. The Permittee shall maintain the following records from its continuous parameter monitoring systems: i) All the 1-hour average values recorded for the following operating parameters: (A) Combustion chamber operating temperature. (B) The pressure drop across each wet scrubber system, the liquid flow rate to each wet scrubber, and the scrubber liquid pH for each wet scrubber used to comply with the emission limit. (C) The secondary voltage of the electrostatic precipitator collection plates, the secondary amperage of the electrostatic precipitator collection plates, and influent water flow rate at the inlet of each wet electrostatic precipitator. (D) The sorbent flow rate, and carrier gas flow rate or pressure drop for each carbon injection system. (ii) All daily average values recorded for the feed rate and moisture content of the sewage sludge fed to the FBR, monitored and calculated as specified in 40 CFR 62.15960(f). (iii) For each fabric filter, 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. The Permittee must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in 40 CFR 62.16005. [40 CFR 62.16025(f)(3), Minn. R. 7007.0800, subp. 5]
5.8.91	Recordkeeping - Other records for continuous monitoring systems. The Permittee shall maintain the following records: (1) Records of any notifications to the Administrator of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit.

Requirement number	Requirement and citation
	(2) Records of any requests that compliance with the emission limits be determined using carbon dioxide measurements corrected to an equivalent of 7-percent oxygen. (3) If activated carbon injection is used, the type of sorbent used and any changes in the type of sorbent used. [40 CFR 62.16025(g), Minn. R. 7007.0800, subp. 5]
5.8.92	Recordkeeping - Deviation reports. The Permittee shall maintain the records of any deviation reports. [40 CFR 62.16025(h), Minn. R. 7007.0800, subp. 5]
5.8.93	Recordkeeping - Equipment specifications and operation and maintenance requirements. The Permittee shall maintain the records of equipment specifications and related operation and maintenance requirements received from vendors for the incinerator, emission controls and monitoring equipment. [40 CFR 62.16025(i), Minn. R. 7007.0800, subp. 5]
5.8.94	Recordkeeping - Inspections, calibrations and validation checks of monitoring devices. The Permittee shall maintain the records of inspections, calibration and validation checks of any monitoring devices as required under 40 CFR 62.16015 and 62.16020. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 5]
5.8.95	Recordkeeping - Site specific monitoring plan and performance evaluations for all the continuous monitoring systems. The Permittee shall maintain the records of the monitoring plans required under 40 CFR 62.15995, and records of performance evaluations required under 40 CFR 62.16000(b)(5). [40 CFR 62.16025(k), Minn. R. 7007.0800, subp. 5]
5.8.96	Recordkeeping - Malfunction: The Permittee shall maintain records if a malfunction occurs. The Permittee must keep a record of the information submitted in the annual report. [40 CFR 62.16025(n), Minn. R. 7007.0800, subp. 5]
5.8.97	The Permittee shall include the following in the Semi-annual Deviations Report: 1. A record of average scrubber pressure drop measurements for each period of 15 minutes duration or more during which the pressure drop of the scrubber was less than, by a percentage specified below, the average scrubber pressure drop measured during the most recent performance test. The percent reduction in scrubber pressure drop for which a report is required shall be determined as follows: (i) If EQUI 4 achieved an average filterable particulate matter emission rate of 0.38 kg/Mg (0.75 lb/ton) dry sludge input or less during the most recent performance test, a scrubber pressure drop reduction of more than 30 percent from the average scrubber pressure drop recorded during the most recent performance test shall be reported. (ii) If EQUI 4 achieved an average filterable particulate matter emission rate of greater than 0.38 kg/Mg (0.75 lb/ton) dry sludge input during the most recent performance test, a percent reduction in pressure drop greater than that calculated according to the following equation shall be reported: $P = -111E + 72.15$ where P=Percent reduction in pressure drop, and E=Average filterable particulate matter emissions (kg/megagram). 2. A record of average oxygen content in EQUI 4 exhaust gas for each period of 1-hour duration or more that the oxygen content of EQUI 4 exhaust gas exceeds the average oxygen content measured during the most recent performance test by more than 3 percent. [40 CFR 60.155(a), Minn. R. 7011.1350]
5.8.98	If the average filterable particulate matter emission rate measured during the performance test

Requirement number	Requirement and citation
	exceeds 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input), the Permittee shall include in the Semi-annual Deviations Report for each calendar day that a decrease in scrubber pressure drop or increase in oxygen content of exhaust gas is reported a record of the following: (1) Scrubber pressure drop averaged over each 1-hour incinerator operating period. (2) Oxygen content in the incinerator exhaust averaged over each 1-hour incinerator operating period. (3) Temperatures of the bed and outlet of fluidized bed incinerators averaged over each 1-hour incinerator operating period. (4) Rate of sludge charged to the incinerator averaged over each 1-hour incinerator operating period. (5) Incinerator fuel use averaged over each 8-hour incinerator operating period. (6) Moisture and volatile solids content of the daily grab sample of sludge charged to the incinerator. Items 1-6 above are not required if the filterable particulate matter emission rate measured during the performance test is less than or equal to 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input). [40 CFR 60.155(b), Minn. R. 7011.1350]
5.8.99	Records of mercury emission test results and other data needed to determine total mercury emissions shall be retained at the source and shall be made available, for inspection by the commissioner for a minimum of 5 years. [Minn. R. 7007.0800, subp. 5(C)]
5.8.100	Except as allowed by 40 CFR 60.153(d), the Permittee shall retain the following information and make it available for inspection by the Administrator for a minimum of five years: (1) a record of the measured pressure drop of the gas flow through the Wet Scrubber (2) A record of the measured oxygen content of the exhaust gas (3) A record of the rate of sludge charged, the measured temperatures, the auxiliary fuel flow, and the total solids and volatile solids content of the sludge charged. [40 CFR 60.153(c), Minn. R. 7007.0800, subp. 5(C), Minn. R. 7011.1350]
EQUI 5	Fluidized Bed Sewage Sludge Reactor 3
5.9.1	The emission limits and standards provided in 40 CFR pt. 62, subp. LLL apply at all times the FBR unit is operating and during periods of malfunction. Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. Emissions, except opacity, shall be calculated under standard conditions corrected to seven percent oxygen on a dry volume basis. [40 CFR 62.15955, 40 CFR 62.15970, 40 CFR 62.16045]
5.9.2	The operating limits apply at all times that sewage sludge is in the combustion chamber (i.e., until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time). [40 CFR 62.15970]
5.9.3	The Permittee must comply with all applicable requirements of 40 CFR pt. 62, subp. LLL as follows: 40 CFR 62.15855(a)-(b) 40 CFR 62.15900(b); 40 CFR 62.15910(b); 40 CFR 62.15915; 40 CFR 62.15920(a)-(c); 40 CFR 62.15925(a)-(c); 40 CFR 62.15930(a)-(b);

Requirement number	Requirement and citation
	40 CFR 62.15935(a)-(e); 40 CFR 62.15940(a)-(b); 40 CFR 62.15945(a)-(b); 40 CFR 62.15950(a); 40 CFR 62.15950(b)(ii); 40 CFR 62.15955; 40 CFR 62.15960(a)-(d); 40 CFR 62.15960(f)-(g); 40 CFR 62.15970; 40 CFR 62.15985(a)-(h)(3)(i); 40 CFR 62.15995(a)-(h); 40 CFR 62.16000(a)-(f); 40 CFR 62.16005(a)-(d); 40 CFR 62.16010(a)-(b); 40 CFR 62.16015(a)-(e); 40 CFR 62.16020(a)-(c); 40 CFR 62.16025(a)-(n); 40 CFR 62.16030(c)-(h); 40 CFR 62.16035; 40 CFR 62.16045; 40 CFR Part 62, Subp. LLL Table 2; 40 CFR Part 62, Subp. LLL Table 4; and, 40 CFR Part 62, Subp. LLL Table 5. A copy of 40 CFR pt. 62, subp. LLL is included in Appendix E. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 62, subp. LLL]
5.9.4	Should, at any time after normal startup, the permitted facility's continuously monitored emissions exceed permit requirements, based on accurate and valid emissions data, the Permittee shall immediately report the exceedance to the commissioner and immediately either commence appropriate modifications to the facility to ensure its ability to meet permitted requirements or commence shutdown if the modifications cannot be completed within 72 hours. Compliance with permit requirements must then be demonstrated based on additional testing. [Minn. R. 7011.1340, subp. 3, Minn. Stat. 116.85, subd. 2]
5.9.5	Should, at any time after normal startup, the permitted facility's periodically tested emissions exceed permit requirements based on accurate and valid emissions data, the Permittee shall immediately report the exceedance to the commissioner, shall undertake appropriate steps to ensure the facility's compliance with permitted requirements, and shall demonstrate compliance within 60 days of the initial report of the exceedance. If the commissioner determines that compliance has not been achieved within 60 days, then the facility shall shut down until compliance with permit requirements is demonstrated based on additional testing. [Minn. R. 7011.1340, subp. 4, Minn. Stat. 116.85, subd. 3]
5.9.6	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter $\geq$ 99.9 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]

Requirement number	Requirement and citation
5.9.7	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron $\geq$ 99.4 percent collection efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.9.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for Lead $\geq$ 96.5 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.9.9	The Permittee must limit Filterable Particulate Matter $\leq$ 18 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.10	The Permittee must limit Filterable Particulate Matter $\leq$ 1.30 pounds per ton dry sludge input, 3-run average. [40 CFR 60.152(a)(1), Minn. R. 7011.1310(A), Minn. R. 7011.1350]
5.9.11	The Permittee must limit Filterable Particulate Matter $\leq$ 2.57 pounds per hour, 3-run average. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.9.12	The Permittee must limit PM < 10 micron $\leq$ 2.01 pounds per hour, 3-run average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.9.13	The Permittee must limit PM < 10 micron $\leq$ 1.70 pounds per hour, 3-run average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.9.14	The Permittee must limit PM < 2.5 micron $\leq$ 0.550 pounds per hour, 3-run average. This limit is not applicable until after the startup of EQUI 133. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.9.15	The Permittee must limit Lead $\leq$ 0.0074 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.16	The Permittee must limit Lead $\leq$ 0.0097 pounds per ton of dry sludge charged, 3-run average. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.9.17	The Permittee must limit Hydrogen Chloride $\leq$ 0.51 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.18	The Permittee must limit Hydrogen Chloride $\leq$ 0.1 pounds per ton of dry sludge charged, 3-run average. [Title I Condition: Avoid major source under 40 CFR 63.2]
5.9.19	The Permittee must limit Mercury $\leq$ 0.037 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.20	The Permittee must limit Mercury $\leq$ 0.0036 pounds per ton of dry sludge charged, 3-run average. [Minn. R. 7007.0800, subp. 2(B)]
5.9.21	PERMANENT MERCURY LIMITS. In amending, modifying, or reissuing a facility's air emissions permit which contains a provision that restricts mercury emissions from the facility, the commissioner shall, at a minimum, continue that permit restriction at the same level unless the applicant demonstrates that no good cause exists to do so. [Minn. Stat. 116.85, subd. 1a(f)]
5.9.22	The Permittee must limit Nitrogen Oxides $\leq$ 150 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with

Requirement number	Requirement and citation
	40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.23	The Permittee must limit Total PCDD/PCDF $\leq$ 0.013 nanograms per dscm (toxic equivalency basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. [Minn. R. 7007.0800, subp. 2(B)]
5.9.24	The Permittee must limit Total PCDD/PCDF $\leq$ 1.2 nanograms per dscm (total mass basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. As an alternative, the Permittee may comply with the dioxin/furan toxic equivalency basis limit. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.25	The Permittee must limit Total PCDD/PCDF $\leq$ 0.10 nanograms per dscm (toxic equivalency basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. As an alternative, the Permittee may comply with the dioxin/furan total mass basis limit. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.26	The Permittee must limit Sulfur Dioxide $\leq$ 15 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.27	The Permittee must limit Cadmium $\leq$ 0.0016 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.28	The Permittee must limit Carbon Monoxide $\leq$ 64 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 62.15955. [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.29	The Permittee must limit Opacity $\leq$ 20 percent using 6-minute average. [40 CFR 60.152(a)(2), Minn. R. 7011.1310(B), Minn. R. 7011.1350]
5.9.30	The Permittee must limit Visible Emissions $>$ 0 percent for no more than 5 percent of any compliance test hourly observation period, as based on three 1-hour observation periods, for visible emissions of combustion ash from the ash conveying system (including conveyor transfer points). [40 CFR 62.15955, 40 CFR pt. 62, subp. LLL(Table 2)]
5.9.31	The Permittee must maintain Temperature $\geq$ 1200 degrees Fahrenheit 8-hour block average for a minimum retention time of 0.3 second, utilizing auxiliary fuel burners if needed to maintain temperature. [Minn. R. 7011.1310]
5.9.32	The Permittee must maintain the combustion chamber operating Temperature $\geq$ 1329 degrees Fahrenheit, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15960(a) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. [40 CFR 62.15960(a)]
5.9.33	The Permittee must maintain Process Throughput $\leq$ 38325 tons per year 12-month rolling sum of dry sludge. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.9.34	The Permittee must maintain Process Throughput $\leq$ 130 tons per day 24-hour block average of dry sludge. [Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.9.35	The Permittee must maintain Process Throughput $\leq$ 5.4 tons per hour of dry sludge, using 8-hour Block Average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the most recent MPCA-approved performance test where compliance was demonstrated. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7017.2025, subp. 3]
5.9.36	No changes shall be made in the operation which would potentially increase mercury emissions above the level determined by the most recent performance test, except as allowed by the Total Facility portion of this permit following results reported to the commissioner of a subsequent

Requirement number	Requirement and citation
	performance test on the same unit. [40 CFR 61.53(d)(4)]
5.9.37	The Permittee shall incinerate only sewage sludge, including spent carbon and scum. [Minn. R. 7007.0800, subp. 2(A)]
5.9.38	The Permittee shall burn only natural gas, fuel oil, or propane as auxiliary fuel. Upon the change over from the combustion of fuel oil to propane, the usage of fuel oil shall be prohibited. [Minn. R. 7007.0800, subp. 2(A)]
5.9.39	The Permittee must meet the requirements in 40 CFR 62.16005(d) to confirm the operating limits or re-establish new operating limits using operating data recorded during any performance tests or performance evaluations required in 40 CFR 62.16000. The Permittee must follow the data measurement and recording frequencies and data averaging times specified in Table 4 to 40 CFR part 62, subpart LLL, and the Permittee must follow the testing, monitoring and calibration requirements specified in 40 CFR 62.16015 and 62.16020. The operating limits shall meet the following requirements: (b) Minimum pressure drop across each wet scrubber used to meet the particulate matter, lead and cadmium emission limits, equal to the lowest 4-hour average pressure drop across each such wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. (c) Minimum scrubber liquid flow rate (measured at the inlet to each wet scrubber), equal to the lowest 4-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with all applicable emission limits. (d) Minimum scrubber liquid pH for each wet scrubber used to meet the sulfur dioxide or hydrogen chloride emission limits, equal to the lowest 1-hour average scrubber liquid pH measured during the most recent performance test demonstrating compliance with the sulfur dioxide and hydrogen chloride emission limits. (e) Minimum combustion chamber operating temperature, equal to the lowest 4-hour average combustion chamber operating temperature measured during the most recent performance test demonstrating compliance with all applicable emission limits. (f) Minimum power input to the electrostatic precipitator collection plates, equal to the lowest 4-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. Power input must be calculated as the product of the secondary voltage and secondary amperage to the electrostatic precipitator collection plates. Both the secondary voltage and secondary amperage must be recorded during the performance test. (g) Minimum influent water flow rate at the inlet of the electrostatic precipitator, equal to the lowest 4-hour average influent water flow rate at the inlet of the electrostatic precipitator measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. Alternative influent water flow rate monitoring for the wet electrostatic precipitator approved by EPA in a letter to Metropolitan Council on September 15, 2022. (h) For activated carbon injection, establish the site-specific operating limits specified in paragraphs (h)(1) through (3) of this section. (1) Minimum mercury sorbent injection rate, equal to the lowest 4-hour average mercury sorbent injection rate measured during the most recent performance test demonstrating compliance with the mercury emission limit. (2) Minimum carrier gas flow rate or pressure drop, as follows: (i) Minimum carrier gas flow rate or pressure drop, equal to the lowest 4-hour average carrier gas flow rate or pressure drop measured during the most recent performance test demonstrating compliance with the applicable emission limit. [40 CFR 62.15960(g), 40 CFR 62.15985(b-h), 40 CFR 62.16005(d), 40 CFR pt. 62, subp. LLL, Table 4]

Requirement number	Requirement and citation
5.9.40	The FBR unit shall not be operated unless a fully trained and qualified FBR unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified FBR unit operator may operate the FBR unit directly or be the direct supervisor of one or more other plant personnel who operate the FBR. If all qualified FBR unit operators are temporarily not accessible, the Permittee must follow the procedures in 40 CFR 62.15945. [40 CFR 62.15920(a)]
5.9.41	The FBR operator shall obtain operator qualification by completing a state-approved training course or by completing the following training requirements. Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (1) through (3): (1) Training on the 10 subjects listed in paragraphs (1)(i) through (x): (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, sewage sludge feeding 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 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; and (x) Pollution prevention. (2) An examination designed and administered by the state-approved program or instructor administering the subjects in the above paragraph (1) of this requirement. (3) Written material covering the training course topics that may serve as reference material following completion of the course. Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination. [40 CFR 62.15920(b), 40 CFR 62.15920(c), 40 CFR 62.15930(a), 40 CFR 62.15930(b)]
5.9.42	The operator training course must be completed six months after an employee assumes responsibility for operating the FBR unit or assumes responsibility for supervising the operation of the FBR. [40 CFR 62.15925(c)]
5.9.43	For the operator to maintain qualification, the operator 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, sewage sludge feeding and ash handling; (c) Inspection and maintenance; (d) Prevention of malfunctions or conditions that may lead to malfunction; and (e) Discussion of operating problems encountered by attendees. [40 CFR 62.15935]
5.9.44	Recordkeeping - Operator training: The Permittee must document the following operator training procedures and records. These records must be available and readily accessible at the facility at all times for all FBR operators. (1) Documentation of the following operator training procedures and information: (i) Summary of the applicable standards. (ii) Procedures for receiving, handling and feeding sewage sludge. (iii) Incinerator startup, shutdown, and malfunction preventative and corrective procedures.

Requirement number	Requirement and citation
	(iv) Procedures for maintaining proper combustion air supply levels. (v) Procedures for operating the incinerator and associated air pollution control systems within the standards established. (vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits. (vii) Reporting and recordkeeping procedures. (viii) Procedures for handling ash. (ix) A list of the materials burned during the performance test, if in addition to sewage sludge. (x) For each qualified operator and other plant personnel who may operate the unit according to the provisions of 40 CFR 62.15945(a), the phone and/or pager number at which they can be reached during operating hours. (2) Records showing the names of FBR operators and other plant personnel who may operate the unit according to the provisions of 40 CFR 62.15945(a), as follows: (i) Records showing the names of FBR operators and other plant personnel who have completed review, including the date of the initial review and all subsequent annual reviews. (ii) Records showing the names of the FBR operators who have completed the operator training requirements under 40 CFR 62.15920, met the criteria for qualification under 40 CFR 62.15930, and maintained or renewed their qualification under 40 CFR 62.15935 or 40 CFR 62.15940. Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications. [40 CFR 62.16025(c)(1) and (2), Minn. R. 7007.0800, subp. 5]
5.9.45	Recordkeeping - Operators: The Permittee must document when no qualified operators were accessible. These records must be available and readily accessible at the facility at all times. 1) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks, as required in 40 CFR Section 62.15945(a). 2) Records showing the periods when no qualified operators were accessible for 2 weeks or more along with copies of reports submitted, as required in 40 CFR Section 62.15945(b). [40 CFR 62.15945, 40 CFR 62.16025(c)(3) and (4), Minn. R. 7007.0800, subp. 5]
5.9.46	The Permittee must maintain at the facility the site-specific documentation of the operator training procedures, as specified under 40 CFR 62.15920(c)(1), and make the documentation readily accessible to all FBR operators. The Permittee must also establish a program for reviewing the training materials with each qualified incinerator operator and other plant personnel who may operate the unit. The subsequent annual reviews must be conducted no later than 12 months following the previous review. [40 CFR 62.15950(a), 40 CFR 62.15950(b)]
5.9.47	The Permittee may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. [40 CFR 62.16005(d)(2)]
5.9.48	Comply with Site-Specific Monitoring Plan for Each Site-Specific Monitoring System: The Permittee shall operate and maintain each continuous monitoring system in continuous operation according to the site-specific monitoring plan found in Appendix H. [40 CFR 62.15995(a), 40 CFR 62.16020(a)(2), 40 CFR 62.16025(k)]
5.9.49	If the Permittee's performance tests for the pollutant for at least 2 consecutive years show that the emissions are at or below 75-percent of the emission limit specified in Table 2 of subpart LLL, and there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, then the Permittee does not have to conduct a performance test for that pollutant for the next 2 years. The Permittee must conduct a performance test during the third year and no more than 37 months after the previous performance test.

Requirement number	Requirement and citation
	If EQUI 5 continues to meet the emission limit for the pollutant, the Permittee may choose to conduct performance tests for the pollutant every third year if the emissions are at or below 75-percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance test must be conducted no more than 37 months after the previous performance test. If a performance test shows emissions exceeded 75-percent of the emission limit for a pollutant, the Permittee must conduct annual performance tests for that pollutant until all performance tests over 2 consecutive years show compliance. [40 CFR 62.16000(a)(3)]
5.9.50	Recordkeeping: If the Permittee elects to conduct performance tests less frequently than annually, the Permittee must keep annual records that document that the emissions in the two previous consecutive years were at or below 75-percent of the applicable emission, and document that there were no changes in source operations or air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past 2 years. [40 CFR 62.16025(l)]
5.9.51	The Permittee may choose to conduct stack testing once every three years or according to 40 CFR pt. 62, subp. LLL, whichever is more stringent. The Permittee shall notify the commissioner of its alternative mercury testing schedule, and the commissioner shall include operating conditions in the facility's permit that ensure that the facility will continue to emit mercury emissions less than 50 percent of the applicable standard. If a test conducted shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the Permittee shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the Permittee demonstrates that mercury emissions are again below 50 percent of the facility's permitted mercury limit, the Permittee may resume testing every three years or according to 40 CFR pt. 62, subp. LLL, whichever is more stringent, upon notifying the commissioner. [Minn. Stat. 116.85, subp. 1a]
5.9.52	During each test run, the Permittee must operate the sewage sludge incinerator at a minimum of 85-percent of the maximum permitted capacity. [40 CFR 62.16015(a)(11)]
5.9.53	PERFORMANCE TEST METHODS During performance testing, the Permittee shall utilize the following methods: A. Method 1 for sample and velocity traverses; B. Method 2 for volumetric flow rate; C. Method 3 for gas analysis; and D. Method 5 for concentration of particulate matter and associated moisture content (without condensibles). [40 CFR 60.154(b)(2), Minn. R. 7011.1320, Minn. R. 7011.1350]
5.9.54	Dry sludge charging rate. With each performance test, the Permittee shall determine the dry sludge charging rate in accordance with Minn. R. 7011.1325, subp. 3 and 40 CFR 62.16015(a)(2). [40 CFR 62.16015(a)(2), Minn. R. 7011.1325]
5.9.55	The Permittee must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by: (i) Maintaining a log of the quantity of sewage sludge burned during the performance test by continuously monitoring and recording the average hourly rate that sewage sludge is fed to the incinerator. (ii) Maintaining a log of the moisture content of the sewage sludge burned during the performance test by taking grab samples of the sewage sludge fed to the incinerator for each 8 hour period that testing is conducted. [40 CFR 62.16015(a)(2)]

Requirement number	Requirement and citation
5.9.56	No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase mercury emissions above the level determined by the most recent sludge test, until the new emission level has been estimated by calculation and the results reported to the commissioner. [40 CFR 61.54(e)]
5.9.57	Records of sludge sampling, charging rate determination and other data needed to determine mercury content of wastewater treatment plant sludges shall be retained at the source and made available, for inspection by the commissioner for a minimum of 2 years. [40 CFR 61.54(g)]
5.9.58	Monitoring Data: Reduce all oxygen, sludge charging rate, wet scrubber pressure drop, auxiliary fuel flow, EQUI 5 outlet temperature, and EQUI 5 bed temperature monitor data to 1-hour averages, in accordance with 40 CFR 60.13(h)(2). [40 CFR 60.13(h)(2)]
5.9.59	The Permittee shall calibrate, maintain, and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to EQUI 5. The flow measuring device shall be certified by the manufacturer to have an accuracy of +/-5 percent over its operating range. [40 CFR 60.153(a)(1), Minn. R. 7011.1315(A), Minn. R. 7011.1350]
5.9.60	The Permittee must install, operate, calibrate and maintain a flow measuring device which can be used to determine either the mass or volume of sludge charged to EQUI 5. [40 CFR 62.16020, subp. (a)]
5.9.61	The Permittee must monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, as follows: (1) Continuously monitor the sewage sludge feed rate and calculate a daily average for all hours of operation during each 24-hour period. A record of the daily average feed rate shall be maintained. (2) Take at least one grab sample per day of the sewage sludge fed to the sewage sludge incinerator. If more than one grab sample is taken in a day, calculate the daily average for the grab samples. A record of the daily average moisture content shall be maintained. [40 CFR 62.15960(f)]
5.9.62	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the oxygen content of EQUI 5 exhaust gas. The oxygen monitor shall be located upstream of any rabble shaft cooling air inlet into the EQUI 5 exhaust gas stream, fan, ambient air recirculation damper, or any other source of dilution air. The oxygen monitoring device shall be certified by the manufacturer to have a relative accuracy of +/-5 percent over its operating range and shall be calibrated at least once each 24-hour operating period. [40 CFR 60.153(b)(2), Minn. R. 7011.1350]
5.9.63	The Permittee shall calibrate, maintain and continuously operate temperature measuring devices in the bed and outlet of EQUI 5. Each temperature measuring device shall be certified by the manufacturer to have an accuracy of +/-5 percent over its operating range. The Permittee shall record data during all periods of operation. [40 CFR 60.153(b)(3), Minn. R. 7011.1350]
5.9.64	The Permittee must install, operate, calibrate and maintain a combustion chamber operating temperature measuring device for EQUI 5. The combustion chamber operating temperature shall be recorded every 15 minutes. [40 CFR 62.15985, 40 CFR 62.16020(a)]
5.9.65	The Permittee must meet the following requirements for the use of the combustion chamber temperature measurement device. (1) Install the temperature sensor and other necessary equipment in a position that provides a representative temperature. (2) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees

Requirement number	Requirement and citation
	Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range. (3) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range. (4) Conduct a temperature measurement device performance evaluation at the time of each performance test but no less frequently than annually. [40 CFR 62.15955(a)(3)(ii)(D)(1)-(4)]
5.9.66	The Permittee shall calibrate, maintain, and operate a device for measuring the auxiliary fuel flow to EQUI 5. The flow measuring device shall be certified by the manufacturer to have an accuracy of +/- 5 percent over its operating range. [40 CFR 60.153(b)(4), Minn. R. 7011.1350]
5.9.67	The auxiliary fuel flow measuring device shall be operated continuously and data recorded during all periods of operation of EQUI 5. [40 CFR 60.153(b)(4), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.1350]
5.9.68	The Permittee must collect data using the continuous monitoring systems for flow, pressure, pH and operating temperature at all times EQUI 5 is operating and at the intervals specified in 40 CFR 60.13(e)(2), except for periods of monitoring system malfunctions that occur during periods specified defined in 40 CFR 62.15995(a)(7)(i), repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Any such periods that the Permittee does not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report. [40 CFR 62.16020(a)]
5.9.69	Continuous Operation: All oxygen, sludge charging rate, wet scrubber pressure drop, auxiliary fuel flow, EQUI 5 outlet temperature, and EQUI 5 bed temperature monitors shall be in continuous operation during all periods of emission unit operation. This includes periods of emission unit start-up, shutdown, or malfunction. Exceptions include continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, and other periods allowed by this permit. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2. [40 CFR 60.13(e), 40 CFR 60.153(a)(1), 40 CFR 60.153(b)(3), 40 CFR 60.153(d), Minn. R. 7011.1350]
5.9.70	The Permittee shall provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained. [40 CFR 60.153(a)(2), Minn. R. 7011.1315(B), Minn. R. 7011.1350]
5.9.71	Sludge Sampling: Except as allowed by this permit, the Permittee shall collect and analyze a grab sample of the sludge fed to EQUI 5 once per day. The dry sludge content and the volatile solids content of the sample shall be determined in accordance with Part 2540 G or alternative procedures and subsequent editions of Standard Methods allowed under 40 CFR 60.8(b), "Standard Methods for the Examination of Water and Wastewater", 20th Edition, 1998, American Public Health Association. [40 CFR 60.153(b)(5), Minn. R. 7011.1350]
5.9.72	If the filterable particulate matter emission rate measured during the most recent performance test is less than or equal to 0.38 g/kg of dry sludge input (0.75 lb/ton), the Permittee shall not be required to comply with the following paragraphs in 40 CFR 60.153: (1) Continuous operation of the monitoring devices and data recorders in paragraphs (a)(1), (b)(3), and (b)(4). (2) Daily sampling and analysis of sludge feed in paragraph (b)(5). (3) Recordkeeping specified in paragraph (c)(3). This provision only applies to that provided in 40 CFR 60.153(d)(3). This provision does not apply

Requirement number	Requirement and citation
	to any requirements provided in 40 CFR pt. 62, subp. LLL or Minn. R. 7011.1315. [40 CFR 60.153(d), Minn. R. 7011.1350]
5.9.73	Site Specific Monitoring Plan: The Permittee must update and resubmit the site-specific monitoring plan if there are any changes or potential changes in the monitoring procedures or if there is a process change. [40 CFR 62.15995(h)]
5.9.74	The Permittee shall calculate the alarm time for the bag leak detection system as follows: (A) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. (B) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour. (C) If it takes longer than 1 hour to initiate corrective action, each alarm time (i.e., time that the alarm sounds) is counted as the actual amount of time taken by the Permittee to initiate corrective action. The maximum alarm time is equal to 5-percent of the operating time during a 6-month period. [40 CFR 62.16005(a)(2)(i)]
5.9.75	The Permittee shall meet the operating requirements in the site-specific fugitive emission monitoring plan, to ensure that the ash handling system will meet the emission standard for fugitive emissions from ash handling. A copy of the fugitive emission monitoring plan must be kept on-site. [40 CFR 62.15960(d), Minn. R. 7007.0800, subp. 5]
5.9.76	The Permittee must conduct an annual inspection of each air pollution control device used to comply with the emission limits, no later than 12 months following the previous annual air pollution control device inspection. Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless the Permittee obtains written approval from the Administrator establishing a date whereby all necessary repairs of the affected FBR unit must be completed. The Permittee must maintain records of the results of the annual air pollution control device inspections conducted, including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator. [40 CFR 62.16010, 40 CFR 62.16025(d)]
5.9.77	The Permittee must conduct and record air pollution control device inspections that include, at a minimum, the following: (1) Inspect air pollution control device(s) for proper operation. (2) Generally observe that the equipment is maintained in good operating condition. [40 CFR 62.16015(c)(1) & (2)]
5.9.78	Protocol for Re-Setting the Sludge Process Throughput Limit: The Permittee shall conduct performance testing to measure filterable PM, PM₁₀, PM_{2.5}, HCl, Hg, total PCDD/PCDF, HAPs-metal, and HAPs-volatile emission rates as required elsewhere in this permit for limits not set under 40 CFR 62, subp. LLL. If the Sludge Process Throughput Limit is to be re-set, the re-set shall be based on the average values recorded during the most recent MPCA-approved performance test where compliance was demonstrated, as allowed by Minnesota Rule 7017.2025. For operating rate limits, the new limit shall be expressed as an eight-hour block average calculated by totaling total throughput, input, or output as applicable during the eight-hour period and dividing by the total operating time during the eight-hour period. Periods of downtime of 15 or more minutes shall not be counted as operating time. [Minn. R. 7017.2025]
5.9.79	The new Sludge Process Throughput Limit determined using this Protocol shall be effective upon receipt of the Notice of Compliance letter that approves the test results and sets the new Process Throughput Limit and shall be incorporated into the permit when the permit is next amended.

Requirement number	Requirement and citation
	[Minn. R. 7017.2025]
5.9.80	Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits the new limits shall be implemented upon receipt of the Notice of Compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]
5.9.81	Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.0100, subp. 1]
5.9.82	Recordkeeping - bag leak detection system data. The Permittee shall maintain the bag leak detection system continuous recording the output signal from the sensor. [40 CFR 62.15995(b)(6)]
5.9.83	Daily Recordkeeping - Process Throughput: Record the total process throughput (tons of dry sludge) for the previous day of operation. [Minn. R. 7007.0800, subp. 4(D), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.9.84	Monthly Recordkeeping - Process Throughput: By the last day of each month, the Permittee shall calculate and record the total process throughput (tons of dry sludge per month) for the previous month. The 12-month rolling sum total for the process throughput shall be calculated by summing the monthly total for each of process throughput for the previous 12 months. [Minn. R. 7007.0800, subp. 5]
5.9.85	The Permittee shall use the following values for emission factors (EF) in lb/ton units, until superseded as described below: HAPs - metal: 0.00021 lb/ton (2/11/2022 performance test) HAPs - volatile: 0.00011 lb/ton (12/6/2021 performance test) The Permittee must use these values until subsequent testing is conducted. The verified values (as documented in a Notice of Compliance letter) from the most recent performance test for each stack must be used to calculate actual emissions of HAPs - metal, and HAPs -volatile (lb/ton) and to evaluate compliance with the HAPs - metal, and HAPs - volatile limits. [Minn. R. 7007.0800, subp. 2(B), Title I Condition: Avoid major source under 40 CFR 63.2]
5.9.86	Monthly Recordkeeping - HAPs - metal Emissions: By the last day of each month, the Permittee shall calculate and record the following for HAPs - metal emissions, as prescribed in Steps 1-2 below: Step 1) The HAPs - metal emissions (tons/month), for the previous calendar month. $EM = (EF * DS)/2000$ EF = HAPS - metal emission factor (lb/ton) DS = Dry sludge total (tons/month) for the previous month for the sum total of EQUI 5. 2000 = conversion factor (lb/ton) Step 2) The 12-month rolling sum total for HAPs - metal emissions by summing the monthly total for HAPs - metal emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]

Requirement number	Requirement and citation
5.9.87	Monthly Recordkeeping - HAPs - volatile Emissions: By the last day of each month, the Permittee shall calculate and record the following for HAPs - volatile emissions, as prescribed in Steps 1-2 below: Step 1) The HAPs - volatile emissions (tons/month), for the previous calendar month. $EM = (EF * DS)/2000$ EF = HAPS - volatile emission factor (lb/ton) DS = Dry sludge total (tons/month) for the previous month for the sum total of EQUI 5. 2000 = conversion factor (lb/ton) Step 2) The 12-month rolling sum total for HAPs - volatile emissions by summing the monthly total for HAPs -volatile emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]
5.9.88	Recordkeeping - Air pollution control device inspections. The Permittee shall maintain the record of the annual air pollution control device inspections, including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator. [40 CFR 62.16025(d), Minn. R. 7007.0800, subp. 5]
5.9.89	Recordkeeping - Performance test reports. The Permittee shall maintain the following records. (1) The results of the initial, annual and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable. (2) A copy of the complete performance test report, including calculations. (3) A record of the hourly dry sludge feed rate measured during performance test runs. (4) Any necessary records to demonstrate that the performance test was conducted under conditions representative of normal operations, including a record of the moisture content measured for each grab sample taken of the sewage sludge burned during the performance test. [40 CFR 62.16025(e), Minn. R. 7007.0800, subp. 5]
5.9.90	Recordkeeping - Continuous monitoring data. The Permittee shall maintain the following records from its continuous parameter monitoring systems: i) All the 1-hour average values recorded for the following operating parameters: (A) Combustion chamber operating temperature. (B) The pressure drop across each wet scrubber system, the liquid flow rate to each wet scrubber, and the scrubber liquid pH for each wet scrubber used to comply with the emission limit. (C) The secondary voltage of the electrostatic precipitator collection plates, the secondary amperage of the electrostatic precipitator collection plates, and influent water flow rate at the inlet of each wet electrostatic precipitator. (D) The sorbent flow rate, and carrier gas flow rate or pressure drop for each carbon injection system. (ii) All daily average values recorded for the feed rate and moisture content of the sewage sludge fed to the FBR, monitored and calculated as specified in 40 CFR 62.15960(f). (iii) For each fabric filter, 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. The Permittee must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in 40 CFR 62.16005. [40 CFR 62.16025(f)(3), Minn. R. 7007.0800, subp. 5]

Requirement number	Requirement and citation
5.9.91	Recordkeeping - Other records for continuous monitoring systems. The Permittee shall maintain the following records: (1) Records of any notifications to the Administrator of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit. (2) Records of any requests that compliance with the emission limits be determined using carbon dioxide measurements corrected to an equivalent of 7-percent oxygen. (3) If activated carbon injection is used, the type of sorbent used and any changes in the type of sorbent used. [40 CFR 62.16025(g), Minn. R. 7007.0800, subp. 5]
5.9.92	Recordkeeping - Deviation reports. The Permittee shall maintain the records of any deviation reports. [40 CFR 62.16025(h), Minn. R. 7007.0800, subp. 5]
5.9.93	Recordkeeping - Equipment specifications and operation and maintenance requirements. The Permittee shall maintain the records of equipment specifications and related operation and maintenance requirements received from vendors for the incinerator, emission controls and monitoring equipment. [40 CFR 62.16025(i), Minn. R. 7007.0800, subp. 5]
5.9.94	Recordkeeping - Inspections, calibrations and validation checks of monitoring devices. The Permittee shall maintain the records of inspections, calibration and validation checks of any monitoring devices as required under 40 CFR 62.16015 and 62.16020. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 5]
5.9.95	Recordkeeping - Site specific monitoring plan and performance evaluations for all the continuous monitoring systems. The Permittee shall maintain the records of the monitoring plans required under 40 CFR 62.15995, and records of performance evaluations required under 40 CFR 62.16000(b)(5). [40 CFR 62.16025(k), Minn. R. 7007.0800, subp. 5]
5.9.96	Recordkeeping - Malfunction: The Permittee shall maintain records if a malfunction occurs. The Permittee must keep a record of the information submitted in the annual report. [40 CFR 62.16025(n), Minn. R. 7007.0800, subp. 5]
5.9.97	The Permittee shall include the following in the Semi-annual Deviations Report: 1. A record of average scrubber pressure drop measurements for each period of 15 minutes duration or more during which the pressure drop of the scrubber was less than, by a percentage specified below, the average scrubber pressure drop measured during the most recent performance test. The percent reduction in scrubber pressure drop for which a report is required shall be determined as follows: (i) If EQUI 5 achieved an average filterable particulate matter emission rate of 0.38 kg/Mg (0.75 lb/ton) dry sludge input or less during the most recent performance test, a scrubber pressure drop reduction of more than 30 percent from the average scrubber pressure drop recorded during the most recent performance test shall be reported. (ii) If EQUI 5 achieved an average filterable particulate matter emission rate of greater than 0.38 kg/Mg (0.75 lb/ton) dry sludge input during the most recent performance test, a percent reduction in pressure drop greater than that calculated according to the following equation shall be reported: $P = -111E + 72.15$ where P=Percent reduction in pressure drop, and E=Average filterable particulate matter emissions (kg/megagram). 2. A record of average oxygen content in EQUI 5 exhaust gas for each period of 1-hour duration

Requirement number	Requirement and citation
	or more that the oxygen content of EQUI 5 exhaust gas exceeds the average oxygen content measured during the most recent performance test by more than 3 percent. [40 CFR 60.155(a), Minn. R. 7011.1350]
5.9.98	If the average filterable particulate matter emission rate measured during the performance test exceeds 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input), the Permittee shall include in the Semi-annual Deviations Report for each calendar day that a decrease in scrubber pressure drop or increase in oxygen content of exhaust gas is reported a record of the following: (1) Scrubber pressure drop averaged over each 1-hour incinerator operating period. (2) Oxygen content in the incinerator exhaust averaged over each 1-hour incinerator operating period. (3) Temperatures of the bed and outlet of fluidized bed incinerators averaged over each 1-hour incinerator operating period. (4) Rate of sludge charged to the incinerator averaged over each 1-hour incinerator operating period. (5) Incinerator fuel use averaged over each 8-hour incinerator operating period. (6) Moisture and volatile solids content of the daily grab sample of sludge charged to the incinerator. Items 1-6 above are not required if the filterable particulate matter emission rate measured during the performance test is less than or equal to 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input). [40 CFR 60.155(b), Minn. R. 7011.1350]
5.9.99	Records of mercury emission test results and other data needed to determine total mercury emissions shall be retained at the source and shall be made available, for inspection by the commissioner for a minimum of 5 years. [Minn. R. 7007.0800, subp. 5(C)]
5.9.100	Except as allowed by 40 CFR 60.153(d), the Permittee shall retain the following information and make it available for inspection by the Administrator for a minimum of five years: (1) a record of the measured pressure drop of the gas flow through the Wet Scrubber (2) A record of the measured oxygen content of the exhaust gas (3) A record of the rate of sludge charged, the measured temperatures, the auxiliary fuel flow, and the total solids and volatile solids content of the sludge charged. [40 CFR 60.153(c), Minn. R. 7007.0800, subp. 5(C), Minn. R. 7011.1350]
EQUI 6	Alkaline Stabilization Cell
5.10.1	The Permittee is authorized to construct and operate EQUI 6. The authorization to construct expires 5 years after issuance of Air Emissions Permit No. 12300053-101 The units shall meet all applicable permit requirements. [Minn. R. 7007.0800, subp. 2(A) & (B)]
5.10.2	Alternative Operating Scenarios (AOS) - If EQUI 6 becomes operational, the Permittee shall adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.10.3	Alternative Operating Scenario (AOS) 1. EQUI 6 is authorized to be constructed and operated. EQUI 133 (FBR 4) has not undergone initial startup. AOS 1 requirements include requirements 5.11.4 - 5.11.14. [Minn. R. 7007.0800, subp. 11(B)]
5.10.4	The Permittee must limit Particulate Matter $\leq$ 0.005 grains per dry standard cubic foot. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]

Requirement number	Requirement and citation
5.10.5	The Permittee must limit Particulate Matter ≤ 2.3 tons per year 12-month rolling sum. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000]
5.10.6	The Permittee must limit PM < 10 micron ≤ 0.005 grains per dry standard cubic foot. Authorization to construct EQUI 6 relies on this modeled permit limit. See additional modeling and permit submittal requirements in TFAC 3 section of this permit. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.10.7	The Permittee must limit PM < 10 micron ≤ 2.3 tons per year 12-month rolling sum. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000]
5.10.8	The Permittee must limit PM < 10 micron ≤ 25.2 pounds per day 24-hour block average. [40 CFR 50.6, 40 CFR 52.1220(PM10 SIP), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.10.9	Daily Recordkeeping - PM Emissions: For the previous calendar operating day, the Permittee shall calculate and record the following for PM emissions, as prescribed in Step 1 below: Step 1) The PM emissions (ton/day), for the previous operating day using the following equation: $PMEM = ((E/7000) * (C * 60) * FO)/2000$ PMEM = PM emissions in ton/day E = 0.005 gr/dscf (PM exhaust concentration) 7000 = conversion factor C = 24500 acfm (ID fan capacity) FO = total operating hours of the ID fan for the previous day (hours) 2000 = conversion factor (lb/ton). [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7000.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.10.10	Monthly Recordkeeping - PM Emissions: By the last day of each month, the Permittee shall calculate and record the following for PM, as prescribed below: Step 1) The monthly total of individual PM emissions (ton/month) for the previous month by summing the individual daily PM emissions in the above Step 1. Step 2) The 12-month rolling sum total for PM emissions by summing the monthly total for PM emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
5.10.11	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall calculate and record the following for PM10 emissions, as prescribed in Steps 1 below: Step 1) The PM10 emissions (ton/day), for the previous operating day using the following equation: $PMEM10 = ((E/7000) * (C * 60) * FO)/2000$ PMEM10 = PM10 emissions in ton/day E = 0.005 gr/dscf (PM10 exhaust concentration) 7000 = conversion factor C = 24500 acfm (ID fan capacity)

Requirement number	Requirement and citation
	FO = total operating hours of the ID fan for the given day (hours) 2000 = conversion factor (lb/ton). [40 CFR 50.6, Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.10.12	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall calculate and record the following for PM10, as prescribed below: Step 1) The monthly total of individual PM10 emissions (ton/month) for the previous month by summing the individual daily PM10 emissions in the above Step 1. Step 2) The 12-month rolling sum total for PM10 emissions by summing the monthly total for PM10 emissions data determined in Step 1, for the previous 12 months. [40 CFR 50.6, Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.10.13	Daily Recordkeeping - ID Fan Operating Hours: The Permittee shall record the total operating hours of the individual ID fan for the previous day of operation. [Minn. R. 7007.0800, subp. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7000.3000, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.10.14	Monthly Recordkeeping - ID Fan Operating Hours: By the last day of each month, the Permittee shall calculate and record the total operating hours for the ID fan for the previous month. The 12-month rolling sum total for the operating hours shall be calculated by summing the monthly total for each of monthly operating hours for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
5.10.15	Alternative Operating Scenario (AOS) 2. EQUI 6 is not authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11(B)]
EQUI 7	Alkaline Stabilization Cell
5.11.1	The Permittee is authorized to construct and operate EQUI 7. The authorization to construct expires 5 years after issuance of Air Emissions Permit No. 12300053-101 The units shall meet all applicable permit requirements. [Minn. R. 7007.0800, subp. 2(A) & (B)]
5.11.2	Alternative Operating Scenarios (AOS) - If EQUI 7 becomes operational, the Permittee shall adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.11.3	Alternative Operating Scenario (AOS) 1. EQUI 7 is authorized to be constructed and operated. EQUI 133 (FBR 4) has not undergone initial startup. AOS 1 requirements include requirements 5.11.4 - 5.11.14. [Minn. R. 7007.0800, subp. 11(B)]
5.11.4	The Permittee must limit Particulate Matter $\leq$ 2.3 tons per year 12-month rolling sum. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000]
5.11.5	The Permittee must limit Particulate Matter $\leq$ 0.005 grains per dry standard cubic foot. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.11.6	The Permittee must limit PM $<$ 10 micron $\leq$ 0.005 grains per dry standard cubic foot. Authorization to construct EQUI 7 relies on this modeled permit limit. See additional modeling and permit submittal requirements in TFAC 3 section of this permit. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]

Requirement number	Requirement and citation
5.11.7	The Permittee must limit PM < 10 micron <= 2.3 tons per year 12-month rolling sum. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000]
5.11.8	The Permittee must limit PM < 10 micron <= 25.2 pounds per day 24-hour block average. [40 CFR 50.6, 40 CFR 52.1220(PM10 SIP), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.11.9	Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]
5.11.10	Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]
5.11.11	Daily Recordkeeping - PM Emissions: For the previous calendar operating day, the Permittee shall calculate and record the following for PM emissions, as prescribed in Step 1 below: Step 1) The PM emissions (ton/day), for the previous operating day using the following equation: $PMEM = ((E/7000) * (C * 60) * FO)/2000$ PMEM = PM emissions in ton/day E= 0.005 gr/dscf (PM exhaust concentration) 7000 = conversion factor C = 24500 acfm (ID fan capacity) FO = total operating hours of the ID fan for the previous day (hours) 2000 = conversion factor (lb/ton). [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7000.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.11.12	Monthly Recordkeeping - PM Emissions: By the last day of each month, the Permittee shall calculate and record the following for PM, as prescribed below: Step 1) The monthly total of individual PM emissions (ton/month) for the previous month by summing the individual daily PM emissions in the above Step 1. Step 2) The 12-month rolling sum total for PM emissions by summing the monthly total for PM emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
5.11.13	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall calculate and record the following for PM10 emissions, as prescribed in Steps 1 below: Step 1) The PM10 emissions (ton/day), for the previous operating day using the following equation: $PMEM10 = ((E/7000) * (C * 60) * FO)/2000$ PMEM10 = PM10 emissions in ton/day E= 0.005 gr/dscf (PM10 exhaust concentration) 7000 = conversion factor C = 24500 acfm (ID fan capacity) FO = total operating hours of the ID fan for the given day (hours) 2000 = conversion factor (lb/ton). [40 CFR 50.6, Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR

Requirement number	Requirement and citation
	pt. 51, Appendix S]
5.11.14	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall calculate and record the following for PM10, as prescribed below: Step 1) The monthly total of individual PM10 emissions (ton/month) for the previous month by summing the individual daily PM10 emissions in the above Step 1. Step 2) The 12-month rolling sum total for PM10 emissions by summing the monthly total for PM10 emissions data determined in Step 1, for the previous 12 months. [40 CFR 50.6, Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.11.15	Daily Recordkeeping - ID Fan Operating Hours: The Permittee shall record the total operating hours of the individual ID fan for the previous day of operation. [Minn. R. 7007.0800, subp. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7000.3000, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.11.16	Monthly Recordkeeping - ID Fan Operating Hours: By the last day of each month, the Permittee shall calculate and record the total operating hours for the ID fan for the previous month. The 12-month rolling sum total for the operating hours shall be calculated by summing the monthly total for each of monthly operating hours for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
5.11.17	Alternative Operating Scenario (AOS) 2. EQUI 7 is not authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11(B)]
EQUI 8	Alkaline Stabilization Cell
5.12.1	The Permittee is authorized to construct and operate EQUI 8. The authorization to construct expires 5 years after issuance of Air Emissions Permit No. 12300053-101 The units shall meet all applicable permit requirements. [Minn. R. 7007.0800, subp. 2(A) & (B)]
5.12.2	Alternative Operating Scenarios (AOS) - If EQUI 8 becomes operational, the Permittee shall adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.12.3	Alternative Operating Scenario (AOS) 1. EQUI 8 is authorized to be constructed and operated. EQUI 133 (FBR 4) has not undergone initial startup. AOS 1 requirements include requirements 5.11.4 - 5.11.14. [Minn. R. 7007.0800, subp. 11(B)]
5.12.4	The Permittee must limit Particulate Matter ≤ 2.3 tons per year 12-month rolling sum. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000]
5.12.5	The Permittee must limit Particulate Matter ≤ 0.005 grains per dry standard cubic foot. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.12.6	The Permittee must limit PM < 10 micron ≤ 0.005 grains per dry standard cubic foot. Authorization to construct EQUI 8 relies on this modeled permit limit. See additional modeling and permit submittal requirements in TFAC 3 section of this permit. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 50.6, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.12.7	The Permittee must limit PM < 10 micron ≤ 2.3 tons per year 12-month rolling sum. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000]

Requirement number	Requirement and citation
5.12.8	The Permittee must limit PM < 10 micron ≤ 25.2 pounds per day 24-hour block average. [40 CFR 50.6, 40 CFR pt. 52, 1220(PM10 SIP), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. ch. 7009.0090, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.12.9	Particulate Matter ≤ 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]
5.12.10	Opacity ≤ 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]
5.12.11	Daily Recordkeeping - PM Emissions: For the previous calendar operating day, the Permittee shall calculate and record the following for PM emissions, as prescribed in Step 1 below: Step 1) The PM emissions (ton/day), for the previous operating day using the following equation: $PMEM = ((E/7000) * (C * 60) * FO)/2000$ PMEM = PM emissions in ton/day E = 0.005 gr/dscf (PM exhaust concentration) 7000 = conversion factor C = 24500 acfm (ID fan capacity) FO = total operating hours of the ID fan for the previous day (hours) 2000 = conversion factor (lb/ton). [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7000.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.12.12	Monthly Recordkeeping - PM Emissions: By the last day of each month, the Permittee shall calculate and record the following for PM, as prescribed below: Step 1) The monthly total of individual PM emissions (ton/month) for the previous month by summing the individual daily PM emissions in the above Step 1. Step 2) The 12-month rolling sum total for PM emissions by summing the monthly total for PM emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
5.12.13	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall calculate and record the following for PM10 emissions, as prescribed in Steps 1 below: Step 1) The PM10 emissions (ton/day), for the previous operating day using the following equation: $PMEM10 = ((E/7000) * (C * 60) * FO)/2000$ PMEM10 = PM10 emissions in ton/day E = 0.005 gr/dscf (PM10 exhaust concentration) 7000 = conversion factor C = 24500 acfm (ID fan capacity) FO = total operating hours of the ID fan for the given day (hours) 2000 = conversion factor (lb/ton). [40 CFR 50.6, Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.12.14	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall

Requirement number	Requirement and citation
	calculate and record the following for PM10, as prescribed below: Step 1) The monthly total of individual PM10 emissions (ton/month) for the previous month by summing the individual daily PM10 emissions in the above Step 1. Step 2) The 12-month rolling sum total for PM10 emissions by summing the monthly total for PM10 emissions data determined in Step 1, for the previous 12 months. [40 CFR 50.6, Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.12.15	Daily Recordkeeping - ID Fan Operating Hours: The Permittee shall record the total operating hours of the individual ID fan for the previous day of operation. [Minn. R. 7007.0800, subp. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7000.3000, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.12.16	Monthly Recordkeeping - ID Fan Operating Hours: By the last day of each month, the Permittee shall calculate and record the total operating hours for the ID fan for the previous month. The 12-month rolling sum total for the operating hours shall be calculated by summing the monthly total for each of monthly operating hours for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
5.12.17	Alternative Operating Scenario (AOS) 2. EQUI 8 is not authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11(B)]
EQUI 9	Alkaline Stabilization Loading Area
5.13.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.13.2	Alternative Operating Scenario (AOS) 1. EQUI 9 is authorized to operate. EQUI 133 (FBR 4) has not undergone initial startup. [Minn. R. 7007.0800, subp. 11(B)]
5.13.3	The Permittee must limit Particulate Matter ≤ 0.005 grains per dry standard cubic foot. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.13.4	The Permittee must limit PM < 10 micron ≤ 0.005 grains per dry standard cubic foot. [40 CFR 50.6, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.13.5	Opacity ≤ 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]
5.13.6	Particulate Matter ≤ 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]
5.13.7	Alternative Operating Scenario (AOS) 2. EQUI 9 is authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11(B)]
5.13.8	When alkaline stabilization loadout (EQUI 9) is operating, the Permittee shall simultaneously only operate three of the four fluidized bed incinerators (EQUIs 3, 4, 5 or 133). Operation of an incinerator is defined by sludge feeding to the individual incinerator. Operation of alkaline stabilization loadout is defined by when the alkaline stabilization system mixer is running, except during times of periodic maintenance on the alkaline stabilization system mixer. During alkaline stabilization system maintenance when all four fluidized bed incinerators are operating, sludge will not be fed to the alkaline stabilization system. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]

Requirement number	Requirement and citation
5.13.9	Recordkeeping: The Permittee shall monitor and record, on a daily basis, whether the alkaline stabilization system mixer is operating. During maintenance activities on the alkaline stabilization system mixer, the Permittee shall monitor and record sludge throughput to the mixer. Daily records of the alkaline stabilization system mixer operation will be maintained. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.13.10	By the last day of the month, the Permittee shall review the daily sludge throughput records for each of the four incinerators (EQUIs 3, 4, 5, and 133) and the daily alkaline stabilization loading unit (EQUI 9) operations to verify that EQUI 9 was not in operation when all four incinerators were in operation. The Permittee shall date and record when this monthly review occurred. Any instances of EQUI 9 operating when all four incinerators were in operation shall be reported as a deviation. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.13.11	The Permittee must limit Particulate Matter ≤ 0.005 grains per dry standard cubic foot. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.13.12	The Permittee must limit PM < 10 micron ≤ 0.005 grains per dry standard cubic foot. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP)]
5.13.13	PM < 2.5 micron ≤ 0.004 grains per dry standard cubic foot. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.13.14	Hydrogen Sulfide (H ₂ S) ≤ 0.18 pounds per hour. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
EQUI 10	Auxiliary Boiler No. 1
5.14.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. If EQUI 133 (FBR 4) has not undergone initial startup, AOS 1 will terminate when the Permittee has completed the modification of EQUI 10 to allow for the combustion of propane, as a backup fuel. Otherwise, AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. The Permittee shall document when changing from AOS 1 to AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.14.2	Alternative Operating Scenario (AOS) 1. The Permittee shall maintain the use of distillate oil as a backup fuel for EQUI 10. AOS 1 requirements include requirements 5.15.3 - 5.15.23. [Minn. R. 7007.0800, subp. 11(B)]
5.14.3	The Permittee must limit emissions of PM < 10 micron ≤ 25.82 pounds per day 24-hour block average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.14.4	The Permittee must limit Sulfur Content of Fuel ≤ 0.5 percent by weight or Sulfur Dioxide: less than or equal to 215 ng/J (0.50 lb/MMBtu). [40 CFR 60.42c(d), Minn. R. 7011.0570]
5.14.5	The Permittee must limit Sulfur Content of Fuel ≤ 0.05 percent by weight. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.14.6	The Permittee must limit Opacity ≤ 20 percent except for one 6-minute period per hour of not more than 27 percent opacity. This limit does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.43c(c), 40 CFR 60.43c(d), Minn. R. 7011.0570]
5.14.7	Fuel type: Limited to natural gas and distillate oil. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.14.8	Distillate fuel oil may be combusted only during periods of gas curtailment, gas supply

Requirement number	Requirement and citation
	interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [Minn. R. 7007.0800, subp. 2(A)]
5.14.9	The SO ₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under 40 CFR Section 60.42c apply at all times, including periods of startup, shutdown, and malfunction. [40 CFR 60.42c(i), Minn. R. 7011.0570]
5.14.10	The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows: 40 CFR 60.1(a); 40 CFR 60.1(b); 40 CFR 60.1(c); 40 CFR 60.2; 40 CFR 60.3; 40 CFR 60.4; 40 CFR 60.5(a); 40 CFR 60.5(b); 40 CFR 60.6(a); 40 CFR 60.6(b); 40 CFR 60.7(a)(1); 40 CFR 60.7(a)(3); 40 CFR 60.7(a)(4); 40 CFR 60.7(a)(5); 40 CFR 60.7(a)(6); 40 CFR 60.7(a)(7); 40 CFR 60.7(b); 40 CFR 60.7(c); 40 CFR 60.7(d); 40 CFR 60.8(a); 40 CFR 60.8(b); 40 CFR 60.8(c); 40 CFR 60.8(d); 40 CFR 60.8(e); 40 CFR 60.8(f); 40 CFR 60.8(g); 40 CFR 60.8(h); 40 CFR 60.8(i); 40 CFR 60.9; 40 CFR 60.11(a); 40 CFR 60.11(b); 40 CFR 60.11(c); 40 CFR 60.11(d); 40 CFR 60.11(e)(1); 40 CFR 60.11(e)(2); 40 CFR 60.11(e)(3); 40 CFR 60.11(e)(4); 40 CFR 60.11(e)(5); 40 CFR 60.11(e)(6); 40 CFR 60.11(e)(7); 40 CFR 60.11(e)(8);

Requirement number	Requirement and citation
	40 CFR 60.11(f);
	40 CFR 60.11(g);
	40 CFR 60.12;
	40 CFR 60.13(a);
	40 CFR 60.13(b);
	40 CFR 60.13(c);
	40 CFR 60.13(d)(1);
	40 CFR 60.13(d)(2);
	40 CFR 60.13(e)(1);
	40 CFR 60.13(e)(2);
	40 CFR 60.13(f);
	40 CFR 60.13(g);
	40 CFR 60.13(h)(1);
	40 CFR 60.13(h)(2);
	40 CFR 60.13(h)(3);
	40 CFR 60.13(i)(1);
	40 CFR 60.13(i)(2);
	40 CFR 60.13(i)(3);
	40 CFR 60.13(i)(4);
	40 CFR 60.13(i)(5);
	40 CFR 60.13(i)(6);
	40 CFR 60.13(i)(7);
	40 CFR 60.13(i)(8);
	40 CFR 60.13(i)(9);
	40 CFR 60.13(j)(1);
	40 CFR 60.13(j)(2);
	40 CFR 60.14(a);
	40 CFR 60.14(b);
	40 CFR 60.14(c);
	40 CFR 60.14(e);
	40 CFR 60.14(f);
	40 CFR 60.14(g);
	40 CFR 60.14(h);
	40 CFR 60.14(i);
	40 CFR 60.14(j);
	40 CFR 60.14(k);
	40 CFR 60.14(l);
	40 CFR 60.15(a);
	40 CFR 60.15(b);
	40 CFR 60.15(c);
	40 CFR 60.15(d);
	40 CFR 60.15(e);
	40 CFR 60.15(f);
	40 CFR 60.15(g);
	40 CFR 60.17;
	40 CFR 60.18(b)-(f);
	40 CFR 60.18(g)-(i);
	40 CFR 60.19(a);
	40 CFR 60.19(b);
	40 CFR 60.19(c);

Requirement number	Requirement and citation
	40 CFR 60.19(d); 40 CFR 60.19(e); 40 CFR 60.19(f)(1); 40 CFR 60.19(f)(2); 40 CFR 60.19(f)(3); and 40 CFR 60.19(f)(4). A copy of 40 CFR pt. 60, subp. A is included in Appendix K. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
5.14.11	Fuel Supplier Certification: The Permittee shall determine compliance with the fuel oil sulfur limits based on a certification from the fuel supplier. [40 CFR 60.42c(h)(1)& Minn. R. 7011.0570]
5.14.12	Fuel Supplier Certification Requirements: The certification shall include the following information for distillate fuel oil: 1. The name of the oil supplier; 2. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR Section 60.41c; and 3. The sulfur content of the oil. [40 CFR 60.48c(f)(1) & Minn. R. 7011.0570]
5.14.13	Opacity Testing: In addition to the initial opacity testing required by 40 CFR Section 60.47c(a), the Permittee shall conduct subsequent performance tests using one of the following options. 1) Using Method 9 of Appendix A-4 of 40 CFR pt. 60, using the procedures in 40 CFR Section 60.47c(a) according to the applicable schedule in 40 CFR Section 60.47c(a)(1)(i) through (a)(1)(iv), as determined by the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test results; OR 2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test, the Permittee may, as an alternative to option 1 above, elect to perform subsequent monitoring using Method 22 of Appendix A-7 of 40 CFR pt. 60 according to the procedures specified in 40 CFR Section 60.47c(a)(2)(i) and (ii); OR 3). If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test, the Permittee may, as an alternative to option 1 above, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in 40 CFR Section 60.47c(a)(2). For reference purposes in preparing the monitoring plan, see 40 CFR Section 60.47c(a)(3). [40 CFR 60.47c(a)(1-3), Minn. R. 7011.0570]
5.14.14	Recordkeeping - Distillate Fuel Oil Usage: Once each day, the Permittee shall calculate, record, and maintain a record of the total quantity of fuel oil combusted in EQUI 10 during the previous calendar day. These records shall consist of purchase records, receipts, steam meter readings, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7011.0570]
5.14.15	Recordkeeping - Natural Gas Usage: Once each day, the Permittee shall calculate, record, and maintain a record of the total quantity of natural gas combusted in EQUI 10 during the previous calendar day. These records shall consist of purchase records, receipts, steam meter readings, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7011.0570]

Requirement number	Requirement and citation
5.14.16	The Permittee shall use the following values for emission factors (EF), in lb PM10/million lb steam, lbs PM10/million scf natural gas, or lb PM10/1000 gallon fuel oil, for the Daily Recordkeeping - PM10 Emissions Equation 1 or 2: EFngs: 9.0 lb PM10/million lb steam (AP-42) EFngg: 7.6 lb PM10/million scf natural gas (AP-42) EFfos: 22.6 lb PM10/million lb steam (AP-42) EFfoo: 2.0 lb PM10/1000 gallon fuel oil (AP-42). [Minn. R. 7007.0800, subp. 4(D)]
5.14.17	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall calculate the following for PM10, as prescribed in Step 1 below using either Equation1 (steam) or Equation2 (fuel): Step 1) The natural gas and distillate fuel oil combustion emissions (lb/day), from EQUI 10, for the previous calendar day using Equation 1 or 2. The record must specify if fuel or steam was the basis of the emissions calculations. Equation 1: $H = (EFngs * SPng) + (EFfos * SPfo)$ Where: H = Sum of the individual PM10 combustion emissions from natural gas and distillate fuel oil, lb/day EFngs = particulate matter < 10 micron emission factor natural gas (lbs PM10/million lb steam) for EQUI 10 SPng = daily steam production from natural gas usage, EQUI 10, million lbs steam EFfos = particulate matter < 10 micron emission factor of distillate oil (lbs PM10/million lb steam) for EQUI 10 SPfo = daily steam production from distillate fuel oil usage, for EQUI 10, lbs steam/day. Equation 2: $H = (EFngg * NGU) + (EFfoo * FOU)$ Where: H = Sum of the individual PM10 combustion emissions from natural gas and distillate fuel oil, lb/day EFngg = particulate matter < 10 micron emission factor of natural gas (lbs PM10/million SCF natural gas) for EQUI 10 NGU = daily natural gas usage, EQUI 10, million SCF EFfoo = particulate matter < 10 micron emission factor of distillate oil (lbs PM10/1000 gallons fuel oil) for EQUI 10 FOU = daily distillate fuel oil usage, for EQUI 10, per 1000 gallons. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.14.18	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall record the sum of the individual PM10 combustion emissions from natural gas and distillate fuel oil. [Minn. R. 7007.0800, subp. 5]
5.14.19	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall calculate the following for PM10, as prescribed in Steps 1-2 below: Step 1) The monthly total of individual PM10 emissions (ton/month) for the previous month by

Requirement number	Requirement and citation
	summing the individual daily PM10 emissions in Step 1 above in Daily Recordkeeping-PM10 Emissions (H). Step 2) The 12-month rolling sum total for the PM10 emissions by summing the monthly total for each of PM10 emission data determined in Step 1, for the previous 12 months. [40 CFR 50.6, Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.14.20	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall record the following for PM10: 1) The monthly total of individual PM10 emissions (ton/month) for the previous month. 2) The 12-month rolling sum total for the PM10 emissions, for the previous 12 months. [Minn. R. 7007.0800, subp. 5]
5.14.21	Daily Recordkeeping - Steam production: Record the amount of steam produced by EQUI 10 for the previous operating calendar day, individually, from both the combustion of natural gas and distillate fuel. [Minn. R. 7007.0800, subps. 4-5]
5.14.22	Monthly Recordkeeping - Steam Production: By the last day of each month, the Permittee shall calculate and record the amount of steam produced for EQUI 10, as prescribed in Steps 1-2 below: Step 1) The monthly total of steam produced for the previous month by summing the individual daily steam production from the above Daily Recordkeeping-Steam Production. Step 2) The 12-month rolling sum total for the steam production by summing the monthly total of steam production determined in Step 1 above, for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
5.14.23	Semiannual Compliance Report Contents: The Permittee shall include the following in the Semiannual Compliance Report: 1) Calendar dates covered in the reporting period; 2) Records of fuel supplier certification including the name of the fuel oil supplier, a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR Section 60.41c, and the sulfur content or maximum sulfur content of the oil; and 3) A certified statement signed by the Permittee that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. [40 CFR 60.48c(d) - (e), Minn. R. 7011.0570]
5.14.24	Alternative Operating Scenario (AOS) 2. The Permittee is authorized to combust propane in EQUI 10, as a backup fuel. The use of distillate oil is prohibited in EQUI 10. AOS 2 requirements include requirements 5.15.25 - 5.15.37. [Minn. R. 7007.0800, subp. 11(B)]
5.14.25	The Permittee must limit emissions of PM < 10 micron $\leq$ 25.82 pounds per day 24-hour block average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.14.26	Fuel type: Limited to natural gas and propane. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.14.27	The Permittee must limit Sulfur Content of Fuel $\leq$ 0.0015 percent by weight. [Minn. R.

Requirement number	Requirement and citation
	7007.0800, subp. 2(A)]
5.14.28	Recordkeeping - Propane Usage: Once each day, the Permittee shall calculate, record, and maintain a record of the total quantity of propane combusted in EQUI 10 during the previous calendar day. These records shall consist of purchase records, receipts, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7007.0570]
5.14.29	Recordkeeping - Natural Gas Usage: Once each day, the Permittee shall calculate, record, and maintain a record of the total quantity of natural gas combusted in EQUI 10 during the previous calendar day. These records shall consist of purchase records, receipts, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7011.0570]
5.14.30	The Permittee shall use the following values for emission factors (EF), in lb PM10/million lb steam, lbs PM10/million scf natural gas, or lb PM10/1000 gallon propane, for the Daily Recordkeeping - PM10 Emissions Equation 1 or 2: EFngs: 9.0 lb PM10/million lb steam (AP-42) EFngg: 7.6 lb PM10/million scf natural gas (AP-42) EFps: 9.31 lb PM10/million lb steam (AP-42) EFp: 0.7 lb PM10/1000 gallon propane (AP-42). [Minn. R. 7007.0800, subp. 4(D)]
5.14.31	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall calculate the following for PM10, as prescribed in Step 1 below using either Equation 1 (steam) or Equation 2 (fuel): Step 1) The natural gas and propane oil combustion emissions (lb/day), from EQUI 10, for the previous calendar day using Equation 1. The record must specify if fuel or steam was the basis of the emissions calculations. Equation 1: $H = (EFngs * SPng) + (EFps * SPp)$ Where: H = Sum of the individual PM10 combustion emissions from natural gas and propane, lb/day EFngs = particulate matter < 10 micron emission factor of natural gas (lbs PM10/million lb steam) for EQUI 10 SPng = daily steam production from natural gas usage, EQUI 10, million lbs steam EFps = particulate matter < 10 micron emission factor of propane (lbs PM10/million lb steam) for EQUI 10 SPp = daily steam production from propane usage, for EQUI 10, lbs steam/day. Equation 2: $H = (EFngg * NGU) + (EFp * PR)$ Where: H = Sum of the individual PM10 combustion emissions from natural gas and propane, lb/day EFngg = particulate matter < 10 micron emission factor of natural gas (lbs PM10/million SCF natural gas) for EQUI 10 NGU = daily natural gas usage, EQUI 10, million SCF EFp = particulate matter < 10 micron emission factor of propane (lbs PM10/1000 gallons propane) for EQUI 10 PR = daily propane usage, for EQUI 10, per 1000 gallons. [40 CFR 50.6, Minn. R. 7007.0800, subp. 4, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to

Requirement number	Requirement and citation
	avoid 40 CFR pt. 51, Appendix S]
5.14.32	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall record the sum of the individual PM10 combustion emissions from natural gas and propane. [Minn. R. 7007.0800, subp. 5]
5.14.33	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall calculate the following for PM10, as prescribed in Steps 1-2 below: Step 1) The monthly total of individual PM10 emissions (ton/month) for the previous month by summing the individual daily PM10 emissions in Step 1 above in Daily Recordkeeping-PM10 Emissions (H). Step 2) The 12-month rolling sum total for the PM10 emissions by summing the monthly total for each of PM10 emission data determined in Step 1, for the previous 12 months. [40 CFR 50.6, Minn. R. 7007.0800, subp.4, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.14.34	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall record the following for PM10: 1) The monthly total of individual PM10 emissions (ton/month) for the previous month. 2) The 12-month rolling sum total for the PM10 emissions, for the previous 12 months. [Minn. R. 7007.0800, subp. 5]
5.14.35	Daily Recordkeeping - Steam production: Record the amount of steam produced by EQUI 10 for the previous operating calendar day, individually, from both the combustion of natural gas and propane. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.14.36	The Permittee shall use the following values for emission factors (EF), in the Daily Recordkeeping - NOx Emissions Equation 1 or 2: NOx from natural gas: 50 lbs NOx/10⁶ scf (AP-42) NOx from propane: 13 lb NOx/1000 gal (AP-42). [Minn. R. 7007.0800, subp. 4(D)]
5.14.37	Daily Recordkeeping - NOx Emissions: For the previous calendar operating day, the Permittee shall calculate and record the following for NOx, as prescribed in Step 1 below using either Equation 1 (steam) or Equation 2 (fuel): Step 1) The natural gas and propane oil combustion emissions (ton/day), from EQUI 10, for the previous calendar day using Equation 1. The record must specify if fuel or steam was the basis of the emissions calculations. Equation 1: $H = ((EF_{ngs} * SP_{ng}) + (EF_{ps} * SP_p))/2000$ Where: H = Sum of the individual NOx combustion emissions from natural gas and propane, tons/day EF_{ngs} = NOx emission factor of natural gas (lbs NOx/million lb steam) for EQUI 10 SP_{ng} = daily steam production from natural gas usage, EQUI 10, million lbs steam EF_{ps} = NOx emission factor of propane (lbs NOx/million lb steam) for EQUI 10 SP_p = daily steam production from propane usage, for EQUI 10, lbs steam/day.

Requirement number	Requirement and citation
	The natural gas and propane combustion emissions (ton/day), from EQUI 10, for the previous calendar day using Equation 1. Equation 2: $H = ((EF_{ng} * NGU) + (EF_{pr} * PR))/2000$ Where: H = Sum of the individual NOx combustion emissions from natural gas and propane, tons/day EF_{ng} = NOx emission factor of natural gas (lbs PM10/million SCF natural gas) for EQUI 10 NGU = daily natural gas usage, EQUI 10, million SCF EF_{pr} = particulate matter < 10 micron emission factor of propane (lbs PM10/1000 gallons propane) for EQUI 10 PR = daily propane usage, for EQUI 10, per 1000 gallons. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.14.38	Monthly Recordkeeping - NOx Emissions: By the last day of each month, the Permittee shall calculate and record the following for NOx, as prescribed in Steps 1-2 below: Step 1) The monthly total of individual NOx emissions (ton/month) for the previous month by summing the individual daily NOx emissions in Step 1 above in Daily Recordkeeping-NOx Emissions (H). Step 2) The 12-month rolling sum total for the NOx emissions by summing the monthly total for each of NOx emission data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subps.4-5]
EQUI 11	Auxiliary Boiler No. 2
5.15.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. If EQUI 133 (FBR 4) has not undergone initial startup, AOS 1 will terminate when the Permittee has completed the modification of EQUI 11 to allow for the combustion of propane, as a backup fuel. Otherwise, AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. The Permittee shall document when changing from AOS 1 to AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.15.2	Alternative Operating Scenario (AOS) 1. The Permittee shall maintain the use of distillate oil as a backup fuel for EQUI 11. AOS 1 requirements include requirements 5.15.3 - 5.15.23. [Minn. R. 7007.0800, subp. 11(B)]
5.15.3	The Permittee must limit emissions of PM < 10 micron <= 25.82 pounds per day 24-hour block average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.15.4	The Permittee must limit Sulfur Content of Fuel <= 0.05 percent by weight. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.15.5	The Permittee must limit Sulfur Content of Fuel <= 0.5 percent by weight or Sulfur Dioxide: less than or equal to 215 ng/J (0.50 lb/MMBtu). [40 CFR 60.42c(d), Minn. R. 7011.0570]
5.15.6	The Permittee must limit Opacity <= 20 percent except for one 6-minute period per hour of not more than 27 percent opacity. This limit does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.43c(c), 40 CFR 60.43c(d), Minn. R. 7011.0570]
5.15.7	Fuel type: Limited to natural gas and distillate oil. [40 CFR pt. 51, Appendix S, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.15.8	Distillate fuel oil may be combusted only during periods of gas curtailment, gas supply

Requirement number	Requirement and citation
	interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [Minn. R. 7007.0800, subp. 2(A)]
5.15.9	The SO ₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under 40 CFR Section 60.42c apply at all times, including periods of startup, shutdown, and malfunction. [40 CFR 60.42c(i), Minn. R. 7011.0570]
5.15.10	The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows: 40 CFR 60.1(a); 40 CFR 60.1(b); 40 CFR 60.1(c); 40 CFR 60.2; 40 CFR 60.3; 40 CFR 60.4; 40 CFR 60.5(a); 40 CFR 60.5(b); 40 CFR 60.6(a); 40 CFR 60.6(b); 40 CFR 60.7(a)(1); 40 CFR 60.7(a)(3); 40 CFR 60.7(a)(4); 40 CFR 60.7(a)(5); 40 CFR 60.7(a)(6); 40 CFR 60.7(a)(7); 40 CFR 60.7(b); 40 CFR 60.7(c); 40 CFR 60.7(d); 40 CFR 60.8(a); 40 CFR 60.8(b); 40 CFR 60.8(c); 40 CFR 60.8(d); 40 CFR 60.8(e); 40 CFR 60.8(f); 40 CFR 60.8(g); 40 CFR 60.8(h); 40 CFR 60.8(i); 40 CFR 60.9; 40 CFR 60.11(a); 40 CFR 60.11(b); 40 CFR 60.11(c); 40 CFR 60.11(d); 40 CFR 60.11(e)(1); 40 CFR 60.11(e)(2); 40 CFR 60.11(e)(3); 40 CFR 60.11(e)(4); 40 CFR 60.11(e)(5); 40 CFR 60.11(e)(6); 40 CFR 60.11(e)(7); 40 CFR 60.11(e)(8);

Requirement number	Requirement and citation
	40 CFR 60.11(f);
	40 CFR 60.11(g);
	40 CFR 60.12;
	40 CFR 60.13(a);
	40 CFR 60.13(b);
	40 CFR 60.13(c);
	40 CFR 60.13(d)(1);
	40 CFR 60.13(d)(2);
	40 CFR 60.13(e)(1);
	40 CFR 60.13(e)(2);
	40 CFR 60.13(f);
	40 CFR 60.13(g);
	40 CFR 60.13(h)(1);
	40 CFR 60.13(h)(2);
	40 CFR 60.13(h)(3);
	40 CFR 60.13(i)(1);
	40 CFR 60.13(i)(2);
	40 CFR 60.13(i)(3);
	40 CFR 60.13(i)(4);
	40 CFR 60.13(i)(5);
	40 CFR 60.13(i)(6);
	40 CFR 60.13(i)(7);
	40 CFR 60.13(i)(8);
	40 CFR 60.13(i)(9);
	40 CFR 60.13(j)(1);
	40 CFR 60.13(j)(2);
	40 CFR 60.14(a);
	40 CFR 60.14(b);
	40 CFR 60.14(c);
	40 CFR 60.14(e);
	40 CFR 60.14(f);
	40 CFR 60.14(g);
	40 CFR 60.14(h);
	40 CFR 60.14(i);
	40 CFR 60.14(j);
	40 CFR 60.14(k);
	40 CFR 60.14(l);
	40 CFR 60.15(a);
	40 CFR 60.15(b);
	40 CFR 60.15(c);
	40 CFR 60.15(d);
	40 CFR 60.15(e);
	40 CFR 60.15(f);
	40 CFR 60.15(g);
	40 CFR 60.17;
	40 CFR 60.18(b)-(f);
	40 CFR 60.18(g)-(i);
	40 CFR 60.19(a);
	40 CFR 60.19(b);
	40 CFR 60.19(c);

Requirement number	Requirement and citation
	40 CFR 60.19(d); 40 CFR 60.19(e); 40 CFR 60.19(f)(1); 40 CFR 60.19(f)(2); 40 CFR 60.19(f)(3); and 40 CFR 60.19(f)(4). A copy of 40 CFR pt. 60, subp. A is included in Appendix K. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
5.15.11	Fuel Supplier Certification: The Permittee shall determine compliance with the fuel oil sulfur limits based on a certification from the fuel supplier. [40 CFR 60.42c(h)(1)& Minn. R. 7011.0570]
5.15.12	Fuel Supplier Certification Requirements: The certification shall include the following information for distillate fuel oil: 1. The name of the oil supplier; 2. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR Section 60.41c; and 3. The sulfur content of the oil. [40 CFR 60.48c(f)(1)& Minn. R. 7011.0570]
5.15.13	Opacity Testing: In addition to the initial opacity testing required by 40 CFR Section 60.47c(a), the Permittee shall conduct subsequent performance tests using one of the following options. 1) Using Method 9 of Appendix A-4 of 40 CFR pt. 60, using the procedures in 40 CFR Section 60.47c(a) according to the applicable schedule in 40 CFR Section 60.47c(a)(1)(i) through (a)(1)(iv), as determined by the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test results; OR 2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test, the Permittee may, as an alternative to option 1 above, elect to perform subsequent monitoring using Method 22 of Appendix A-7 of 40 CFR pt. 60 according to the procedures specified in 40 CFR Section 60.47c(a)(2)(i) and (ii); OR 3). If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test, the Permittee may, as an alternative to option 1 above, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in 40 CFR Section 60.47c(a)(2). For reference purposes in preparing the monitoring plan, see 40 CFR Section 60.47c(a)(3). [40 CFR 60.47c(a)(1-3), Minn. R. 7011.0570]
5.15.14	Recordkeeping - Distillate Fuel Oil Usage: Once each day, the Permittee shall calculate, record, and maintain a record of the total quantity of fuel oil combusted in EQUI 11 during the previous calendar day. These records shall consist of purchase records, receipts, steam meter readings, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7011.0570]
5.15.15	Recordkeeping - Natural Gas Usage: Once each day, the Permittee shall calculate, record, and maintain a record of the total quantity of natural gas combusted in EQUI 11 during the previous calendar day. These records shall consist of purchase records, receipts, steam meter readings, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7011.0570]

Requirement number	Requirement and citation
5.15.16	The Permittee shall use the following values for emission factors (EF), in lb PM10/million lb steam, lbs PM10/million scf natural gas, or lb PM10/1000 gallon fuel oil, for the Daily Recordkeeping - PM10 Emissions Equation 1 or 2: EFngs: 9.0 lb PM10/million lb steam (AP-42) EFngg: 7.6 lbs PM10/million scf natural gas (AP-42) EFfos: 22.6 lb PM10/million lb steam (AP-42) EFfoo: 2.0 lb PM10/1000 gallon fuel oil (AP-42). [Minn. R. 7007.0800, subp. 4(D)]
5.15.17	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall calculate the following for PM10, as prescribed in Step 1 below using either Equation1 (steam) or Equation 2 (fuel): Step 1) The natural gas and distillate fuel oil combustion emissions (lb/day), from EQUI 11, for the previous calendar day using Equation 1 or 2. The record must specify if fuel or steam was the basis of the emissions calculations. Equation 1: $H = (EFngs * SPng) + (EFfos * SPfo)$ Where: H = Sum of the individual PM10 combustion emissions from natural gas and distillate fuel oil, lb/day EFngs = particulate matter < 10 micron emission factor of natural gas (lbs PM10/million lb steam) for EQUI 11 SPng = daily steam production from natural gas usage, EQUI 1, million lbs steam EFfos = particulate matter < 10 micron emission factor of distillate oil (lbs PM10/million lb steam) for EQUI 11 SPfo = daily steam production from distillate fuel oil usage, for EQUI 11, lbs steam/day. Equation 2: $H = (EFngg * NGU) + (EFfoo * FOU)$ Where: H = Sum of the individual PM10 combustion emissions from natural gas and distillate fuel oil, lb/day EFngg = particulate matter < 10 micron emission factor of natural gas (lbs PM10/million SCF natural gas) for EQUI 11 NGU = daily natural gas usage, EQUI 11, million SCF EFfoo = particulate matter < 10 micron emission factor of distillate oil (lbs PM10/1000 gallons fuel oil) for EQUI 11 FOU = daily distillate fuel oil usage, for EQUI 11, per 1000 gallons. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4, Minn. R. 7009.0090, Title I Condition: 40 CFR pt. 52, 1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.15.18	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall record the sum of the individual PM10 combustion emissions from natural gas and distillate fuel oil. [Minn. R. 7007.0800, subp. 5]
5.15.19	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall calculate the following for PM10, as prescribed in Steps 1-2 below: Step 1) The monthly total of individual PM10 emissions (ton/month) for the previous month by

Requirement number	Requirement and citation
	summing the individual daily PM10 emissions in Step 1 above in Daily Recordkeeping-PM10 Emissions (Hng). Step 2) The 12-month rolling sum total for the PM10 emissions by summing the monthly total for each of PM10 emission data determined in Step 1, for the previous 12 months. [40 CFR 50.6, Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.15.20	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall record the following for PM10: 1) The monthly total of individual PM10 emissions (ton/month) for the previous month. 2) The 12-month rolling sum total for the PM10 emissions, for the previous 12 months. [Minn. R. 7007.0800, subp. 5]
5.15.21	Daily Recordkeeping - Steam production: Record the amount of steam produced by EQUI 11 for the previous operating calendar day, individually, from both the combustion of natural gas and distillate fuel. [Minn. R. 7007.0800, subps. 4-5]
5.15.22	Monthly Recordkeeping - Steam Production: By the last day of each month, the Permittee shall calculate and record the amount of steam produced for EQUI 11, as prescribed in Steps 1-2 below: Step 1) The monthly total of steam produced for the previous month by summing the individual daily steam production from the above Daily Recordkeeping-Steam Production. Step 2) The 12-month rolling sum total for the steam production by summing the monthly total of steam production determined in Step 1 above, for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
5.15.23	Semiannual Compliance Report Contents: The Permittee shall include the following in the Semiannual Compliance Report: 1) Calendar dates covered in the reporting period; 2) Records of fuel supplier certification including the name of the fuel oil supplier, a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR Section 60.41c, and the sulfur content or maximum sulfur content of the oil; and 3) A certified statement signed by the Permittee that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. [40 CFR 60.48c(d) - (e), Minn. R. 7011.0570]
5.15.24	Alternative Operating Scenario (AOS) 2. The Permittee is authorized to combust propane in EQUI 11, as a backup fuel. The use of distillate oil is prohibited in EQUI 11. AOS 2 requirements include requirements 5.16.25 - 5.16.37. [Minn. R. 7007.0800, subp. 11(B)]
5.15.25	The Permittee must limit emissions of PM < 10 micron $\leq$ 25.82 pounds per day 24-hour block average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.1500, subp. 1(B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.15.26	Fuel type: Limited to natural gas and propane. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.15.27	The Permittee must limit Sulfur Content of Fuel $\leq$ 0.0015 percent by weight. [Minn. R.

Requirement number	Requirement and citation
	7007.0800, subp. 2(A)]
5.15.28	Recordkeeping - Propane Usage: Once each day, the Permittee shall calculate, record, and maintain a record of the total quantity of propane combusted in EQUI 11 during the previous calendar day. These records shall consist of purchase records, receipts, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7007.0570]
5.15.29	Recordkeeping - Natural Gas Usage: By the last day of each calendar month, the Permittee shall record the amount of natural gas combusted in the EQUI 11 during the previous calendar month. These records shall consist of purchase records, receipts, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7011.0570]
5.15.30	The Permittee shall use the following values for emission factors (EF), in lb PM10/million lb steam, lbs PM10/million scf natural gas, or lb PM10/1000 gallon propane, for the Daily Recordkeeping - PM10 Emissions Equation 1 or 2: EFngs: 9.0 lb PM10/million lb steam (AP-42) EFngg: 7.6 lb PM10/million scf natural gas (AP-42) EFps: 9.31 lb PM10/million lb steam (AP-42) EFp: 0.7 lb PM10/1000 gallon propane (AP-42). [Minn. R. 7007.0800, subp. 4(D)]
5.15.31	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall calculate the following for PM10, as prescribed in Step 1 below using either Equation 1 (steam) or Equation 2 (fuel): Step 1) The natural gas and propane oil combustion emissions (lb/day), from EQUI 11, for the previous calendar day using Equation 1. The record must specify if fuel or steam was the basis of the emissions calculations. Equation 1: $H = (EFngs * SPng) + (EFps * SPp)$ Where: H = Sum of the individual PM10 combustion emissions from natural gas and propane, lb/day EFngs = particulate matter < 10 micron emission factor of natural gas (lbs PM10/million lb steam) for EQUI 11 SPng = daily steam production from natural gas usage, EQUI 11, million lbs steam EFps = particulate matter < 10 micron emission factor of propane (lbs PM10/million lb steam) for EQUI 11 SPp = daily steam production from propane usage, for EQUI 11, lbs steam/day. Equation 2: $H = (EFngg * NGU) + (EFp * PR)$ Where: H = Sum of the individual PM10 combustion emissions from natural gas and propane, lb/day EFngg = particulate matter < 10 micron emission factor of natural gas (lbs PM10/million SCF natural gas) for EQUI 11 NGU = daily natural gas usage, EQUI 11, million SCF EFp = particulate matter < 10 micron emission factor of propane (lbs PM10/1000 gallons propane) for EQUI 11 PR = daily propane usage, for EQUI 11, per 1000 gallons. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subp. 4, Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]

Requirement number	Requirement and citation
5.15.32	Daily Recordkeeping - PM10 Emissions: For the previous calendar operating day, the Permittee shall record the sum of the individual PM10 combustion emissions from natural gas and propane. [Minn. R. 7007.0800, subp. 5]
5.15.33	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall calculate the following for PM10, as prescribed in Steps 1-2 below: Step 1) The monthly total of individual PM10 emissions (ton/month) for the previous month by summing the individual daily PM10 emissions in Step 1 above in Daily Recordkeeping-PM10 Emissions (H). Step 2) The 12-month rolling sum total for the PM10 emissions by summing the monthly total for each of PM10 emission data determined in Step 1, for the previous 12 months. [40 CFR 50.6, Minn. R. 7007.0800, subp.4, Minn. R. 7009.0090, Title I Condition: 40 CFR 50.6(PM10 SIP), Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.15.34	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall record the following for PM10: 1) The monthly total of individual PM10 emissions (ton/month) for the previous month. 2) The 12-month rolling sum total for the PM10 emissions, for the previous 12 months. [Minn. R. 7007.0800, subp. 5]
5.15.35	Daily Recordkeeping - Steam production: Record the amount of steam produced by EQUI 11 for the previous operating calendar day, individually, from both the combustion of natural gas and propane. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.15.36	The Permittee shall use the following values for emission factors (EF), in the Daily Recordkeeping - NOx Emissions Equation 1 or 2: NOx from natural gas: 50 lbs NOx/10⁶ scf (AP-42) NOx from propane: 13 lb NOx/1000 gal (AP-42). [Minn. R. 7007.0800, subp. 4(D)]
5.15.37	Daily Recordkeeping - NOx Emissions: For the previous calendar operating day, the Permittee shall calculate and record the following for NOx, as prescribed in Step 1 below using either Equation 1 (steam) or Equation 2 (fuel): Step 1) The natural gas and propane oil combustion emissions (ton/day), from EQUI 11, for the previous calendar day using Equation 1. The record must specify if fuel or steam was the basis of the emissions calculations. Equation 1: $H = ((EF_{ngs} * SP_{ng}) + (EF_{ps} * SP_p)) / 2000$ Where: H = Sum of the individual NOx combustion emissions from natural gas and propane, tons/day EF_{ngs} = NOx emission factor of natural gas (lbs NOx/million lb steam) for EQUI 11 SP_{ng} = daily steam production from natural gas usage, EQUI 11, million lbs steam EF_{ps} = NOx emission factor of propane (lbs NOx/million lb steam) for EQUI 11 SP_p = daily steam production from propane usage, for EQUI 11, lbs steam/day.

Requirement number	Requirement and citation
	The natural gas and propane combustion emissions (ton/day), from EQUI 11, for the previous calendar day using Equation 1. Equation 2: $H = ((EF_{ng} * NGU) + (EF_{pr} * PR))/2000$ Where: H = Sum of the individual NOx combustion emissions from natural gas and propane, tons/day EF_{ng} = NOx emission rate of natural gas from the most recent performance test (lbs PM10/million SCF natural gas) for EQUI 11 NGU = daily natural gas usage, EQUI 11, million SCF EF_{pr} = particulate matter < 10 micron emission rate of propane from the most recent performance test (lbs PM10/1000 gallons propane) for EQUI 11 PR = daily propane usage, for EQUI 11, per 1000 gallons. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.15.38	Monthly Recordkeeping - NOx Emissions: By the last day of each month, the Permittee shall calculate and record the following for NOx, as prescribed in Steps 1-2 below: Step 1) The monthly total of individual NOx emissions (ton/month) for the previous month by summing the individual daily NOx emissions in Step 1 above in Daily Recordkeeping-NOx Emissions (H). Step 2) The 12-month rolling sum total for the NOx emissions by summing the monthly total for each of NOx emission data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subps.4-5]
EQUI 12	Generator 8 (EPT1 Building)
5.16.1	Opacity <= 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
5.16.2	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. [Minn. R. 7011.2300, subp. 2(B)]
5.16.3	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 1090.305. [Minn. R. 7005.0100, subp. 35a]
5.16.4	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year. [Minn. R. 7007.0800, subps. 4-5]
5.16.5	The Permittee shall keep records of fuel type and usage on a monthly basis. [Minn. R. 7007.0800, subp. 5]
5.16.6	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight. [Minn. R. 7007.0800, subps. 4-5]
5.16.7	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. A as follows: 40 CFR 63.1(a); 40 CFR 63.1(b)(1); 40 CFR 63.1(b)(3); 40 CFR 63.1(c)(1); 40 CFR 63.1(c)(2); 40 CFR 63.1(c)(5); 40 CFR 63.1(c)(6);

Requirement number	Requirement and citation
	40 CFR 63.1(e);
	40 CFR 63.2;
	40 CFR 63.3;
	40 CFR 63.4(a);
	40 CFR 63.4(b);
	40 CFR 63.4(c);
	40 CFR 63.5(a);
	40 CFR 63.5(b);
	40 CFR 63.5(d);
	40 CFR 63.5(e);
	40 CFR 63.5(f);
	40 CFR 63.6(a)(1);
	40 CFR 63.6(a)(2);
	40 CFR 63.6(b)(1);
	40 CFR 63.6(b)(2);
	40 CFR 63.6(b)(3);
	40 CFR 63.6(b)(4);
	40 CFR 63.6(b)(5);
	40 CFR 63.6(b)(7);
	40 CFR 63.6(c)(1);
	40 CFR 63.6(c)(2);
	40 CFR 63.6(c)(5);
	40 CFR 63.6(e)(1);
	40 CFR 63.6(e)(3);
	40 CFR 63.6(f);
	40 CFR 63.6(g);
	40 CFR 63.6(h)(1);
	40 CFR 63.6(h)(2);
	40 CFR 63.6(h)(3);
	40 CFR 63.6(h)(4);
	40 CFR 63.6(h)(5);
	40 CFR 63.6(h)(6);
	40 CFR 63.6(h)(7);
	40 CFR 63.6(h)(8);
	40 CFR 63.6(h)(9);
	40 CFR 63.6(i)(1);
	40 CFR 63.6(i)(2);
	40 CFR 63.6(i)(3);
	40 CFR 63.6(i)(4);
	40 CFR 63.6(i)(5);
	40 CFR 63.6(i)(6);
	40 CFR 63.6(i)(8);
	40 CFR 63.6(i)(9);
	40 CFR 63.6(i)(11);
	40 CFR 63.6(j);
	40 CFR 63.7(a)(2);
	40 CFR 63.7(a)(2)(ix);
	40 CFR 63.7(a)(3);
	40 CFR 63.7(a)(4);
	40 CFR 63.7(b);

Requirement number	Requirement and citation
	40 CFR 63.7(c);
	40 CFR 63.7(d);
	40 CFR 63.7(e);
	40 CFR 63.7(f);
	40 CFR 63.7(g);
	40 CFR 63.7(h);
	40 CFR 63.8(b)(1);
	40 CFR 63.8(b)(2);
	40 CFR 63.8(b)(3);
	40 CFR 63.8(c);
	40 CFR 63.8(d);
	40 CFR 63.8(e);
	40 CFR 63.8(f);
	40 CFR 63.8(g);
	40 CFR 63.9(b)(1);
	40 CFR 63.9(b)(2);
	40 CFR 63.9(b)(4);
	40 CFR 63.9(b)(5);
	40 CFR 63.9(c);
	40 CFR 63.9(d);
	40 CFR 63.9(e);
	40 CFR 63.9(f);
	40 CFR 63.9(g);
	40 CFR 63.9(h);
	40 CFR 63.9(i);
	40 CFR 63.9(j);
	40 CFR 63.9(k);
	40 CFR 63.10(a)(5);
	40 CFR 63.10(a)(6);
	40 CFR 63.10(a)(7);
	40 CFR 63.10(b)(1);
	40 CFR 63.10(b)(2)(i)-(v);
	40 CFR 63.10(b)(2)(vi)-(viii);
	40 CFR 63.10(b)(2)(ix);
	40 CFR 63.10(b)(2)(x);
	40 CFR 63.10(b)(2)(xi);
	40 CFR 63.10(b)(2)(xii);
	40 CFR 63.10(b)(2)(xiii);
	40 CFR 63.10(b)(2)(xiv);
	40 CFR 63.10(b)(3);
	40 CFR 63.10(c);
	40 CFR 63.10(d)(1);
	40 CFR 63.10(d)(2);
	40 CFR 63.10(d)(3);
	40 CFR 63.10(d)(4);
	40 CFR 63.10(d)(5);
	40 CFR 63.10(e);
	40 CFR 63.10(f);
	40 CFR 63.11(a);
	40 CFR 63.11(b);

Requirement number	Requirement and citation
	40 CFR 63.11(c); 40 CFR 63.11(d); 40 CFR 63.11(e); 40 CFR 63.12; 40 CFR 63.13; 40 CFR 63.14; 40 CFR 63.15(a); 40 CFR 63.15(b); and 40 CFR 63.16. A copy of 40 CFR pt. 63, subp. A is included in Appendix L. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(B), Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
5.16.8	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. ZZZZ as follows: 40 CFR 63.6585(a); 40 CFR 63.6585(c); 40 CFR 63.6585(d); 40 CFR 63.6590(a)(1)(iii); 40 CFR 63.6595(a)(1); 40 CFR 63.6595(b)(2); 40 CFR 63.6603(a); 40 CFR 63.6604(b); 40 CFR 63.6605(a); 40 CFR 63.6605(b); 40 CFR 63.6625(e); 40 CFR 63.6625(e)(3); 40 CFR 63.6625(f); 40 CFR 63.6625(h); 40 CFR 63.6625(i); 40 CFR 63.6640(a); 40 CFR 63.6640(b); 40 CFR 63.6640(e); 40 CFR 63.6640(f); 40 CFR 63.6640(f)(1); 40 CFR 63.6640(f)(2)(i); 40 CFR 63.6640(f)(4); 40 CFR 63.6645(a)(5); 40 CFR 63.6650(a); 40 CFR 63.6650(f); 40 CFR 63.6650(h); 40 CFR 63.6655(a); 40 CFR 63.6655(d); 40 CFR 63.6655(e)(2);

Requirement number	Requirement and citation
	40 CFR 63.6655(f)(2); 40 CFR 63.6660(a); 40 CFR 63.6660(b); 40 CFR 63.6660(c); 40 CFR 63.6665; 40 CFR 63.6675; 40 CFR pt. 63, subp. ZZZZ, Table 2d, item 4; 40 CFR pt. 63, subp. ZZZZ, Table 6, item 9; 40 CFR pt. 63, subp. ZZZZ, Table 7, item 4; and 40 CFR pt. 63, subp. ZZZZ, Table 8 A copy of 40 CFR pt. 63, subp. ZZZZ is included in Appendix M. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. ZZZZ, Minn. R. 7011.8150]
EQUI 16	Centrifuge Feed Tanks
5.17.1	When the process equipment (centrifuge feed tanks) controlled by the Fluidized Bed Reactor is operating, the Permittee shall record all times when the process equipment emissions are not vented through an operating Fluidized Bed Reactor and the 3-stage odor scrubber is not operating (bypass). The Permittee shall record the date of the bypass, the length of time of the bypass, and the reason for the bypass. The Permittee shall report the above information in the Semiannual Deviations Report. [Minn. Stat. 116.07, subd. 4a]
EQUI 18	Cake Bins
5.18.1	When the process equipment (cake bins) controlled by the Fluidized Bed Reactor is operating, the Permittee shall record all times when the process equipment emissions are not vented through an operating Fluidized Bed Reactor and the 3-stage odor scrubber is not operating (bypass). The Permittee shall record the date of the bypass, the length of time of the bypass, and the reason for the bypass. The Permittee shall report the above information in the Semiannual Deviations Report. [Minn. Stat. 116.07, subd. 4a]
EQUI 36	Local Exhaust Control Ash Loadout Building Transporter Vent (ASHTR 3)
5.19.1	The Permittee shall vent emissions from EQUI 36 to control equipment meeting the requirements of TREA 33 (or TREA 36 as backup) whenever EQUI 36 operates. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.19.2	The Permittee must limit Particulate Matter ≤ 0.005 grains per dry standard cubic foot. [Minn. R. 7011.0715, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.19.3	The Permittee must limit PM < 10 micron ≤ 0.005 grains per dry standard cubic foot. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.19.4	Opacity ≤ 20 percent opacity 6-minute average. [Minn. R. 7011.0715, subp. 1(B)]
EQUI 37	Generator 5 (CMP 1 Building)
5.20.1	Opacity ≤ 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]

Requirement number	Requirement and citation
5.20.2	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. [Minn. R. 7011.2300, subp. 2(B)]
5.20.3	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 1090.305. [Minn. R. 7005.0100, subp. 35a]
5.20.4	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year. [Minn. R. 7007.0800, subps. 4-5]
5.20.5	The Permittee shall keep records of fuel type and usage on a monthly basis. [Minn. R. 7007.0800, subp. 5]
5.20.6	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight. [Minn. R. 7007.0800, subps. 4-5]
5.20.7	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. A as follows: 40 CFR 63.1(a); 40 CFR 63.1(b)(1); 40 CFR 63.1(b)(3); 40 CFR 63.1(c)(1); 40 CFR 63.1(c)(2); 40 CFR 63.1(c)(5); 40 CFR 63.1(c)(6); 40 CFR 63.1(e); 40 CFR 63.2; 40 CFR 63.3; 40 CFR 63.4(a); 40 CFR 63.4(b); 40 CFR 63.4(c); 40 CFR 63.5(a); 40 CFR 63.5(b); 40 CFR 63.5(d); 40 CFR 63.5(e); 40 CFR 63.5(f); 40 CFR 63.6(a)(1); 40 CFR 63.6(a)(2); 40 CFR 63.6(b)(1); 40 CFR 63.6(b)(2); 40 CFR 63.6(b)(3); 40 CFR 63.6(b)(4); 40 CFR 63.6(b)(5); 40 CFR 63.6(b)(7); 40 CFR 63.6(c)(1); 40 CFR 63.6(c)(2); 40 CFR 63.6(c)(5); 40 CFR 63.6(e)(1); 40 CFR 63.6(e)(3); 40 CFR 63.6(f); 40 CFR 63.6(g); 40 CFR 63.6(h)(1);

Requirement number	Requirement and citation
	40 CFR 63.6(h)(2);
	40 CFR 63.6(h)(3);
	40 CFR 63.6(h)(4);
	40 CFR 63.6(h)(5);
	40 CFR 63.6(h)(6);
	40 CFR 63.6(h)(7);
	40 CFR 63.6(h)(8);
	40 CFR 63.6(h)(9);
	40 CFR 63.6(i)(1);
	40 CFR 63.6(i)(2);
	40 CFR 63.6(i)(3);
	40 CFR 63.6(i)(4);
	40 CFR 63.6(i)(5);
	40 CFR 63.6(i)(6);
	40 CFR 63.6(i)(8);
	40 CFR 63.6(i)(9);
	40 CFR 63.6(i)(11);
	40 CFR 63.6(j);
	40 CFR 63.7(a)(2);
	40 CFR 63.7(a)(2)(ix);
	40 CFR 63.7(a)(3);
	40 CFR 63.7(a)(4);
	40 CFR 63.7(b);
	40 CFR 63.7(c);
	40 CFR 63.7(d);
	40 CFR 63.7(e);
	40 CFR 63.7(f);
	40 CFR 63.7(g);
	40 CFR 63.7(h);
	40 CFR 63.8(b)(1);
	40 CFR 63.8(b)(2);
	40 CFR 63.8(b)(3);
	40 CFR 63.8(c);
	40 CFR 63.8(d);
	40 CFR 63.8(e);
	40 CFR 63.8(f);
	40 CFR 63.8(g);
	40 CFR 63.9(b)(1);
	40 CFR 63.9(b)(2);
	40 CFR 63.9(b)(4);
	40 CFR 63.9(b)(5);
	40 CFR 63.9(c);
	40 CFR 63.9(d);
	40 CFR 63.9(e);
	40 CFR 63.9(f);
	40 CFR 63.9(g);
	40 CFR 63.9(h);
	40 CFR 63.9(i);
	40 CFR 63.9(j);
	40 CFR 63.9(k);

Requirement number	Requirement and citation
	40 CFR 63.10(a)(5); 40 CFR 63.10(a)(6); 40 CFR 63.10(a)(7); 40 CFR 63.10(b)(1); 40 CFR 63.10(b)(2)(i)-(v); 40 CFR 63.10(b)(2)(vi)-(viii); 40 CFR 63.10(b)(2)(ix); 40 CFR 63.10(b)(2)(x); 40 CFR 63.10(b)(2)(xi); 40 CFR 63.10(b)(2)(xii); 40 CFR 63.10(b)(2)(xiii); 40 CFR 63.10(b)(2)(xiv); 40 CFR 63.10(b)(3); 40 CFR 63.10(c); 40 CFR 63.10(d)(1); 40 CFR 63.10(d)(2); 40 CFR 63.10(d)(3); 40 CFR 63.10(d)(4); 40 CFR 63.10(d)(5); 40 CFR 63.10(e); 40 CFR 63.10(f); 40 CFR 63.11(a); 40 CFR 63.11(b); 40 CFR 63.11(c); 40 CFR 63.11(d); 40 CFR 63.11(e); 40 CFR 63.12; 40 CFR 63.13; 40 CFR 63.14; 40 CFR 63.15(a); 40 CFR 63.15(b); and 40 CFR 63.16. A copy of 40 CFR pt. 63, subp. A is included in Appendix L. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(B), Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
5.20.8	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. ZZZZ as follows: 40 CFR 63.6585(a); 40 CFR 63.6585(c); 40 CFR 63.6585(d); 40 CFR 63.6590(a)(1)(iii); 40 CFR 63.6595(a)(1); 40 CFR 63.6595(b)(2);

Requirement number	Requirement and citation
	40 CFR 63.6603(a); 40 CFR 63.6604(b); 40 CFR 63.6605(a); 40 CFR 63.6605(b); 40 CFR 63.6625(e); 40 CFR 63.6625(e)(3); 40 CFR 63.6625(f); 40 CFR 63.6625(h); 40 CFR 63.6625(i); 40 CFR 63.6640(a); 40 CFR 63.6640(b); 40 CFR 63.6640(e); 40 CFR 63.6640(f); 40 CFR 63.6640(f)(1); 40 CFR 63.6640(f)(2)(i); 40 CFR 63.6640(f)(4); 40 CFR 63.6645(a)(5); 40 CFR 63.6650(a); 40 CFR 63.6650(f); 40 CFR 63.6650(h); 40 CFR 63.6655(a); 40 CFR 63.6655(d); 40 CFR 63.6655(e)(2); 40 CFR 63.6655(f)(2); 40 CFR 63.6660(a); 40 CFR 63.6660(b); 40 CFR 63.6660(c); 40 CFR 63.6665; 40 CFR 63.6675; 40 CFR pt. 63, subp. ZZZZ, Table 2d, item 4; 40 CFR pt. 63, subp. ZZZZ, Table 6, item 9; 40 CFR pt. 63, subp. ZZZZ, Table 7, item 4; and 40 CFR pt. 63, subp. ZZZZ, Table 8 A copy of 40 CFR pt. 63, subp. ZZZZ is included in Appendix M. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. ZZZZ, Minn. R. 7011.8150]
EQUI 45	Generator 6 (EPS 3 Building)
5.21.1	Opacity <= 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
5.21.2	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. [Minn. R. 7011.2300, subp. 2(B)]
5.21.3	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 1090.305. [Minn. R. 7005.0100, subp. 35a]
5.21.4	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an

Requirement number	Requirement and citation
	emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year. [Minn. R. 7007.0800, subps. 4-5]
5.21.5	The Permittee shall keep records of fuel type and usage on a monthly basis. [Minn. R. 7007.0800, subp. 5]
5.21.6	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight. [Minn. R. 7007.0800, subps. 4-5]
5.21.7	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. A as follows: 40 CFR 63.1(a); 40 CFR 63.1(b)(1); 40 CFR 63.1(b)(3); 40 CFR 63.1(c)(1); 40 CFR 63.1(c)(2); 40 CFR 63.1(c)(5); 40 CFR 63.1(c)(6); 40 CFR 63.1(e); 40 CFR 63.2; 40 CFR 63.3; 40 CFR 63.4(a); 40 CFR 63.4(b); 40 CFR 63.4(c); 40 CFR 63.5(a); 40 CFR 63.5(b); 40 CFR 63.5(d); 40 CFR 63.5(e); 40 CFR 63.5(f); 40 CFR 63.6(a)(1); 40 CFR 63.6(a)(2); 40 CFR 63.6(b)(1); 40 CFR 63.6(b)(2); 40 CFR 63.6(b)(3); 40 CFR 63.6(b)(4); 40 CFR 63.6(b)(5); 40 CFR 63.6(b)(7); 40 CFR 63.6(c)(1); 40 CFR 63.6(c)(2); 40 CFR 63.6(c)(5); 40 CFR 63.6(e)(1); 40 CFR 63.6(e)(3); 40 CFR 63.6(f); 40 CFR 63.6(g); 40 CFR 63.6(h)(1); 40 CFR 63.6(h)(2); 40 CFR 63.6(h)(3); 40 CFR 63.6(h)(4); 40 CFR 63.6(h)(5); 40 CFR 63.6(h)(6);

Requirement number	Requirement and citation
	40 CFR 63.6(h)(7);
	40 CFR 63.6(h)(8);
	40 CFR 63.6(h)(9);
	40 CFR 63.6(i)(1);
	40 CFR 63.6(i)(2);
	40 CFR 63.6(i)(3);
	40 CFR 63.6(i)(4);
	40 CFR 63.6(i)(5);
	40 CFR 63.6(i)(6);
	40 CFR 63.6(i)(8);
	40 CFR 63.6(i)(9);
	40 CFR 63.6(i)(11);
	40 CFR 63.6(j);
	40 CFR 63.7(a)(2);
	40 CFR 63.7(a)(2)(ix);
	40 CFR 63.7(a)(3);
	40 CFR 63.7(a)(4);
	40 CFR 63.7(b);
	40 CFR 63.7(c);
	40 CFR 63.7(d);
	40 CFR 63.7(e);
	40 CFR 63.7(f);
	40 CFR 63.7(g);
	40 CFR 63.7(h);
	40 CFR 63.8(b)(1);
	40 CFR 63.8(b)(2);
	40 CFR 63.8(b)(3);
	40 CFR 63.8(c);
	40 CFR 63.8(d);
	40 CFR 63.8(e);
	40 CFR 63.8(f);
	40 CFR 63.8(g);
	40 CFR 63.9(b)(1);
	40 CFR 63.9(b)(2);
	40 CFR 63.9(b)(4);
	40 CFR 63.9(b)(5);
	40 CFR 63.9(c);
	40 CFR 63.9(d);
	40 CFR 63.9(e);
	40 CFR 63.9(f);
	40 CFR 63.9(g);
	40 CFR 63.9(h);
	40 CFR 63.9(i);
	40 CFR 63.9(j);
	40 CFR 63.9(k);
	40 CFR 63.10(a)(5);
	40 CFR 63.10(a)(6);
	40 CFR 63.10(a)(7);
	40 CFR 63.10(b)(1);
	40 CFR 63.10(b)(2)(i)-(v);

Requirement number	Requirement and citation
	40 CFR 63.10(b)(2)(vi)-(viii); 40 CFR 63.10(b)(2)(ix); 40 CFR 63.10(b)(2)(x); 40 CFR 63.10(b)(2)(xi); 40 CFR 63.10(b)(2)(xii); 40 CFR 63.10(b)(2)(xiii); 40 CFR 63.10(b)(2)(xiv); 40 CFR 63.10(b)(3); 40 CFR 63.10(c); 40 CFR 63.10(d)(1); 40 CFR 63.10(d)(2); 40 CFR 63.10(d)(3); 40 CFR 63.10(d)(4); 40 CFR 63.10(d)(5); 40 CFR 63.10(e); 40 CFR 63.10(f); 40 CFR 63.11(a); 40 CFR 63.11(b); 40 CFR 63.11(c); 40 CFR 63.11(d); 40 CFR 63.11(e); 40 CFR 63.12; 40 CFR 63.13; 40 CFR 63.14; 40 CFR 63.15(a); 40 CFR 63.15(b); and 40 CFR 63.16. A copy of 40 CFR pt. 63, subp. A is included in Appendix L. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(B), Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
5.21.8	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. ZZZZ as follows: 40 CFR 63.6585(a); 40 CFR 63.6585(c); 40 CFR 63.6585(d); 40 CFR 63.6590(a)(1)(iii); 40 CFR 63.6595(a)(1); 40 CFR 63.6595(b)(2); 40 CFR 63.6603(a); 40 CFR 63.6604(b); 40 CFR 63.6605(a); 40 CFR 63.6605(b); 40 CFR 63.6625(e);

Requirement number	Requirement and citation
	40 CFR 63.6625(e)(3); 40 CFR 63.6625(f); 40 CFR 63.6625(h); 40 CFR 63.6625(i); 40 CFR 63.6640(a); 40 CFR 63.6640(b); 40 CFR 63.6640(e); 40 CFR 63.6640(f); 40 CFR 63.6640(f)(1); 40 CFR 63.6640(f)(2)(i); 40 CFR 63.6640(f)(4); 40 CFR 63.6645(a)(5); 40 CFR 63.6650(a); 40 CFR 63.6650(f); 40 CFR 63.6650(h); 40 CFR 63.6655(a); 40 CFR 63.6655(d); 40 CFR 63.6655(e)(2); 40 CFR 63.6655(f)(2); 40 CFR 63.6660(a); 40 CFR 63.6660(b); 40 CFR 63.6660(c); 40 CFR 63.6665; 40 CFR 63.6675; 40 CFR pt. 63, subp. ZZZZ, Table 2d, item 4; 40 CFR pt. 63, subp. ZZZZ, Table 6, item 9; 40 CFR pt. 63, subp. ZZZZ, Table 7, item 4; and 40 CFR pt. 63, subp. ZZZZ, Table 8 A copy of 40 CFR pt. 63, subp. ZZZZ is included in Appendix M. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. ZZZZ, Minn. R. 7011.8150]
EQUI 48	Generator 2 (CMP 1 Building)
5.22.1	Opacity <= 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
5.22.2	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. [Minn. R. 7011.2300, subp. 2(B)]
5.22.3	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 1090.305. [Minn. R. 7005.0100, subp. 35a]
5.22.4	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year. [Minn. R. 7007.0800, subps. 4-5]
5.22.5	The Permittee shall keep records of fuel type and usage on a monthly basis. [Minn. R. 7007.0800, subp. 5]

Requirement number	Requirement and citation
5.22.6	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight. [Minn. R. 7007.0800, subps. 4-5]
5.22.7	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. A as follows: 40 CFR 63.1(a); 40 CFR 63.1(b)(1); 40 CFR 63.1(b)(3); 40 CFR 63.1(c)(1); 40 CFR 63.1(c)(2); 40 CFR 63.1(c)(5); 40 CFR 63.1(c)(6); 40 CFR 63.1(e); 40 CFR 63.2; 40 CFR 63.3; 40 CFR 63.4(a); 40 CFR 63.4(b); 40 CFR 63.4(c); 40 CFR 63.5(a); 40 CFR 63.5(b); 40 CFR 63.5(d); 40 CFR 63.5(e); 40 CFR 63.5(f); 40 CFR 63.6(a)(1); 40 CFR 63.6(a)(2); 40 CFR 63.6(b)(1); 40 CFR 63.6(b)(2); 40 CFR 63.6(b)(3); 40 CFR 63.6(b)(4); 40 CFR 63.6(b)(5); 40 CFR 63.6(b)(7); 40 CFR 63.6(c)(1); 40 CFR 63.6(c)(2); 40 CFR 63.6(c)(5); 40 CFR 63.6(e)(1); 40 CFR 63.6(e)(3); 40 CFR 63.6(f); 40 CFR 63.6(g); 40 CFR 63.6(h)(1); 40 CFR 63.6(h)(2); 40 CFR 63.6(h)(3); 40 CFR 63.6(h)(4); 40 CFR 63.6(h)(5); 40 CFR 63.6(h)(6); 40 CFR 63.6(h)(7); 40 CFR 63.6(h)(8); 40 CFR 63.6(h)(9); 40 CFR 63.6(i)(1); 40 CFR 63.6(i)(2);

Requirement number	Requirement and citation
	40 CFR 63.6(i)(3);
	40 CFR 63.6(i)(4);
	40 CFR 63.6(i)(5);
	40 CFR 63.6(i)(6);
	40 CFR 63.6(i)(8);
	40 CFR 63.6(i)(9);
	40 CFR 63.6(i)(11);
	40 CFR 63.6(j);
	40 CFR 63.7(a)(2);
	40 CFR 63.7(a)(2)(ix);
	40 CFR 63.7(a)(3);
	40 CFR 63.7(a)(4);
	40 CFR 63.7(b);
	40 CFR 63.7(c);
	40 CFR 63.7(d);
	40 CFR 63.7(e);
	40 CFR 63.7(f);
	40 CFR 63.7(g);
	40 CFR 63.7(h);
	40 CFR 63.8(b)(1);
	40 CFR 63.8(b)(2);
	40 CFR 63.8(b)(3);
	40 CFR 63.8(c);
	40 CFR 63.8(d);
	40 CFR 63.8(e);
	40 CFR 63.8(f);
	40 CFR 63.8(g);
	40 CFR 63.9(b)(1);
	40 CFR 63.9(b)(2);
	40 CFR 63.9(b)(4);
	40 CFR 63.9(b)(5);
	40 CFR 63.9(c);
	40 CFR 63.9(d);
	40 CFR 63.9(e);
	40 CFR 63.9(f);
	40 CFR 63.9(g);
	40 CFR 63.9(h);
	40 CFR 63.9(i);
	40 CFR 63.9(j);
	40 CFR 63.9(k);
	40 CFR 63.10(a)(5);
	40 CFR 63.10(a)(6);
	40 CFR 63.10(a)(7);
	40 CFR 63.10(b)(1);
	40 CFR 63.10(b)(2)(i)-(v);
	40 CFR 63.10(b)(2)(vi)-(viii);
	40 CFR 63.10(b)(2)(ix);
	40 CFR 63.10(b)(2)(x);
	40 CFR 63.10(b)(2)(xi);
	40 CFR 63.10(b)(2)(xii);

Requirement number	Requirement and citation
	40 CFR 63.10(b)(2)(xiii); 40 CFR 63.10(b)(2)(xiv); 40 CFR 63.10(b)(3); 40 CFR 63.10(c); 40 CFR 63.10(d)(1); 40 CFR 63.10(d)(2); 40 CFR 63.10(d)(3); 40 CFR 63.10(d)(4); 40 CFR 63.10(d)(5); 40 CFR 63.10(e); 40 CFR 63.10(f); 40 CFR 63.11(a); 40 CFR 63.11(b); 40 CFR 63.11(c); 40 CFR 63.11(d); 40 CFR 63.11(e); 40 CFR 63.12; 40 CFR 63.13; 40 CFR 63.14; 40 CFR 63.15(a); 40 CFR 63.15(b); and 40 CFR 63.16. A copy of 40 CFR pt. 63, subp. A is included in Appendix L. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(B), Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
5.22.8	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. ZZZZ as follows: 40 CFR 63.6585(a); 40 CFR 63.6585(c); 40 CFR 63.6585(d); 40 CFR 63.6590(a)(1)(iii); 40 CFR 63.6595(a)(1); 40 CFR 63.6595(b)(2); 40 CFR 63.6603(a); 40 CFR 63.6604(b); 40 CFR 63.6605(a); 40 CFR 63.6605(b); 40 CFR 63.6625(e); 40 CFR 63.6625(e)(3); 40 CFR 63.6625(f); 40 CFR 63.6625(h); 40 CFR 63.6625(i); 40 CFR 63.6640(a);

Requirement number	Requirement and citation
	40 CFR 63.6640(b); 40 CFR 63.6640(e); 40 CFR 63.6640(f); 40 CFR 63.6640(f)(1); 40 CFR 63.6640(f)(2)(i); 40 CFR 63.6640(f)(4); 40 CFR 63.6645(a)(5); 40 CFR 63.6650(a); 40 CFR 63.6650(f); 40 CFR 63.6650(h); 40 CFR 63.6655(a); 40 CFR 63.6655(d); 40 CFR 63.6655(e)(2); 40 CFR 63.6655(f)(2); 40 CFR 63.6660(a); 40 CFR 63.6660(b); 40 CFR 63.6660(c); 40 CFR 63.6665; 40 CFR 63.6675; 40 CFR pt. 63, subp. ZZZZ, Table 2d, item 4; 40 CFR pt. 63, subp. ZZZZ, Table 6, item 9; 40 CFR pt. 63, subp. ZZZZ, Table 7, item 4; and 40 CFR pt. 63, subp. ZZZZ, Table 8 A copy of 40 CFR pt. 63, subp. ZZZZ is included in Appendix M. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. ZZZZ, Minn. R. 7011.8150]
EQUI 49	Generator 1 (FLT 1 Building)
5.23.1	Opacity <= 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
5.23.2	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. [Minn. R. 7011.2300, subp. 2(B)]
5.23.3	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 1090.305. [Minn. R. 7005.0100, subp. 35a]
5.23.4	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year. [Minn. R. 7007.0800, subps. 4-5]
5.23.5	The Permittee shall keep records of fuel type and usage on a monthly basis. [Minn. R. 7007.0800, subp. 5]
5.23.6	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight. [Minn. R. 7007.0800, subps. 4-5]
5.23.7	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. A as follows:

Requirement number	Requirement and citation
	40 CFR 63.1(a);
	40 CFR 63.1(b)(1);
	40 CFR 63.1(b)(3);
	40 CFR 63.1(c)(1);
	40 CFR 63.1(c)(2);
	40 CFR 63.1(c)(5);
	40 CFR 63.1(c)(6);
	40 CFR 63.1(e);
	40 CFR 63.2;
	40 CFR 63.3;
	40 CFR 63.4(a);
	40 CFR 63.4(b);
	40 CFR 63.4(c);
	40 CFR 63.5(a);
	40 CFR 63.5(b);
	40 CFR 63.5(d);
	40 CFR 63.5(e);
	40 CFR 63.5(f);
	40 CFR 63.6(a)(1);
	40 CFR 63.6(a)(2);
	40 CFR 63.6(b)(1);
	40 CFR 63.6(b)(2);
	40 CFR 63.6(b)(3);
	40 CFR 63.6(b)(4);
	40 CFR 63.6(b)(5);
	40 CFR 63.6(b)(7);
	40 CFR 63.6(c)(1);
	40 CFR 63.6(c)(2);
	40 CFR 63.6(c)(5);
	40 CFR 63.6(e)(1);
	40 CFR 63.6(e)(3);
	40 CFR 63.6(f);
	40 CFR 63.6(g);
	40 CFR 63.6(h)(1);
	40 CFR 63.6(h)(2);
	40 CFR 63.6(h)(3);
	40 CFR 63.6(h)(4);
	40 CFR 63.6(h)(5);
	40 CFR 63.6(h)(6);
	40 CFR 63.6(h)(7);
	40 CFR 63.6(h)(8);
	40 CFR 63.6(h)(9);
	40 CFR 63.6(i)(1);
	40 CFR 63.6(i)(2);
	40 CFR 63.6(i)(3);
	40 CFR 63.6(i)(4);
	40 CFR 63.6(i)(5);
	40 CFR 63.6(i)(6);
	40 CFR 63.6(i)(8);
	40 CFR 63.6(i)(9);

Requirement number	Requirement and citation
	40 CFR 63.6(i)(11);
	40 CFR 63.6(j);
	40 CFR 63.7(a)(2);
	40 CFR 63.7(a)(2)(ix);
	40 CFR 63.7(a)(3);
	40 CFR 63.7(a)(4);
	40 CFR 63.7(b);
	40 CFR 63.7(c);
	40 CFR 63.7(d);
	40 CFR 63.7(e);
	40 CFR 63.7(f);
	40 CFR 63.7(g);
	40 CFR 63.7(h);
	40 CFR 63.8(b)(1);
	40 CFR 63.8(b)(2);
	40 CFR 63.8(b)(3);
	40 CFR 63.8(c);
	40 CFR 63.8(d);
	40 CFR 63.8(e);
	40 CFR 63.8(f);
	40 CFR 63.8(g);
	40 CFR 63.9(b)(1);
	40 CFR 63.9(b)(2);
	40 CFR 63.9(b)(4);
	40 CFR 63.9(b)(5);
	40 CFR 63.9(c);
	40 CFR 63.9(d);
	40 CFR 63.9(e);
	40 CFR 63.9(f);
	40 CFR 63.9(g);
	40 CFR 63.9(h);
	40 CFR 63.9(i);
	40 CFR 63.9(j);
	40 CFR 63.9(k);
	40 CFR 63.10(a)(5);
	40 CFR 63.10(a)(6);
	40 CFR 63.10(a)(7);
	40 CFR 63.10(b)(1);
	40 CFR 63.10(b)(2)(i)-(v);
	40 CFR 63.10(b)(2)(vi)-(viii);
	40 CFR 63.10(b)(2)(ix);
	40 CFR 63.10(b)(2)(x);
	40 CFR 63.10(b)(2)(xi);
	40 CFR 63.10(b)(2)(xii);
	40 CFR 63.10(b)(2)(xiii);
	40 CFR 63.10(b)(2)(xiv);
	40 CFR 63.10(b)(3);
	40 CFR 63.10(c);
	40 CFR 63.10(d)(1);
	40 CFR 63.10(d)(2);

Requirement number	Requirement and citation
	40 CFR 63.10(d)(3); 40 CFR 63.10(d)(4); 40 CFR 63.10(d)(5); 40 CFR 63.10(e); 40 CFR 63.10(f); 40 CFR 63.11(a); 40 CFR 63.11(b); 40 CFR 63.11(c); 40 CFR 63.11(d); 40 CFR 63.11(e); 40 CFR 63.12; 40 CFR 63.13; 40 CFR 63.14; 40 CFR 63.15(a); 40 CFR 63.15(b); and 40 CFR 63.16. A copy of 40 CFR pt. 63, subp. A is included in Appendix L. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(B), Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
5.23.8	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. ZZZZ as follows: 40 CFR 63.6585(a); 40 CFR 63.6585(c); 40 CFR 63.6585(d); 40 CFR 63.6590(a)(1)(iii); 40 CFR 63.6595(a)(1); 40 CFR 63.6595(b)(2); 40 CFR 63.6603(a); 40 CFR 63.6604(b); 40 CFR 63.6605(a); 40 CFR 63.6605(b); 40 CFR 63.6625(e); 40 CFR 63.6625(e)(3); 40 CFR 63.6625(f); 40 CFR 63.6625(h); 40 CFR 63.6625(i); 40 CFR 63.6640(a); 40 CFR 63.6640(b); 40 CFR 63.6640(e); 40 CFR 63.6640(f); 40 CFR 63.6640(f)(1); 40 CFR 63.6640(f)(2)(i); 40 CFR 63.6640(f)(4);

Requirement number	Requirement and citation
	40 CFR 63.6645(a)(5); 40 CFR 63.6650(a); 40 CFR 63.6650(f); 40 CFR 63.6650(h); 40 CFR 63.6655(a); 40 CFR 63.6655(d); 40 CFR 63.6655(e)(2); 40 CFR 63.6655(f)(2); 40 CFR 63.6660(a); 40 CFR 63.6660(b); 40 CFR 63.6660(c); 40 CFR 63.6665; 40 CFR 63.6675; 40 CFR pt. 63, subp. ZZZZ, Table 2d, item 4; 40 CFR pt. 63, subp. ZZZZ, Table 6, item 9; 40 CFR pt. 63, subp. ZZZZ, Table 7, item 4; and 40 CFR pt. 63, subp. ZZZZ, Table 8 A copy of 40 CFR pt. 63, subp. ZZZZ is included in Appendix M. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. ZZZZ, Minn. R. 7011.8150]
EQUI 50	Ash Loadout Building Housekeeping Vacuum (PV 01)
5.24.1	The Permittee shall vent emissions from EQUI 50 to control equipment meeting the requirements of TREA 36 whenever EQUI 50 operates. [Title I Condition: Avoid major source under 40 CFR 63.2]
5.24.2	The Permittee must limit Particulate Matter ≤ 0.005 grains per dry standard cubic foot, 3-run average. [Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major source under 40 CFR 63.2]
5.24.3	The Permittee must limit PM < 10 micron ≤ 0.05 grains per dry standard cubic foot, 3-run average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP)]
5.24.4	The Permittee must limit PM < 10 micron ≤ 0.005 grains per dry standard cubic foot, 3-run average. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.24.5	Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. [Minn. R. 7011.0715, subp. 1(A)]
5.24.6	The Permittee must limit PM < 2.5 micron ≤ 0.005 grains per dry standard cubic foot, 3-run average. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.24.7	Opacity: less than or equal to 20 percent opacity using 6-minute Average [Minn. R. 7011.0715, subp. 1(B)]
5.24.8	Recordkeeping: the Permittee shall maintain a record of shutdown or breakdown including hours of and reason for the shutdown or breakdown. [Minn. R. 7007.0800, subp. 5]
EQUI 51	Generator 10 (West of Main Electrical Substation)

Requirement number	Requirement and citation
5.25.1	Opacity <= 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
5.25.2	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. [Minn. R. 7011.2300, subp. 2(B)]
5.25.3	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 1090.305. [Minn. R. 7005.0100, subp. 35a]
5.25.4	The Permittee must limit emissions of NMHC+NOx <= 4.8 grams per horsepower-hour. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.25.5	The Permittee must limit emissions of Particulate Matter <= 0.15 grams per horsepower-hour. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.25.6	The Permittee must limit emissions of Carbon Monoxide <= 2.6 grams per horsepower-hour. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.25.7	The Permittee must limit emissions of Opacity <= 20 percent opacity during the acceleration mode. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.25.8	The Permittee must limit emissions of Opacity <= 15 percent opacity during the lugging mode. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.25.9	The Permittee must limit emissions of Opacity <= 50 percent opacity during the peaks in either the acceleration or lugging modes. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.25.10	The Permittee must limit Sulfur Content of Fuel <= 15.0 parts per million and either a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume, as required by 40 CFR Section 1090.305. [40 CFR 60.4207(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.25.11	EQUI 51 is a new affected source as defined under 40 CFR pt. 63, subp. ZZZZ, and the facility is an area source as defined at 40 CFR Section 63.2, and EQUI 51 is an emergency RICE with a site rating of 1500 brake HP. The Permittee shall meet the requirements of 40 CFR pt. 63, subp. ZZZZ by meeting the requirements of 40 CFR pt. 60, subp. IIII. No further requirements of 40 CFR pt. 63, subp. ZZZZ apply to EQUI 51. [40 CFR 63.6590(c), Minn. R. 7011.8150]
5.25.12	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year. [Minn. R. 7007.0800, subps. 4-5]
5.25.13	The Permittee shall keep records of fuel type and usage on a monthly basis. [Minn. R. 7007.0800, subp. 5]
5.25.14	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight. [Minn. R. 7007.0800, subps. 4-5]
5.25.15	The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. IIII as follows: 40 CFR 60.4200(a)(2)(i); 40 CFR 60.4202(a)(2); 40 CFR 60.4204(b); 40 CFR 60.4205(b);

Requirement number	Requirement and citation
	40 CFR 60.4206; 40 CFR 60.4207(b); 40 CFR 60.4208(a); 40 CFR 60.4209(a); 40 CFR 60.4211(a); 40 CFR 60.4211(c); 40 CFR 60.4211(f)(1); 40 CFR 60.4211(f)(2)(i); 40 CFR 60.4211(f)(3); 40 CFR 60.4214(b); 40 CFR 60.4218; 40 CFR 60.4219; and 40 CFR pt. 60, subp. IIII, Table 8. A copy of 40 CFR pt. 60, subp. IIII is included in Appendix G. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR 63.6590(c), 40 CFR pt. 60, subp. IIII, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.2305, Minn. R. 7011.8150]
5.25.16	The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows: 40 CFR 60.1(a); 40 CFR 60.1(b); 40 CFR 60.1(c); 40 CFR 60.2; 40 CFR 60.3; 40 CFR 60.4; 40 CFR 60.5(a); 40 CFR 60.5(b); 40 CFR 60.6(a); 40 CFR 60.6(b); 40 CFR 60.7(a)(1); 40 CFR 60.7(a)(3); 40 CFR 60.7(a)(4); 40 CFR 60.7(a)(5); 40 CFR 60.7(a)(6); 40 CFR 60.7(a)(7); 40 CFR 60.7(b); 40 CFR 60.7(c); 40 CFR 60.7(d); 40 CFR 60.8(a); 40 CFR 60.8(b); 40 CFR 60.8(c); 40 CFR 60.8(d); 40 CFR 60.8(e); 40 CFR 60.8(f);

Requirement number	Requirement and citation
	40 CFR 60.8(g);
	40 CFR 60.8(h);
	40 CFR 60.8(i);
	40 CFR 60.9;
	40 CFR 60.11(a);
	40 CFR 60.11(b);
	40 CFR 60.11(c);
	40 CFR 60.11(d);
	40 CFR 60.11(e)(1);
	40 CFR 60.11(e)(2);
	40 CFR 60.11(e)(3);
	40 CFR 60.11(e)(4);
	40 CFR 60.11(e)(5);
	40 CFR 60.11(e)(6);
	40 CFR 60.11(e)(7);
	40 CFR 60.11(e)(8);
	40 CFR 60.11(f);
	40 CFR 60.11(g);
	40 CFR 60.12;
	40 CFR 60.13(a);
	40 CFR 60.13(b);
	40 CFR 60.13(c);
	40 CFR 60.13(d)(1);
	40 CFR 60.13(d)(2);
	40 CFR 60.13(e)(1);
	40 CFR 60.13(e)(2);
	40 CFR 60.13(f);
	40 CFR 60.13(g);
	40 CFR 60.13(h)(1);
	40 CFR 60.13(h)(2);
	40 CFR 60.13(h)(3);
	40 CFR 60.13(i)(1);
	40 CFR 60.13(i)(2);
	40 CFR 60.13(i)(3);
	40 CFR 60.13(i)(4);
	40 CFR 60.13(i)(5);
	40 CFR 60.13(i)(6);
	40 CFR 60.13(i)(7);
	40 CFR 60.13(i)(8);
	40 CFR 60.13(i)(9);
	40 CFR 60.13(j)(1);
	40 CFR 60.13(j)(2);
	40 CFR 60.14(a);
	40 CFR 60.14(b);
	40 CFR 60.14(c);
	40 CFR 60.14(e);
	40 CFR 60.14(f);
	40 CFR 60.14(g);
	40 CFR 60.14(h);
	40 CFR 60.14(i);

Requirement number	Requirement and citation
	40 CFR 60.14(j); 40 CFR 60.14(k); 40 CFR 60.14(l); 40 CFR 60.15(a); 40 CFR 60.15(b); 40 CFR 60.15(c); 40 CFR 60.15(d); 40 CFR 60.15(e); 40 CFR 60.15(f); 40 CFR 60.15(g); 40 CFR 60.17; 40 CFR 60.18(b)-(f); 40 CFR 60.18(g)-(i); 40 CFR 60.19(a); 40 CFR 60.19(b); 40 CFR 60.19(c); 40 CFR 60.19(d); 40 CFR 60.19(e); 40 CFR 60.19(f)(1); 40 CFR 60.19(f)(2); 40 CFR 60.19(f)(3); and 40 CFR 60.19(f)(4). A copy of 40 CFR pt. 60, subp. A is included in Appendix K. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
EQUI 52	Generator 11 (West of Main Electrical Substation)
5.26.1	Opacity <= 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
5.26.2	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. [Minn. R. 7011.2300, subp. 2(B)]
5.26.3	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 1090.305. [Minn. R. 7005.0100, subp. 35a]
5.26.4	The Permittee must limit emissions of NMHC+NOx <= 4.8 grams per horsepower-hour. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.26.5	The Permittee must limit emissions of Particulate Matter <= 0.15 grams per horsepower-hour. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.26.6	The Permittee must limit emissions of Carbon Monoxide <= 2.6 grams per horsepower-hour. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.26.7	The Permittee must limit emissions of Opacity <= 20 percent opacity during the acceleration mode. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.26.8	The Permittee must limit emissions of Opacity <= 15 percent opacity during the lugging mode. [40

Requirement number	Requirement and citation
	CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.26.9	The Permittee must limit emissions of Opacity $\leq$ 50 percent opacity during the peaks in either the acceleration or lugging modes. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.26.10	The Permittee must limit Sulfur Content of Fuel $\leq$ 15.0 parts per million and either a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume, as required by 40 CFR Section 1090.305. [40 CFR 60.4207(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]
5.26.11	The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. IIII as follows: 40 CFR 60.4200(a)(2)(i); 40 CFR 60.4202(a)(2); 40 CFR 60.4204(b); 40 CFR 60.4205(b); 40 CFR 60.4206; 40 CFR 60.4207(b); 40 CFR 60.4208(a); 40 CFR 60.4209(a); 40 CFR 60.4211(a); 40 CFR 60.4211(c); 40 CFR 60.4211(f)(1); 40 CFR 60.4211(f)(2)(i); 40 CFR 60.4211(f)(3); 40 CFR 60.4214(b); 40 CFR 60.4218; 40 CFR 60.4219; and 40 CFR pt. 60, subp. IIII, Table 8. A copy of 40 CFR pt. 60, subp. IIII is included in Appendix G. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. IIII, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.2305]
5.26.12	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year. [Minn. R. 7007.0800, subps. 4-5]
5.26.13	The Permittee shall keep records of fuel type and usage on a monthly basis. [Minn. R. 7007.0800, subp. 5]
5.26.14	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight. [Minn. R. 7007.0800, subps. 4-5]
5.26.15	EQUI 52 is a new affected source as defined under 40 CFR pt. 63, subp. ZZZZ, and the facility is an area source as defined at 40 CFR Section 63.2, and EQUI 52 is an emergency RICE with a site rating of 1500 brake HP. The Permittee shall meet the requirements of 40 CFR pt. 63, subp. ZZZZ

Requirement number	Requirement and citation
	by meeting the requirements of 40 CFR pt. 60, subp. IIII. No further requirements of 40 CFR pt. 63, subp. ZZZZ apply to EQUI 52. [40 CFR 63.6590(c), Minn. R. 7011.8150]
5.26.16	The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows: 40 CFR 60.1(a); 40 CFR 60.1(b); 40 CFR 60.1(c); 40 CFR 60.2; 40 CFR 60.3; 40 CFR 60.4; 40 CFR 60.5(a); 40 CFR 60.5(b); 40 CFR 60.6(a); 40 CFR 60.6(b); 40 CFR 60.7(a)(1); 40 CFR 60.7(a)(3); 40 CFR 60.7(a)(4); 40 CFR 60.7(a)(5); 40 CFR 60.7(a)(6); 40 CFR 60.7(a)(7); 40 CFR 60.7(b); 40 CFR 60.7(c); 40 CFR 60.7(d); 40 CFR 60.8(a); 40 CFR 60.8(b); 40 CFR 60.8(c); 40 CFR 60.8(d); 40 CFR 60.8(e); 40 CFR 60.8(f); 40 CFR 60.8(g); 40 CFR 60.8(h); 40 CFR 60.8(i); 40 CFR 60.9; 40 CFR 60.11(a); 40 CFR 60.11(b); 40 CFR 60.11(c); 40 CFR 60.11(d); 40 CFR 60.11(e)(1); 40 CFR 60.11(e)(2); 40 CFR 60.11(e)(3); 40 CFR 60.11(e)(4); 40 CFR 60.11(e)(5); 40 CFR 60.11(e)(6); 40 CFR 60.11(e)(7); 40 CFR 60.11(e)(8); 40 CFR 60.11(f); 40 CFR 60.11(g); 40 CFR 60.12; 40 CFR 60.13(a);

Requirement number	Requirement and citation
	40 CFR 60.13(b);
	40 CFR 60.13(c);
	40 CFR 60.13(d)(1);
	40 CFR 60.13(d)(2);
	40 CFR 60.13(e)(1);
	40 CFR 60.13(e)(2);
	40 CFR 60.13(f);
	40 CFR 60.13(g);
	40 CFR 60.13(h)(1);
	40 CFR 60.13(h)(2);
	40 CFR 60.13(h)(3);
	40 CFR 60.13(i)(1);
	40 CFR 60.13(i)(2);
	40 CFR 60.13(i)(3);
	40 CFR 60.13(i)(4);
	40 CFR 60.13(i)(5);
	40 CFR 60.13(i)(6);
	40 CFR 60.13(i)(7);
	40 CFR 60.13(i)(8);
	40 CFR 60.13(i)(9);
	40 CFR 60.13(j)(1);
	40 CFR 60.13(j)(2);
	40 CFR 60.14(a);
	40 CFR 60.14(b);
	40 CFR 60.14(c);
	40 CFR 60.14(e);
	40 CFR 60.14(f);
	40 CFR 60.14(g);
	40 CFR 60.14(h);
	40 CFR 60.14(i);
	40 CFR 60.14(j);
	40 CFR 60.14(k);
	40 CFR 60.14(l);
	40 CFR 60.15(a);
	40 CFR 60.15(b);
	40 CFR 60.15(c);
	40 CFR 60.15(d);
	40 CFR 60.15(e);
	40 CFR 60.15(f);
	40 CFR 60.15(g);
	40 CFR 60.17;
	40 CFR 60.18(b)-(f);
	40 CFR 60.18(g)-(i);
	40 CFR 60.19(a);
	40 CFR 60.19(b);
	40 CFR 60.19(c);
	40 CFR 60.19(d);
	40 CFR 60.19(e);
	40 CFR 60.19(f)(1);
	40 CFR 60.19(f)(2);

Requirement number	Requirement and citation
	40 CFR 60.19(f)(3); and 40 CFR 60.19(f)(4). A copy of 40 CFR pt. 60, subp. A is included in Appendix K. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR 63.6590(c), 40 CFR pt. 60, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, Minn. R. 7011.8150, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
EQUI 57	FBR #2 Oxygen
5.27.1	Oxygen: Emissions Monitoring: The Permittee must use a CEMS to measure emissions from EQUI 57. Refer to COMG 18 for additional requirements. [40 CFR 60.153(b)(2), Minn. R. 7017.1010, subp. 1]
EQUI 60	FBR #3 Oxygen
5.28.1	Oxygen: Emissions Monitoring: The Permittee must use a CEMS to measure emissions from EQUI 60. Refer to COMG 18 for additional requirements. [40 CFR 60.153(b)(2), Minn. R. 7017.1010, subp. 1]
EQUI 126	Generator 4 (EPR 2 Building)
5.29.1	Opacity <= 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
5.29.2	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. The potential to emit from the unit is 0.001 tons/year due to equipment design and allowable fuels. [Minn. R. 7011.2300, subp. 2(B)]
5.29.3	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 1090.305. [Minn. R. 7005.0100, subp. 35a]
5.29.4	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year. [Minn. R. 7007.0800, subps. 4-5]
5.29.5	The Permittee shall keep records of fuel type and usage on a monthly basis. [Minn. R. 7007.0800, subp. 5]
5.29.6	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight. [Minn. R. 7007.0800, subps. 4-5]
5.29.7	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. A as follows: 40 CFR 63.1(a); 40 CFR 63.1(b)(1); 40 CFR 63.1(b)(3); 40 CFR 63.1(c)(1); 40 CFR 63.1(c)(2); 40 CFR 63.1(c)(5); 40 CFR 63.1(e); 40 CFR 63.2; 40 CFR 63.3; 40 CFR 63.4(a);

Requirement number	Requirement and citation
	40 CFR 63.4(b);
	40 CFR 63.4(c);
	40 CFR 63.5(a);
	40 CFR 63.5(b);
	40 CFR 63.5(d);
	40 CFR 63.5(e);
	40 CFR 63.5(f);
	40 CFR 63.6(a)(1);
	40 CFR 63.6(a)(2);
	40 CFR 63.6(b)(1);
	40 CFR 63.6(b)(2);
	40 CFR 63.6(b)(3);
	40 CFR 63.6(b)(4);
	40 CFR 63.6(b)(5);
	40 CFR 63.6(b)(7);
	40 CFR 63.6(c)(1);
	40 CFR 63.6(c)(2);
	40 CFR 63.6(c)(5);
	40 CFR 63.6(e)(1);
	40 CFR 63.6(e)(3);
	40 CFR 63.6(f);
	40 CFR 63.6(g);
	40 CFR 63.6(h)(1);
	40 CFR 63.6(h)(2);
	40 CFR 63.6(h)(3);
	40 CFR 63.6(h)(4);
	40 CFR 63.6(h)(5);
	40 CFR 63.6(h)(6);
	40 CFR 63.6(h)(7);
	40 CFR 63.6(h)(8);
	40 CFR 63.6(h)(9);
	40 CFR 63.6(i)(1);
	40 CFR 63.6(i)(2);
	40 CFR 63.6(i)(3);
	40 CFR 63.6(i)(4);
	40 CFR 63.6(i)(5);
	40 CFR 63.6(i)(6);
	40 CFR 63.6(i)(8);
	40 CFR 63.6(i)(9);
	40 CFR 63.6(i)(11);
	40 CFR 63.6(j);
	40 CFR 63.7(a)(2);
	40 CFR 63.7(a)(2)(ix);
	40 CFR 63.7(a)(3);
	40 CFR 63.7(a)(4);
	40 CFR 63.7(b);
	40 CFR 63.7(c);
	40 CFR 63.7(d);
	40 CFR 63.7(e);
	40 CFR 63.7(f);

Requirement number	Requirement and citation
	40 CFR 63.7(g);
	40 CFR 63.7(h);
	40 CFR 63.8(b)(1);
	40 CFR 63.8(b)(2);
	40 CFR 63.8(b)(3);
	40 CFR 63.8(c);
	40 CFR 63.8(d);
	40 CFR 63.8(e);
	40 CFR 63.8(f);
	40 CFR 63.8(g);
	40 CFR 63.9(b)(1);
	40 CFR 63.9(b)(2);
	40 CFR 63.9(b)(4);
	40 CFR 63.9(b)(5);
	40 CFR 63.9(c);
	40 CFR 63.9(d);
	40 CFR 63.9(e);
	40 CFR 63.9(f);
	40 CFR 63.9(g);
	40 CFR 63.9(h);
	40 CFR 63.9(i);
	40 CFR 63.9(j);
	40 CFR 63.10(a)(5);
	40 CFR 63.10(a)(6);
	40 CFR 63.10(a)(7);
	40 CFR 63.10(b)(1);
	40 CFR 63.10(b)(2)(i)-(v);
	40 CFR 63.10(b)(2)(vi)-(viii);
	40 CFR 63.10(b)(2)(ix);
	40 CFR 63.10(b)(2)(x);
	40 CFR 63.10(b)(2)(xi);
	40 CFR 63.10(b)(2)(xii);
	40 CFR 63.10(b)(2)(xiii);
	40 CFR 63.10(b)(2)(xiv);
	40 CFR 63.10(b)(3);
	40 CFR 63.10(c);
	40 CFR 63.10(d)(1);
	40 CFR 63.10(d)(2);
	40 CFR 63.10(d)(3);
	40 CFR 63.10(d)(4);
	40 CFR 63.10(d)(5);
	40 CFR 63.10(e);
	40 CFR 63.10(f);
	40 CFR 63.11(a);
	40 CFR 63.11(b);
	40 CFR 63.11(c);
	40 CFR 63.11(d);
	40 CFR 63.11(e);
	40 CFR 63.12;
	40 CFR 63.13;

Requirement number	Requirement and citation
	40 CFR 63.14; 40 CFR 63.15(a); 40 CFR 63.15(b); and 40 CFR 63.16. A copy of 40 CFR pt. 63, subp. A is included in Appendix L. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.7000, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
EQUI 128	FBR #1 Oxygen
5.30.1	Oxygen: Emissions Monitoring: The Permittee must use a CEMS to measure emissions from EQUI 128. Refer to COMG 18 for additional CEMs requirements. [40 CFR 60.153(b)(2), Minn. R. 7017.1010, subp. 1]
EQUI 133	Fluidized Bed Sewage Sludge Reactor 4
5.31.1	The Permittee is authorized to construct and operate EQUI 133. EQUI 133 shall be a fluidized bed reactor (FBR). The maximum permitted capacity shall not exceed 130 dry tons per day of dry sludge. The authorization to start construction of this project expires 18 months after EPA approval of the SIP revision for the issuance of Air Emissions Permit No. 12300053-101. The unit shall meet all applicable permit requirements. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.31.2	The Permittee must meet the emission limits and standards specified in Table 1 to 40 CFR pt. 60, subp. LLLL within 60 days after EQUI 133 reaches the feed rate at which it will operate or within 180 days after its initial startup, whichever comes first. The emission limits and standards apply at all times the unit is operating, and during periods of malfunction. Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. Emissions, except opacity, shall be calculated under standard conditions corrected to seven percent oxygen on a dry volume basis. [40 CFR 60.4845, 40 CFR 60.4860, 40 CFR 60.4930, Minn. R. 7011.1350]
5.31.3	The operating limits apply at all times that sewage sludge is in the combustion chamber (i.e., until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time). [40 CFR 60.4860, Minn. R. 7011.1350]
5.31.4	The Permittee must prepare a siting analysis for EQUI 133 prior to commencing construction. The siting analysis is to be submitted to the Administrator. 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, including impacts of EQUI 133 on ambient air quality, visibility, soils, and vegetation. In considering such alternatives, the analysis may consider costs, energy impacts, non-air environmental impacts, or any other factors related to the practicability of the alternatives. Analyses of EQUI 133 impacts that are prepared to comply with state, local, or other Federal regulatory requirements may be used, provided they include the consideration of air pollution control alternatives specified in the above paragraph. [40 CFR 60.4800, 40 CFR 60.4805, Minn. R. 7011.1350]

Requirement number	Requirement and citation
5.31.5	The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. LLLL as follows: 40 CFR 60.4810(a)-(c); 40 CFR 60.4815(a)-(b); 40 CFR 60.4820(a)-(b); 40 CFR 60.4825(a)-(e); 40 CFR 60.4830(a)-(b); 40 CFR 60.4835(a)-(b); 40 CFR 60.4840(a); 40 CFR 60.4840(b)(2); 40 CFR 60.4845; 40 CFR 60.4850(a)-(h); 40 CFR 60.4860; 40 CFR 60.4865(a); 40 CFR 60.4865(c) - (e); 40 CFR 60.4870(a)-(h); 40 CFR 60.4875(a)-(b); 40 CFR 60.4880.(a)-(h); 40 CFR 60.4885(a)-(f); 40 CFR 60.4890(a)-(d); 40 CFR 60.4895(a)-(b); 40 CFR 60.4900(a)-(c); 40 CFR 60.4905(a)-(c); 40 CFR 60.4910(a)-(n); 40 CFR 60.4915(a)-(j); 40 CFR 60.4920; 40 CFR 60.4930; 40 CFR Part 60, Subp. LLLL Table 1; 40 CFR Part 60, Subp. LLLL Table 3; and, 40 CFR Part 60, Subp. LLLL Table 4. A copy of 40 CFR pt. 60, subp. LLLL is included in Appendix F. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. LLLL, Minn. R. 7011.1350]
5.31.6	Should, at any time after normal startup, the permitted facility's continuously monitored emissions exceed permit requirements, based on accurate and valid emissions data, the Permittee shall immediately report the exceedance to the commissioner and immediately either commence appropriate modifications to the facility to ensure its ability to meet permitted requirements or commence shutdown if the modifications cannot be completed within 72 hours. Compliance with permit requirements must then be demonstrated based on additional testing. [Minn. R. 7011.1340, subp. 4, Minn. Stat. 116.85, subd. 2]
5.31.7	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter ≥ 99.9 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R.

Requirement number	Requirement and citation
	7007.3000]
5.31.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron $\geq$ 99.4 percent collection efficiency. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.31.9	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron $\geq$ 99.4 percent collection efficiency. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.31.10	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for Lead $\geq$ 96.5 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A)]
5.31.11	The Permittee must limit Filterable Particulate Matter $\leq$ 9.6 milligrams per dscm at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 60.4845. [40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.12	Filterable Particulate Matter $\leq$ 1.30 pounds per ton dry sludge input, 3-run average. [40 CFR 60.152(a)(1), Minn. R. 7011.1310(A), Minn. R. 7011.1350]
5.31.13	The Permittee must limit PM < 10 micron $\leq$ 1.70 pounds per hour, 3-run average. Authorization to construct EQUI 133 relies on this modeled permit limit. See additional modeling and permit submittal requirements in TFAC 3 section of this permit. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.31.14	The Permittee must limit PM < 2.5 micron $\leq$ 0.55 pounds per hour, 3-run average. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.31.15	The Permittee must limit Lead $\leq$ 0.00062 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 60.4845. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.16	The Permittee must limit Hydrogen Chloride $\leq$ 0.24 parts per million by dry volume, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 60.4845. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.17	The Permittee must limit Mercury $\leq$ 0.0010 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 60.4845. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.18	PERMANENT MERCURY LIMITS. In amending, modifying, or reissuing a facility's air emissions permit which contains a provision that restricts mercury emissions from the facility, the commissioner shall, at a minimum, continue that permit restriction at the same level unless the applicant demonstrates that no good cause exists to do so. [Minn. Stat. 116.85, subd. 1a(f)]
5.31.19	The Permittee must limit Nitrogen Oxides $\leq$ 30 parts per million, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 60.4845. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.20	The Permittee must limit Total PCDD/PCDF $\leq$ 0.0044 nanograms per dscm (toxic equivalency basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 60.4845. As an alternative, the Permittee may comply with the dioxin/furan total mass basis limit. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.21	The Permittee must limit Total PCDD/PCDF $\leq$ 0.013 nanograms per dscm (total mass basis), at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in

Requirement number	Requirement and citation
	accordance with 40 CFR Section 60.4845. As an alternative, the Permittee may comply with the dioxin/furan toxic equivalency basis limit. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.22	The Permittee must limit Sulfur Dioxide $\leq$ 5.3 parts per million, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 60.4845. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.23	The Permittee must limit Cadmium $\leq$ 0.0011 milligrams per dscm, at 7-percent oxygen, dry basis at standard conditions, 3-run average. This limit is applied in accordance with 40 CFR Section 60.4845. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.24	The Permittee must limit Carbon Monoxide $\leq$ 27 parts per million by dry volume, at 7-percent oxygen, 24-hour block average (using 1-hour averages of data). For determining compliance with the carbon monoxide concentration limit using carbon monoxide CEMS, the correction to 7 percent oxygen does not apply during periods of startup or shutdown. Use the measured carbon monoxide concentration without correcting for oxygen concentration in averaging with other carbon monoxide concentrations (corrected to 7 percent oxygen) to determine the 24-hour average value. This limit is applied in accordance with 40 CFR Section 60.4845. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.25	The Permittee must limit HAPs - Volatile $\leq$ 0.81 tons per year 12-month rolling sum, based on dry tons of sludge incinerated and Volatile HAPs emission factor from the most recent performance test results. [Title I Condition: Avoid major source under 40 CFR 63.2]
5.31.26	The Permittee must limit HAPs - Metal $\leq$ 1.54 tons per year 12-month rolling sum, based on dry tons of sludge incinerated and Metal HAPs emission factor from the most recent performance test results. This limit is for all metal HAPs combined, including (antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium). [Title I Condition: Avoid major source under 40 CFR 63.2]
5.31.27	The Permittee must limit Opacity $\leq$ 20 percent 6-minute average. [40 CFR 60.152(a)(2), Minn. R. 7011.1310(B), Minn. R. 7011.1350]
5.31.28	Visible Emissions: The Permittee must restrict visible emissions of combustion ash from ash conveying systems (including conveyor transfer points) to no more than 5 percent of any compliance test hourly observation period, as based on three 1-hour observation periods. [40 CFR 60.4845, 40 CFR pt. 60, subp. LLLL(Table 1), Minn. R. 7011.1350]
5.31.29	The Permittee shall maintain Ammonia $\leq$ 10.0 parts per million. This limit only applies if the SNCR system is installed and operational. [Minn. R. 7007.0800, subp. 2(A)]
5.31.30	The Permittee must maintain Temperature $\geq$ 1200 degrees Fahrenheit 8-hour block average for a minimum retention time of 0.3 second, utilizing auxiliary fuel burners if needed to maintain temperature. [Minn. R. 7011.1310]
5.31.31	The Permittee must maintain the combustion chamber operating Temperature $\geq$ degrees Fahrenheit, on a 12-hour block, until a new limit is set pursuant to 40 CFR 60.4850(e) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. [40 CFR 60.4850(a), Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3]
5.31.32	The Permittee must maintain Process Throughput $\leq$ 5.4 tons per hour of dry sludge, using 8-hour Block Average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the most recent MPCA-approved performance test where compliance was demonstrated. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7017.2025, subp. 3]
5.31.33	No changes shall be made in the operation which would potentially increase mercury emissions above the level determined by the most recent performance test, except as allowed by the Total

Requirement number	Requirement and citation
	Facility portion of this permit following results reported to the commissioner of a subsequent performance test on the same unit. [40 CFR 61.53(d)(4)]
5.31.34	Charging: MCES shall incinerate only sewage sludge, including spent carbon and scum. [Minn. R. 7007.0800, subp. 2(A)]
5.31.35	The Permittee shall burn only natural gas or propane as auxiliary fuel. [Minn. R. 7007.0800, subp. 2(A)]
5.31.36	The Permittee must establish the site-specific operating limits specified in paragraphs (b) through (h), during the initial performance tests. The Permittee must meet the requirements in 40 CFR 60.4890(d) to confirm the operating limits or re-establish new operating limits using operating data recorded during any performance tests or performance evaluations required in 40 CFR 60.4865. The Permittee must follow the data measurement and recording frequencies and data averaging times specified in Table 3 to 40 CFR part 60, subpart LLLL (subpart LLLL), and the Permittee must follow the testing, monitoring and calibration requirements specified in 40 CFR 60.4900 and 60.4905. The operating limits shall meet the following requirements: (b) Minimum pressure drop across each wet scrubber used to meet the particulate matter, lead and cadmium emission limits, equal to the lowest 4-hour average pressure drop across each such wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. (c) Minimum scrubber liquid flow rate (measured at the inlet to each wet scrubber), equal to the lowest 4-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with all applicable emission limits. (d) Minimum scrubber liquid pH for each wet scrubber used to meet the sulfur dioxide or hydrogen chloride emission limits, equal to the lowest 1-hour average scrubber liquid pH measured during the most recent performance test demonstrating compliance with the sulfur dioxide and hydrogen chloride emission limits. (e) Minimum combustion chamber operating temperature, equal to the lowest 4-hour average combustion chamber operating temperature measured during the most recent performance test demonstrating compliance with all applicable emission limits. (f) Minimum power input to the electrostatic precipitator collection plates, equal to the lowest 4-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. Power input must be calculated as the product of the secondary voltage and secondary amperage to the electrostatic precipitator collection plates. Both the secondary voltage and secondary amperage must be recorded during the performance test. (g) Minimum influent water flow rate at the inlet of the electrostatic precipitator, equal to the lowest 4-hour average influent water flow rate at the inlet of the electrostatic precipitator measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. Alternative influent water flow rate monitoring for the wet electrostatic precipitator approved by EPA in a letter to Metropolitan Council on September 15, 2022). (h) For activated carbon injection, establish the site-specific operating limits specified in paragraphs (h)(1) through (3) of this section. (1) Minimum mercury sorbent injection rate, equal to the lowest 4-hour average mercury sorbent injection rate measured during the most recent performance test demonstrating compliance with the mercury emission limit. (2) Minimum carrier gas flow rate or pressure drop, as follows: (i) Minimum carrier gas flow rate or pressure drop, equal to the lowest 4-hour average carrier gas flow rate or pressure drop measured during the most recent performance test demonstrating compliance with the applicable emission limit. [40 CFR 60.4850(b), 40 CFR 60.4850(c), 40 CFR

Requirement number	Requirement and citation
	60.4850(g), 40 CFR 60.4870, 40 CFR 60.4890(d), Minn. R. 7011.1350]
5.31.37	The FBR unit shall not be operated unless a fully trained and qualified FBR unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified FBR unit operator may operate the FBR unit directly or be the direct supervisor of one or more other plant personnel who operate the FBR. If all qualified FBR unit operators are temporarily not accessible, the Permittee must follow the procedures in 40 CFR 60.4835. [40 CFR 60.4810(a), Minn. R. 7011.1350]
5.31.38	The FBR operator shall obtain operator qualification by completing a state-approved training course or by completing the following training requirements. Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (1) through (3): (1) Training on the 10 subjects listed in paragraphs (1)(i) through (x): (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, sewage sludge feeding 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 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; and (x) Pollution prevention. (2) An examination designed and administered by the state-approved program or instructor administering the subjects in the above paragraph (1) of this requirement. (3) Written material covering the training course topics that may serve as reference material following completion of the course. Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination. [40 CFR 60.4810(b), 40 CFR 60.4810(c), 40 CFR 60.4820(a), 40 CFR 60.4820(b), Minn. R. 7011.1350]
5.31.39	The operator training course must be completed six months after an employee assumes responsibility for operating the FBR unit or assumes responsibility for supervising the operation of the FBR. [40 CFR 60.4815, Minn. R. 7011.1350]
5.31.40	For the operator to maintain qualification, the operator 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, sewage sludge feeding and ash handling; (c) Inspection and maintenance; (d) Prevention of malfunctions or conditions that may lead to malfunction; and (e) Discussion of operating problems encountered by attendees. [40 CFR 60.4825, Minn. R. 7011.1350]
5.31.41	The Permittee must maintain at the facility the site-specific documentation of the operator training procedures and make the documentation readily accessible to all FBR operators. The Permittee must also establish a program for reviewing the training materials with each qualified incinerator operator and other plant personnel who may operate the unit. The

Requirement number	Requirement and citation
5.31.42	subsequent annual reviews must be conducted no later than 12 months following the previous review. [40 CFR 60.4840(a), 40 CFR 60.4840(b)(2), Minn. R. 7011.1350] Recordkeeping - Operator training: The Permittee must document the following operator training procedures and records. These records must be available and readily accessible at the facility at all times for all FBR operators. (1) Documentation of the following operator training procedures and information: (i) Summary of the applicable standards. (ii) Procedures for receiving, handling and feeding sewage sludge. (iii) Incinerator startup, shutdown, and malfunction preventative and corrective procedures. (iv) Procedures for maintaining proper combustion air supply levels. (v) Procedures for operating the incinerator and associated air pollution control systems within the standards established. (vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits. (vii) Reporting and recordkeeping procedures. (viii) Procedures for handling ash. (ix) A list of the materials burned during the performance test, if in addition to sewage sludge. (x) For each qualified operator and other plant personnel who may operate the unit according to the provisions of 40 CFR 60.4835(a), the phone and/or pager number at which they can be reached during operating hours. (2) Records showing the names of FBR operators and other plant personnel who may operate the unit according to the provisions of 40 CFR 60.4835(a), as follows: (i) Records showing the names of FBR operators and other plant personnel who have completed review, including the date of the initial review and all subsequent annual reviews. (ii) Records showing the names of the FBR operators who have completed the operator training requirements under 40 CFR 60.4810, met the criteria for qualification under 40 CFR 60.4820, and maintained or renewed their qualification under 40 CFR 60.4825 or 40 CFR 60.4830. Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications. [40 CFR 60.4910(c)(1) and (2), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.43	Recordkeeping - Operators: The Permittee must document when no qualified operators were accessible. These records must be available and readily accessible at the facility at all times. 1) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks. 2) Records showing the periods when no qualified operators were accessible for 2 weeks or more along with copies of reports submitted. [40 CFR 60.4910(c)(3) and (4), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.44	The Permittee may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. [40 CFR 60.4890(d)(2), Minn. R. 7011.1350]
5.31.45	Comply with Site-Specific Monitoring Plan for Each Continuous Monitoring System: The Permittee must operate and maintain each continuous monitoring system in continuous operation according to the site-specific monitoring plan found in Appendix H. [40 CFR 60.4880(a), 40 CFR 60.4905(a)(2), 40 CFR 60.4910(k), Minn. R. 7011.1350]
5.31.46	If the Permittee's performance tests for the pollutant for at least 2 consecutive years show that the emissions are at or below 75-percent of the emission limit specified in Table 1 of subpart LLLL, and there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, then the Permittee does not have to conduct a performance test for that pollutant for the next 2 years. The Permittee must conduct a

Requirement number	Requirement and citation
	performance test during the third year and no more than 37 months after the previous performance test. If EQUI 133 continues to meet the emission limit for the pollutant, the Permittee may choose to conduct performance tests for the pollutant every third year if the emissions are at or below 75-percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance test must be conducted no more than 37 months after the previous performance test. If a performance test shows emissions exceeded 75-percent of the emission limit for a pollutant, the Permittee must conduct annual performance tests for that pollutant until all performance tests over 2 consecutive years show compliance. [40 CFR 60.4885(a)(3), Minn. R. 7011.1350]
5.31.47	Mercury testing: The Permittee shall conduct stack testing for mercury at intervals not to exceed three months. After demonstrating that mercury emissions have been below 50 percent of the permitted mercury limit for one year, the Permittee may choose to conduct stack testing once every three years or according to 40 CFR pt. 60, subp. LLLL, whichever is more stringent. The Permittee shall notify the commissioner of its alternative mercury testing schedule, and the commissioner shall include operating conditions in the facility's permit that ensure that the facility will continue to emit mercury emissions less than 50 percent of the applicable standard. If a test conducted shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the Permittee shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the Permittee demonstrates that mercury emissions are again below 50 percent of the facility's permitted mercury limit, the Permittee may resume testing every three years or according to 40 CFR pt. 60, subp. LLLL, whichever is more stringent, upon notifying the commissioner. With approval of the commissioner, methods other than stack testing may be used to determine mercury air emissions. [Minn. Stat. 116.85, subd. 1a]
5.31.48	During each test run, the Permittee must operate the sewage sludge incinerator at a minimum of 85-percent of the maximum permitted capacity. [40 CFR 60.4900(a)(11), Minn. R. 7011.1350]
5.31.49	PERFORMANCE TEST METHODS During performance testing, the Permittee shall utilize the following methods: A. Method 1 for sample and velocity traverses; B. Method 2 for volumetric flow rate; C. Method 3 for gas analysis; and D. Method 5 for concentration of particulate matter and associated moisture content (without condensibles). [40 CFR 60.154(b)(2), Minn. R. 7011.1320, Minn. R. 7011.1350]
5.31.50	Dry sludge charging rate. With each performance test, the Permittee shall determine the dry sludge charging rate in accordance with Minn. R. 7011.1325, subp. 3 and 40 CFR 60.4900(a)(2). [40 CFR 60.4900(a)(2), Minn. R. 7011.1325]
5.31.51	The Permittee must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by: (i) Maintaining a log of the quantity of sewage sludge burned during the performance test by continuously monitoring and recording the average hourly rate that sewage sludge is fed to the

Requirement number	Requirement and citation
	incinerator. (ii) Maintaining a log of the moisture content of the sewage sludge burned during the performance test by taking grab samples of the sewage sludge fed to the incinerator for each 8 hour period that testing is conducted. [40 CFR 60.4900(a)(2), Minn. R. 7011.1350]
5.31.52	Monitoring Data: Reduce all oxygen, sludge charging rate, wet scrubber pressure drop, auxiliary fuel flow, EQUI 133 outlet temperature, and EQUI 133 bed temperature monitor data to 1-hour averages, in accordance with 40 CFR 60.13(h)(2). [40 CFR 60.13(h)(2)]
5.31.53	The Permittee shall calibrate, maintain, and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to EQUI 133. The flow measuring device shall be certified by the manufacturer to have an accuracy of +/-5 percent over its operating range. [40 CFR 60.153(a)(1), Minn. R. 7011.1315(A), Minn. R. 7011.1350]
5.31.54	The Permittee must install, operate, calibrate and maintain a flow measuring device which, according to 40 CFR 60.4905(a)(1) and (2), can be used to determine either the mass or volume of sludge charged to EQUI 133. [40 CFR 60.4905(a), Minn. R. 7011.1350]
5.31.55	The Permittee must monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, as follows: (1) Continuously monitor the sewage sludge feed rate and calculate a daily average for all hours of operation during each 24-hour period. A record of the daily average feed rate shall be maintained. (2) Take at least one grab sample per day of the sewage sludge fed to the sewage sludge incinerator. If more than one grab sample is taken in a day, calculate the daily average for the grab samples. A record of the daily average moisture content shall be maintained. [40 CFR 60.4850(f), Minn. R. 7011.1350]
5.31.56	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the oxygen content of EQUI 133 exhaust gas. The oxygen monitor shall be located upstream of any rabble shaft cooling air inlet into the EQUI 133 exhaust gas stream, fan, ambient air recirculation damper, or any other source of dilution air. The oxygen monitoring device shall be certified by the manufacturer to have a relative accuracy of +/-5 percent over its operating range and shall be calibrated at least once each 24-hour operating period. [40 CFR 60.153(b)(2), Minn. R. 7011.1350]
5.31.57	The Permittee shall calibrate, maintain and continuously operate temperature measuring devices in the bed and outlet of EQUI 133. Each temperature measuring device shall be certified by the manufacturer to have +/-5 percent over operating range. The Permittee shall record data during all periods of operation. [40 CFR 60.153(b)(3), Minn. R. 7011.1350]
5.31.58	The Permittee must install, operate, calibrate and maintain a combustion chamber operating temperature measuring device for EQUI 133 according to 40 CFR Section 60.4905(a)(1) and (2). The combustion chamber operating temperature shall be recorded every 15 minutes. [40 CFR 60.4870, 40 CFR 60.4905(a), Minn. R. 7011.1350]
5.31.59	The Permittee must meet the following requirements for the use of the combustion chamber temperature measurement device. (1) Install the temperature sensor and other necessary equipment in a position that provides a representative temperature. (2) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range. (3) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees

Requirement number	Requirement and citation
	Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range. (4) Conduct a temperature measurement device performance evaluation at the time of each performance test but no less frequently than annually. [40 CFR 60.4880(a)(3)(ii)(D)(1)-(4), Minn. R. 7011.1350]
5.31.60	The Permittee shall calibrate, maintain, and operate a device for measuring the auxiliary fuel flow to EQUI 133. The flow measuring device shall be certified by the manufacturer to have an accuracy of +/- 5 percent over its operating range. [40 CFR 60.153(b)(4), Minn. R. 7011.1350]
5.31.61	The auxiliary fuel flow measuring device shall be operated continuously and data recorded during all periods of operation of EQUI 133. [40 CFR 60.153(b)(4), Minn. R. 7011.1350]
5.31.62	The Permittee must collect data using the continuous monitoring systems for flow, pressure, pH and operating temperature at all times EQUI 133 is operating and at the intervals specified in 40 CFR 60.13(e)(2), except for periods of monitoring system malfunctions that occur during periods specified defined in 40 CFR 60.4880(a)(7)(i), repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Any such periods that the Permittee does not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report. [40 CFR 60.4905(a)(1)(i), Minn. R. 7011.1350]
5.31.63	Continuous Operation: All oxygen, sludge charging rate, wet scrubber pressure drop, auxiliary fuel flow, outlet temperature, and bed temperature monitors shall be in continuous operation during all periods of emission unit operation. This includes periods of emission unit start-up, shutdown, or malfunction. Exceptions include: continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, and other periods allowed by this permit. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2. [40 CFR 60.13(e), 40 CFR 60.153(a)(1), 40 CFR 60.153(b)(3), 40 CFR 60.153(d), Minn. R. 7011.1350]
5.31.64	Sludge Sampling: Except as allowed by this permit, the Permittee shall collect and analyze a grab sample of the sludge fed to EQUI 133 once per day. The dry sludge content and the volatile solids content of the sample shall be determined in accordance with Part 2540 G. or alternative procedures and subsequent editions of Standard Methods as allowed under 40 CFR 60.8(b), "Standard Methods for the Examination of Water and Wastewater", 20th Edition, 1998, American Public Health Association. [40 CFR 60.153(b)(5), Minn. R. 7011.1350]
5.31.65	If the filterable particulate matter emission rate measured during the most recent performance test is less than or equal to 0.38 g/kg of dry sludge input (0.75 lb/ton), the Permittee shall not be required to comply with the following paragraphs in 40 CFR 60.153: (1) Continuous operation of the monitoring devices and data recorders in paragraphs (a)(1), (b)(3), and (b)(4). (2) Daily sampling and analysis of sludge feed in paragraph (b)(5). (3) Recordkeeping specified in paragraph (c)(3). This provision only applies to that provided in 40 CFR 60.153(d)(3). This provision does not apply to any requirements provided in 40 CFR pt. 60, subp. LLLL or Minn. R. 7011.1315. [40 CFR 60.153(d), Minn. R. 7011.1350]
5.31.66	Site-specific monitoring plan for each continuous monitoring system: The Permittee must develop and submit to the commissioner for approval a site-specific monitoring plan for each continuous monitoring system required under 40 CFR part 60, subpart LLLL, at least 60 days before the initial performance evaluation of the Permittee's continuous monitoring system(s).

Requirement number	Requirement and citation
	The Permittee must update and resubmit the site-specific monitoring plan if there are any changes or potential changes in the monitoring procedures or if there is a process change. [40 CFR 60.4880(f) and (h), Minn. R. 7011.1350]
5.31.67	Site-specific monitoring plan for ash handling system: The Permittee must develop and submit to the commissioner for approval a site-specific monitoring plan for the ash handling system required under 40 CFR part 60, subpart LLLL, at least 60 days before the initial compliance test date. The Permittee must update and resubmit the site specific monitoring plan if there are any changes or potential changes in the monitoring procedures or if there is a process change. [40 CFR 60.4880(g), Minn. R. 7011.1350]
5.31.68	The Permittee shall calculate the alarm time for the bag leak detection system as follows: (A) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. (B) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour. (C) If it takes longer than 1 hour to initiate corrective action, each alarm time (i.e., time that the alarm sounds) is counted as the actual amount of time taken by the Permittee to initiate corrective action. The maximum alarm time is equal to 5-percent of the operating time during a 6-month period. [40 CFR 60.4890(a)(2)(i), Minn. R. 7011.1350]
5.31.69	The Permittee shall meet the fugitive ash handling system operating requirements in the site-specific monitoring plan, to ensure that the ash handling system will meet the emission standard for fugitive emissions from ash handling. A copy of the fugitive ash site specific monitoring plan must be kept on-site. [40 CFR 60.4850(d), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.70	Initial air pollution control device inspection: (a) The Permittee must conduct an air pollution control device inspection within 60 days of installing an air pollution control device or within 180 days of startup of the EQUI 133, whichever comes first. (b) Within 10 operating days following the air pollution control device inspection, all necessary repairs must be completed unless the Permittee obtains written approval from the commissioner establishing a date whereby all necessary repairs of the FBR unit must be completed. [40 CFR 60.4875, Minn. R. 7011.1350]
5.31.71	Annual air pollution control device inspection: The Permittee must conduct an annual inspection of each air pollution control device used to comply with the emission limits, no later than 12 months following the previous annual air pollution control device inspection. Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless the Permittee obtains written approval from the commissioner establishing a date whereby all necessary repairs of the affected FBR unit must be completed. The Permittee must maintain records of the results of the annual air pollution control device inspections conducted, including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the commissioner. [40 CFR 60.4895, 40 CFR 60.4910(d), Minn. R. 7011.1350]
5.31.72	The Permittee must conduct and record air pollution control device inspections that include, at a minimum, the following:

Requirement number	Requirement and citation
	(1) Inspect air pollution control device(s) for proper operation. (2) Generally observe that the equipment is maintained in good operating condition. [40 CFR 60.4900(c)(1)-(3), Minn. R. 7011.1350]
5.31.73	Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.subp. 1]
5.31.74	Recordkeeping - bag leak detection system data. The Permittee shall maintain the bag leak detection system continuous recording the output signal from the sensor. [40 CFR 60.4850(c), 40 CFR 60.4880(b)(8), Minn. R. 7011.1350]
5.31.75	Daily Recordkeeping - Process Throughput: Record the total process throughput (tons of dry sludge) for the previous day of operation. [Minn. R. 7007.subp. 4, Title I Condition: Avoid major source under 40 CFR 63.2]
5.31.76	Monthly Recordkeeping - Process Throughput: By the last day of each month, the Permittee shall calculate and record the total process throughput (tons of dry sludge per month) for the previous month. The 12-month rolling sum total for the process throughput shall be calculated by summing the monthly total for each of process throughput for the previous 12 months. [Minn. R. 7007.0800, subp. 5]
5.31.77	The Permittee shall use the following values for emission factors (EF) in lb/ton units, until superseded as described below: HAPs - metal: 0.000367 lb/ton (3/7/19 performance test) HAPs - volatile: 0.0202 lb/ton (11/29/18 performance test) The Permittee must use these values until subsequent testing is conducted. The verified values (as documented in a Notice of Compliance letter) from the most recent performance test for each stack must be used to calculate actual emissions of HAPs - metal, and HAPs - volatile (lb/ton) and to evaluate compliance with the HAPs - metal, and HAPs - volatile limits. [Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major source under 40 CFR 63.2]
5.31.78	Monthly Recordkeeping - HAPs - metal Emissions: By the last day of each month, the Permittee shall calculate and record the following for HAPs - metal emissions, as prescribed in Steps 1-2 below: Step 1) The HAPs - metal emissions (tons/month), for the previous calendar month. $EM = (EF * DS)/2000$ EF = HAPs - metal emission factor (lb/ton) DS = Dry sludge total (tons/month) for the previous month of EQUI 133 2000 = conversion factor (lb/ton) Step 2) The 12-month rolling sum total for HAPs - metal emissions by summing the monthly total for HAPs - metal emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]
5.31.79	Monthly Recordkeeping - HAPs - volatile Emissions: By the last day of each month, the Permittee shall calculate and record the following for HAPs - volatile emissions, as prescribed in Steps 1-2 below:

Requirement number	Requirement and citation
	Step 1) The HAPs - volatile emissions (tons/month), for the previous calendar month. $EM = (EF * DS) / 2000$ EF = HAPS - volatile emission factor (lb/ton) DS = Dry sludge total (tons/month) for the previous month of EQUI 133 2000 = conversion factor (lb/ton) Step 2) The 12-month rolling sum total for HAPs - volatile emissions by summing the monthly total for HAPs -volatile emissions data determined in Step 1, for the previous 12 months. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]
5.31.80	Recordkeeping - Air pollution control device inspections. The Permittee shall maintain the record of the annual air pollution control device inspections, including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the commissioner. [40 CFR 60.4910(d), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.81	Recordkeeping - Performance test reports. The Permittee shall maintain the following records. (1) The results of the initial, annual and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable. (2) A copy of the complete performance test report, including calculations. (3) A record of the hourly dry sludge feed rate measured during performance test runs. (4) Any necessary records to demonstrate that the performance test was conducted under conditions representative of normal operations, including a record of the moisture content measured for each grab sample taken of the sewage sludge burned during the performance test. [40 CFR 60.4910(e), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.82	Recordkeeping - Continuous monitoring data. The Permittee shall maintain the following records from its continuous parameter monitoring systems: i) All the 1-hour average values recorded for the following operating parameters: (A) Combustion chamber operating temperature. (B) The pressure drop across each wet scrubber system, the liquid flow rate to each wet scrubber, and the scrubber liquid pH for each wet scrubber used to comply with the emission limit. (C) The secondary voltage of the electrostatic precipitator collection plates, the secondary amperage of the electrostatic precipitator collection plates, and influent water flow rate at the inlet of each wet electrostatic precipitator. (D) The sorbent flow rate and either the carrier gas flow rate or pressure drop for each carbon injection system. (ii) All daily average values recorded for the feed rate and moisture content of the sewage sludge fed to the FBR, monitored and calculated as specified in 40 CFR 60.4850(f). (iii) For each fabric filter, 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. The Permittee must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in 40 CFR 60.4890. [40 CFR 60.4910(f)(3), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.83	Recordkeeping - Other records for continuous monitoring systems. The Permittee shall maintain the following records: (1) Records of any notifications to the commissioner of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit. (2) Records of any requests that compliance with the emission limits be determined using carbon

Requirement number	Requirement and citation
	dioxide measurements corrected to an equivalent of 7-percent oxygen. (3) If activated carbon injection is used, the type of sorbent used and any changes in the type of sorbent used. [40 CFR 60.4910(g), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.84	Recordkeeping - Deviation reports. The Permittee shall maintain the records of any deviation reports. [40 CFR 60.4910(h), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.85	Recordkeeping - Equipment specifications and operation and maintenance requirements. The Permittee shall maintain the records of equipment specifications and related operation and maintenance requirements received from vendors for the incinerator, emission controls and monitoring equipment. [40 CFR 60.4910(i), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.86	Recordkeeping - Inspections, calibrations and validation checks of monitoring devices. The Permittee shall maintain the records of inspections, calibration and validation checks of any monitoring devices as required under 40 CFR 60.4900 and 60.4905. [40 CFR 60.4910(j), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.87	Recordkeeping - Site Specific Monitoring Plan and performance evaluations for all the continuous monitoring systems. The Permittee shall maintain the records of the monitoring plans required under 40 CFR 60.4880, and records of performance evaluations required under 40 CFR 60.4885(b)(5). [40 CFR 60.4910(k), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.88	Recordkeeping - Less frequent testing: If the Permittee elects to conduct performance tests less frequently than annually, the Permittee must keep annual records that document that the emissions in the two previous consecutive years were at or below 75-percent of the applicable emission, and document that there were no changes in source operations or air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past 2 years. [40 CFR 60.4910(l), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.89	Recordkeeping - Malfunction: The Permittee shall maintain records if a malfunction occurs. The Permittee must keep a record of the information submitted in the annual report. [40 CFR 60.4910(n), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.1350]
5.31.90	The Permittee shall include the following in the Semi-annual Deviations Report: 1. A record of average scrubber pressure drop measurements for each period of 15 minutes duration or more during which the pressure drop of the scrubber was less than, by a percentage specified below, the average scrubber pressure drop measured during the most recent performance test. The percent reduction in scrubber pressure drop for which a report is required shall be determined as follows: (i) If EQUI 133 achieved an average filterable particulate matter emission rate of 0.38 kg/Mg (0.75 lb/ton) dry sludge input or less during the most recent performance test, a scrubber pressure drop reduction of more than 30 percent from the average scrubber pressure drop recorded during the most recent performance test shall be reported. (ii) If EQUI 133 achieved an average filterable particulate matter emission rate of greater than 0.38 kg/Mg (0.75 lb/ton) dry sludge input during the most recent performance test, a percent reduction in pressure drop greater than that calculated according to the following equation shall be reported: $P = -111E + 72.15$ where P=Percent reduction in pressure drop, and E=Average filterable particulate matter emissions (kg/megagram).

Requirement number	Requirement and citation
	2. A record of average oxygen content in EQUI 133 exhaust gas for each period of 1-hour duration or more that the oxygen content of EQUI 133 exhaust gas exceeds the average oxygen content measured during the most recent performance test by more than 3 percent. [40 CFR 60.155(a), Minn. R. 7011.1350]
5.31.91	If the average filterable particulate matter emission rate measured during the performance test exceeds 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input), the Permittee shall include in the Semi-annual Deviations Report for each calendar day that a decrease in scrubber pressure drop or increase in oxygen content of exhaust gas is reported a record of the following: (1) Scrubber pressure drop averaged over each 1-hour incinerator operating period. (2) Oxygen content in the incinerator exhaust averaged over each 1-hour incinerator operating period. (3) Temperatures of the bed and outlet of fluidized bed incinerators averaged over each 1-hour incinerator operating period. (4) Rate of sludge charged to the incinerator averaged over each 1-hour incinerator operating period. (5) Incinerator fuel use averaged over each 8-hour incinerator operating period. (6) Moisture and volatile solids content of the daily grab sample of sludge charged to the incinerator. Items 1-6 above are not required if the filterable particulate matter emission rate measured during the performance test is less than or equal to 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input). [40 CFR 60.155(b), Minn. R. 7011.1350]
5.31.92	The Permittee shall maintain, on-site, all documentation produced as a result of the siting requirements. [40 CFR 60.4910(b), Minn. R. 7011.1350]
5.31.93	Records of mercury emission test results and other data needed to determine total mercury emissions shall be retained at the source and shall be made available, for inspection by the commissioner for a minimum of 5 years. [Minn. R. 7007.0800, subp. 5(C)]
5.31.94	Except as allowed by 40 CFR 60.153(d), the Permittee shall retain the following information and make it available for inspection by the commissioner for a minimum of five years: (1) a record of the measured pressure drop of the gas flow through the Wet Scrubber (2) A record of the measured oxygen content of the exhaust gas (3) A record of the rate of sludge charged, the measured temperatures, the auxiliary fuel flow, and the total solids and volatile solids content of the sludge charged. [40 CFR 60.153(c), Minn. R. 7007.0800, subp. 5(C), Minn. R. 7011.1350]
5.31.95	Protocol for Re-Setting the Sludge Process Throughput Limit: The Permittee shall conduct performance testing to measure filterable PM, PM10, PM2.5, HAPs-metal, and HAPs-volatile emission rates as required elsewhere in this permit for limits not set under 40 CFR 60, subp. LLLL. If the Sludge Process Throughput Limit is to be re-set, the re-set shall be based on the average values recorded during the most recent MPCA-approved performance test where compliance was demonstrated as allowed by Minn. R. 7017.2025. For operating rate limits, the new limit shall be expressed as an eight-hour block average calculated by totaling total throughput, input, or output as applicable during the eight-hour period and dividing by the total operating time during the eight-hour period. Periods of downtime of 15 or more minutes shall not be counted as operating time. [Minn. R. 7017.2025]
5.31.96	The new Sludge Process Throughput Limit determined using this Protocol shall be effective upon receipt of the Notice of Compliance letter that approves the test results and sets the new Process Throughput Limit and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025]

Requirement number	Requirement and citation
5.31.97	Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits the new limits shall be implemented upon receipt of the Notice of Compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]
5.31.98	The Permittee shall submit the PFAS performance test report to the Commissioner within 60 days of completion of the performance tests. The performance test report shall include results for Perfluorobutanoic acid (PFBA), Perfluorohexanesulfonic acid (PFHxS), Perfluorohexanoic acid (PFHxA), Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), and Perfluorobutane sulfonic acid (PFBS) in addition to all other analytes targeted by both OTM-45 and OTM-50, or other MPCA-approved method, if applicable. [Minn. R. 7007.0800, subp. 16(L)]
EQUI 134	FBR #4 Baghouse Bag Leak Detector
5.32.1	The Permittee must install, operate, and maintain a bag leak detection system on TREA 58 according to the requirements of this permit. The bag leak detection system shall be in operation at all times the fabric filter (TREA 58) and emission unit (EQUI 133) controlled by the fabric filter is in operation and meet the following requirements: 1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less; 2) The bag leak detection system sensor must provide output monitoring to demonstrate continuous operation and the Permittee shall continuously record the signal output from the bag leak detection system using a strip chart recorder, data logger, or other means; 3) The system must be equipped with a system that will sound an alarm when the system detects an increase in relative particulate matter emissions over a preset level. The alarm must be located where it is observed readily and any alert is detected and recognized easily by plant operating personnel; 4) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points; 5) 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 7) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 60.4850(c), 40 CFR 60.4880(b), 40 CFR 60.4905(b), 40 CFR 64.7(b), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 4(A), Minn. R. 7011.1350]
5.32.2	Bag Leak Detection System O&M Plan: The Permittee shall prepare a site-specific monitoring plan (SSMP) for the bag leak detection system. The Permittee shall operate and maintain each bag leak detection system according to the SSMP and O & M plans at all times. The plan must address each of the following: 1) Installation of the 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) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established; 3) Operation of the bag leak detection system including quality assurance procedures; 4) Maintenance of the bag leak detection system including a routine maintenance schedule and spare parts inventory list;

Requirement number	Requirement and citation
	5); Recordkeeping (including record retention) of the bag leak detection system data. Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor; and, 6) Procedures for determining what corrective actions are necessary in the event of a bag leak detection alarm as required elsewhere in this permit. [40 CFR 60.4850(c), 40 CFR 60.4880(b), 40 CFR 64.7(b), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 4(A), Minn. R. 7011.1350]
5.32.3	Recordkeeping - Bag Leak Detector: The Permittee must maintain records of the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 64.9(b), Minn. R. 7007.0800, subp. 5]
EQUI 135	FBR #4 CO
5.33.1	To demonstrate continuous CO CEM compliance: (1) For determining compliance with the carbon monoxide concentration limit using carbon monoxide CEMS, the correction to 7 percent oxygen does not apply during periods of startup or shutdown. The measured carbon monoxide concentration shall be used without correcting for oxygen concentration in averaging with other carbon monoxide concentrations (corrected to 7 percent oxygen) to determine the 24-hour average value. (2) The Permittee shall complete the periodic performance evaluations required under the monitoring plan for the CO continuous emissions monitoring system, according to the schedule specified in the site-specific monitoring plan. [40 CFR 60.4885(b)]
5.33.2	The Permittee shall notify the Administrator one month before stopping use of the continuous monitoring system, in which case the Permittee must also conduct a performance test prior to ceasing operation of the system. [40 CFR 60.4900(b)(2)]
5.33.3	The Permittee shall notify the Administrator one month before starting use of the continuous monitoring system. [40 CFR 60.4900(b)(1)]
5.33.4	The Permittee shall install, operate, calibrate, and maintain an instrument for continuously measuring and recording the CO emissions to the atmosphere in accordance with the following: (i) Section 60.13, subpart A, except as otherwise specified in 40 CFR 60 Subpart LLLL Table 1 or 40 CFR 60.4885(b). (ii) The performance specifications 4B of 40 CFR 60, appendix B, except as otherwise specified in 40 CFR 60 Subpart LLLL Table 1 or 40 CFR 60.4885(b). (iii) The Permittee shall adhere to the quality assurance procedures (e.g., quarterly accuracy determinations and daily calibration drift tests) of 40 CFR 60, appendix F, procedure 1. The span value of the continuous emissions monitoring system is two times the applicable emission limit, expressed as a concentration. (iv) If the monitoring system has a malfunction or out-of-control period, the Permittee must complete repairs and resume operation of the monitoring system as expeditiously as possible. [40 CFR 60.4900(b)(3)]
5.33.5	During each relative accuracy test run, emission data for the CO and oxygen must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emissions monitoring systems and the test methods specified in Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4. Relative accuracy testing must be at representative operating conditions while EQUI 133 is charging sewage sludge. [40 CFR 60.4900(b)(4)]
5.33.6	The Permittee shall operate the continuous monitoring system and collect data with the

Requirement number	Requirement and citation
	continuous monitoring system as follows: (i) The Permittee must collect data using the continuous monitoring system at all times EQUI 133 is operating and at the intervals specified in 40 CFR 60.13(e)(2), except for periods of monitoring system malfunctions that occur during periods specified in 40 CFR 60.4880(a)(7)(i), repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Any such periods that the Permittee does not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report. (ii) The Permittee must collect continuous emissions monitoring system data in accordance with 40 CFR 60.13(e)(2). (iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in a deviation report. (iv) Any data collected during periods when the monitoring system is out of control as specified in 40 CFR 60.4880(a)(7)(i), repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out-of-control periods must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction constitute a deviation from the monitoring requirements and must be reported in a deviation report. (v) The Permittee must use all the data collected during all periods except those periods specified in paragraphs 40 CFR 60.4900(b)(6)(iii) and (b)(6)(iv) in assessing the operation of the control device and associated control system. [40 CFR 60.4900(b)(6)]
5.33.7	The Permittee shall keep records of all 1-hour average concentrations of carbon monoxide emissions. [40 CFR 60.4910(f)]
5.33.8	The Permittee shall keep records of the following: Any notifications to the Administrator of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit. [40 CFR 60.4910(g)]
EQUI 137	Fire Pump Engine
5.34.1	The Permittee is authorized to construct and operate EQUI 137. EQUI 137 shall be a fire pump engine. The maximum permitted capacity shall not exceed 324 hp. The authorization to start construction of this equipment expires 5 years after permit issuance of Air Emissions Permit No. 12300053-101. The unit shall meet all applicable permit requirements. [Minn. R. 7007.0800, subp. 2(A) & (B)]
5.34.2	Opacity <= 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
5.34.3	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. The potential to emit from the unit is 0.000699 tons/yr due to equipment design and allowable fuels. [Minn. R. 7011.2300, subp. 2(B)]
5.34.4	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 1090.305. [Minn. R. 7005.0100, subp. 35a]
5.34.5	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency engine by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year. [Minn. R. 7007.0800, subps. 4-5]

Requirement number	Requirement and citation
5.34.6	The Permittee shall keep records of fuel type and engine usage on a monthly basis. [Minn. R. 7007.0800, subp. 5]
5.34.7	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight. [Minn. R. 7007.0800, subps. 4-5]
5.34.8	The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows: 40 CFR 60.1(a); 40 CFR 60.1(b); 40 CFR 60.1(c); 40 CFR 60.2; 40 CFR 60.3; 40 CFR 60.4; 40 CFR 60.5(a); 40 CFR 60.5(b); 40 CFR 60.6(a); 40 CFR 60.6(b); 40 CFR 60.7(a)(1); 40 CFR 60.7(a)(3); 40 CFR 60.7(a)(4); 40 CFR 60.7(a)(5); 40 CFR 60.7(a)(6); 40 CFR 60.7(a)(7); 40 CFR 60.7(b); 40 CFR 60.7(c); 40 CFR 60.7(d); 40 CFR 60.8(a); 40 CFR 60.8(b); 40 CFR 60.8(c); 40 CFR 60.8(d); 40 CFR 60.8(e); 40 CFR 60.8(f); 40 CFR 60.8(g); 40 CFR 60.8(h); 40 CFR 60.8(i); 40 CFR 60.9; 40 CFR 60.11(a); 40 CFR 60.11(b); 40 CFR 60.11(c); 40 CFR 60.11(d); 40 CFR 60.11(e)(1); 40 CFR 60.11(e)(2); 40 CFR 60.11(e)(3); 40 CFR 60.11(e)(4); 40 CFR 60.11(e)(5); 40 CFR 60.11(e)(6); 40 CFR 60.11(e)(7); 40 CFR 60.11(e)(8); 40 CFR 60.11(f);

Requirement number	Requirement and citation
	40 CFR 60.11(g);
	40 CFR 60.12;
	40 CFR 60.13(a);
	40 CFR 60.13(b);
	40 CFR 60.13(c);
	40 CFR 60.13(d)(1);
	40 CFR 60.13(d)(2);
	40 CFR 60.13(e)(1);
	40 CFR 60.13(e)(2);
	40 CFR 60.13(f);
	40 CFR 60.13(g);
	40 CFR 60.13(h)(1);
	40 CFR 60.13(h)(2);
	40 CFR 60.13(h)(3);
	40 CFR 60.13(i)(1);
	40 CFR 60.13(i)(2);
	40 CFR 60.13(i)(3);
	40 CFR 60.13(i)(4);
	40 CFR 60.13(i)(5);
	40 CFR 60.13(i)(6);
	40 CFR 60.13(i)(7);
	40 CFR 60.13(i)(8);
	40 CFR 60.13(i)(9);
	40 CFR 60.13(j)(1);
	40 CFR 60.13(j)(2);
	40 CFR 60.14(a);
	40 CFR 60.14(b);
	40 CFR 60.14(c);
	40 CFR 60.14(e);
	40 CFR 60.14(f);
	40 CFR 60.14(g);
	40 CFR 60.14(h);
	40 CFR 60.14(i);
	40 CFR 60.14(j);
	40 CFR 60.14(k);
	40 CFR 60.14(l);
	40 CFR 60.15(a);
	40 CFR 60.15(b);
	40 CFR 60.15(c);
	40 CFR 60.15(d);
	40 CFR 60.15(e);
	40 CFR 60.15(f);
	40 CFR 60.15(g);
	40 CFR 60.17;
	40 CFR 60.18(b)-(f);
	40 CFR 60.18(g)-(i);
	40 CFR 60.19(a);
	40 CFR 60.19(b);
	40 CFR 60.19(c);
	40 CFR 60.19(d);

Requirement number	Requirement and citation
	40 CFR 60.19(e); 40 CFR 60.19(f)(1); 40 CFR 60.19(f)(2); 40 CFR 60.19(f)(3); and 40 CFR 60.19(f)(4). A copy of 40 CFR pt. 60, subp. A is included in Appendix K. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
5.34.9	The Permittee shall operate and maintain the stationary CI ICE in accordance with the emission standards as required in 40 CFR Sections 60.4204 and 60.4205, and according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer, over the entire life of the engine. The Permittee may only change those settings that are permitted by the manufacturer. [40 CFR 60.4206, 40 CFR 60.4211(a), Minn. R. 7011.2305]
5.34.10	The Permittee shall limit Sulfur Content of Fuel $\leq$ 15.0 parts per million and either a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume, as required by 40 CFR Section 1039.305. [40 CFR 60.4207(b), Minn. R. 7011.2305]
5.34.11	The Permittee must install a non-resettable hour meter prior to startup of the emergency engine. [40 CFR 60.4209(a), Minn. R. 7011.2305]
5.34.12	The purchased engine must be certified to the emission standards in 40 CFR Section 60.4205(c) for the same model year and NFPA nameplate engine power. The engine must be installed and configured according to the manufacturer's specifications. [40 CFR 60.4211(c), Minn. R. 7011.2305]
5.34.13	The Permittee may conduct maintenance checks and readiness testing provided that the tests are recommended by Federal, State, or local government; the manufacturer; the vendor; or the insurance company associated with the engine. Maintenance checks and readiness testing are limited to 100 hours/year. There is no time limit on the use of emergency stationary ICE in emergency situations unless otherwise prohibited by the permit. The Permittee may petition the Commissioner for approval of additional hours. A petition is not required if the Permittee maintains records indicating that the Federal, State or local standards require maintenance and testing beyond 100 hours/year. [40 CFR 60.4211(f), Minn. R. 7011.2305]
5.34.14	Emergency stationary ICE may operate up to 50 hours/year in non-emergency situations, but those 50 hours are counted towards the 100 hours/year provided for maintenance and testing. The 50 hours/year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours/year, as permitted in this section, is prohibited. [40 CFR 60.4211(f), Minn. R. 7011.2305]
5.34.15	If the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the Permittee 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 Permittee must record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b), Minn. R. 7011.2305]

Requirement number	Requirement and citation
5.34.16	The Permittee shall limit filterable Particulate Matter <= 0.15 grams per horsepower-hour. [40 CFR 60.4205(c), Minn. R. 7011.2305]
5.34.17	The Permittee shall limit NMHC+NOx <= 3.0 grams per horsepower-hour. [40 CFR 60.4205(c), Minn. R. 7011.2305]
5.34.18	The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. A as follows: 40 CFR 63.1(a); 40 CFR 63.1(b)(1); 40 CFR 63.1(b)(3); 40 CFR 63.1(c)(1); 40 CFR 63.1(c)(2); 40 CFR 63.1(c)(5); 40 CFR 63.1(c)(6); 40 CFR 63.1(e); 40 CFR 63.2; 40 CFR 63.3; 40 CFR 63.4(a); 40 CFR 63.4(b); 40 CFR 63.4(c); 40 CFR 63.5(a); 40 CFR 63.5(b); 40 CFR 63.5(d); 40 CFR 63.5(e); 40 CFR 63.5(f); 40 CFR 63.6(a)(1); 40 CFR 63.6(a)(2); 40 CFR 63.6(b)(1); 40 CFR 63.6(b)(2); 40 CFR 63.6(b)(3); 40 CFR 63.6(b)(4); 40 CFR 63.6(b)(5); 40 CFR 63.6(b)(7); 40 CFR 63.6(c)(1); 40 CFR 63.6(c)(2); 40 CFR 63.6(c)(5); 40 CFR 63.6(e)(1); 40 CFR 63.6(e)(3); 40 CFR 63.6(f); 40 CFR 63.6(g); 40 CFR 63.6(h)(1); 40 CFR 63.6(h)(2); 40 CFR 63.6(h)(3); 40 CFR 63.6(h)(4); 40 CFR 63.6(h)(5); 40 CFR 63.6(h)(6); 40 CFR 63.6(h)(7); 40 CFR 63.6(h)(8); 40 CFR 63.6(h)(9); 40 CFR 63.6(i)(1);

Requirement number	Requirement and citation
	40 CFR 63.6(i)(2);
	40 CFR 63.6(i)(3);
	40 CFR 63.6(i)(4);
	40 CFR 63.6(i)(5);
	40 CFR 63.6(i)(6);
	40 CFR 63.6(i)(8);
	40 CFR 63.6(i)(9);
	40 CFR 63.6(i)(11);
	40 CFR 63.6(j);
	40 CFR 63.7(a)(2);
	40 CFR 63.7(a)(2)(ix);
	40 CFR 63.7(a)(3);
	40 CFR 63.7(a)(4);
	40 CFR 63.7(b);
	40 CFR 63.7(c);
	40 CFR 63.7(d);
	40 CFR 63.7(e);
	40 CFR 63.7(f);
	40 CFR 63.7(g);
	40 CFR 63.7(h);
	40 CFR 63.8(b)(1);
	40 CFR 63.8(b)(2);
	40 CFR 63.8(b)(3);
	40 CFR 63.8(c);
	40 CFR 63.8(d);
	40 CFR 63.8(e);
	40 CFR 63.8(f);
	40 CFR 63.8(g);
	40 CFR 63.9(b)(1);
	40 CFR 63.9(b)(2);
	40 CFR 63.9(b)(4);
	40 CFR 63.9(b)(5);
	40 CFR 63.9(c);
	40 CFR 63.9(d);
	40 CFR 63.9(e);
	40 CFR 63.9(f);
	40 CFR 63.9(g);
	40 CFR 63.9(h);
	40 CFR 63.9(i);
	40 CFR 63.9(j);
	40 CFR 63.9(k);
	40 CFR 63.10(a)(5);
	40 CFR 63.10(a)(6);
	40 CFR 63.10(a)(7);
	40 CFR 63.10(b)(1);
	40 CFR 63.10(b)(2)(i)-(v);
	40 CFR 63.10(b)(2)(vi)-(viii);
	40 CFR 63.10(b)(2)(ix);
	40 CFR 63.10(b)(2)(x);
	40 CFR 63.10(b)(2)(xi);

Requirement number	Requirement and citation
	40 CFR 63.10(b)(2)(xii); 40 CFR 63.10(b)(2)(xiii); 40 CFR 63.10(b)(2)(xiv); 40 CFR 63.10(b)(3); 40 CFR 63.10(c); 40 CFR 63.10(d)(1); 40 CFR 63.10(d)(2); 40 CFR 63.10(d)(3); 40 CFR 63.10(d)(4); 40 CFR 63.10(d)(5); 40 CFR 63.10(e); 40 CFR 63.10(f); 40 CFR 63.11(a); 40 CFR 63.11(b); 40 CFR 63.11(c); 40 CFR 63.11(d); 40 CFR 63.11(e); 40 CFR 63.12; 40 CFR 63.13; 40 CFR 63.14; 40 CFR 63.15(a); 40 CFR 63.15(b); and 40 CFR 63.16. A copy of 40 CFR pt. 63, subp. A is included in Appendix O. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 63, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(B), Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100]
5.34.19	EQUI 137 is a new affected source as defined under 40 CFR pt. 63, subp. ZZZZ, and the facility is an area source as defined at 40 CFR Section 63.2, and EQUI 137 is an emergency RICE with a site rating of less than or equal to 324 brake HP. The Permittee shall meet the requirements of 40 CFR pt. 63, subp. ZZZZ by meeting the requirements of 40 CFR pt. 60, subp. II. No further requirements of 40 CFR pt. 63, subp. ZZZZ apply to EQUI 137. [40 CFR 63.6590(c), Minn. R. 7011.8150]
EQUI 140	FBR #1 Baghouse Bag Leak Detector
5.35.1	The Permittee must install, operate, and maintain a bag leak detection system on TREA 37 according to the requirements of this permit. The bag leak detection system shall be in operation at all times the fabric filter (TREA 37) and emission unit (EQUI 3) controlled by the fabric filter is in operation and meet the following requirements: 1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less; 2) The bag leak detection system sensor must provide output monitoring to demonstrate continuous operation. The Permittee shall continuously record the signal output from the bag leak detection system using a strip chart recorder, data logger, or other means; 3) The system must be equipped with a system that will sound an alarm when the system detects

Requirement number	Requirement and citation
	an increase in relative particulate matter emissions over a preset level. The alarm must be located where it is observed readily and any alert is detected and recognized easily by plant operating personnel; 4) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points; 5) 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 7) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 62.15960(c), 40 CFR 62.15995(b), 40 CFR 62.16020(b), 40 CFR 64.7(b), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 4(A)]
5.35.2	Bag Leak Detection System O&M Plan: The Permittee shall prepare a site-specific monitoring plan (SSMP) for the bag leak detection system. The Permittee shall operate and maintain each bag leak detection system according to the SSMP and O & M plans at all times. The plan must address each of the following: 1) Installation of the 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) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established; 3) Operation of the bag leak detection system including quality assurance procedures; 4) Maintenance of the bag leak detection system including a routine maintenance schedule and spare parts inventory list; 5) Recordkeeping (including record retention) of the bag leak detection system data. Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor; and, 6) Procedures for determining what corrective actions are necessary in the event of a bag leak detection alarm as required elsewhere in this permit. [40 CFR 62.15960(c), 40 CFR 62.15995(b), 40 CFR 64.7(b), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 4(A)]
5.35.3	Recordkeeping - Bag Leak Detector: The Permittee must maintain records of the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 64.9(b), Minn. R. 7007.0800, subp. 5]
EQUI 141	FBR #2 Baghouse Bag Leak Detector
5.36.1	The Permittee must install, operate, and maintain a bag leak detection system on TREA 40 according to the requirements of this permit. The bag leak detection system shall be in operation at all times the fabric filter (TREA 40) and emission unit (EQUI 4) controlled by the fabric filter is in operation and meet the following requirements: 1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less; 2) The bag leak detection system sensor must provide output monitoring to demonstrate continuous operation. The Permittee shall continuously record the signal output from the bag leak detection system using a strip chart recorder, data logger, or other means; 3) The system must be equipped with a system that will sound an alarm when the system detects an increase in relative particulate matter emissions over a preset level. The alarm must be

Requirement number	Requirement and citation
	located where it is observed readily and any alert is detected and recognized easily by plant operating personnel; 4) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points; 5) 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 7) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 62.15960(c), 40 CFR 62.15995(b), 40 CFR 62.16020(b), 40 CFR 64.7(b), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 4(A)]
5.36.2	Bag Leak Detection System O&M Plan: The Permittee shall prepare a site-specific monitoring plan (SSMP) for the bag leak detection system. The Permittee shall operate and maintain each bag leak detection system according to the SSMP and O & M plans at all times. The plan must address each of the following: 1) Installation of the 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) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established; 3) Operation of the bag leak detection system including quality assurance procedures; 4) Maintenance of the bag leak detection system including a routine maintenance schedule and spare parts inventory list; 5); Recordkeeping (including record retention) of the bag leak detection system data. Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor; and, 6) Procedures for determining what corrective actions are necessary in the event of a bag leak detection alarm as required elsewhere in this permit. [40 CFR 62.15960(c), 40 CFR 62.15995(b), 40 CFR 64.7(b), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 4(A)]
5.36.3	Recordkeeping - Bag Leak Detector: The Permittee must maintain records of the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 64.9(b), Minn. R. 7007.0800, subp. 5]
EQUI 142	FBR #3 Baghouse Bag Leak Detector
5.37.1	The Permittee must install, operate, and maintain a bag leak detection system on TREA 11 according to the requirements of this permit. The bag leak detection system shall be in operation at all times the fabric filter (TREA 11) and emission unit (EQUI 5) controlled by the fabric filter is in operation and meet the following requirements: 1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less; 2) The bag leak detection system sensor must provide output monitoring to demonstrate continuous operation. The Permittee shall continuously record the signal output from the bag leak detection system using a strip chart recorder, data logger, or other means; 3) The system must be equipped with a system that will sound an alarm when the system detects an increase in relative particulate matter emissions over a preset level. The alarm must be located where it is observed readily and any alert is detected and recognized easily by plant

Requirement number	Requirement and citation
	operating personnel; 4) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points; 5) 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 7) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 62.15960(c), 40 CFR 62.15995(b), 40 CFR 62.16020(b), 40 CFR 64.7(b), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 4(A)]
5.37.2	Bag Leak Detection System O&M Plan: The Permittee shall prepare a site-specific monitoring plan (SSMP) for the bag leak detection system. The Permittee shall operate and maintain each bag leak detection system according to the SSMP and O & M plans at all times. The plan must address each of the following: 1) Installation of the 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) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established; 3) Operation of the bag leak detection system including quality assurance procedures; 4) Maintenance of the bag leak detection system including a routine maintenance schedule and spare parts inventory list; 5); Recordkeeping (including record retention) of the bag leak detection system data. Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor; and, 6) Procedures for determining what corrective actions are necessary in the event of a bag leak detection alarm as required elsewhere in this permit. [40 CFR 62.15960(c), 40 CFR 62.15995(b), 40 CFR 64.7(b), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 4(A)]
5.37.3	Recordkeeping - Bag Leak Detector: The Permittee must maintain records of the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 64.9(b), Minn. R. 7007.0800, subp. 5]
FUGI 7	Paved Roads
5.38.1	PM < 10 micron <= 0.73 tons per year 12-month rolling sum to be calculated by the last day of each month for the previous 12-month period. [40 CFR 50.6, Minn. R. 7007.0150, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.38.2	PM < 10 micron: Daily Recordkeeping - vehicles: On each day of operation, the Permittee shall record the number of liquid waste receiving (LWR) and cake receiving (CR) vehicle (individually) trips driven for the previous operating calendar day. [40 CFR 50.6, Minn. R. 7007.0150, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.38.3	Monthly Recordkeeping - vehicles: By the last day of each calendar month, the Permittee shall record the amount of liquid waste receiving and cake receiving vehicle (individually) trips driven for the previous month. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.0150]
5.38.4	Monthly Recordkeeping - PM10 Emissions: By the last day of each month, the Permittee shall calculate and record the following as prescribed in Steps 1-2 below:

Requirement number	Requirement and citation
	Step 1) The PM10 emissions (ton/month), for the previous calendar month, using Equation 1. Equation 1: $H = LWR + CR + 0.0187$ Where: H = Sum of the individual PM10 emissions from paved road traffic, in tons/month $LWR = 0.0673 \text{ lbs/VMT} * 0.388 \text{ mile/round trip} * \# \text{ trips of liquid waste receiving truck/month} * \text{ton/2000 lb, in tons/month}$ $CR = 0.0673 \text{ lbs/VMT} * 1.195 \text{ mile/trip} * \# \text{ round trips of cake receiving truck/month} * \text{ton/2000 lb, in tons/month}$ 0.0187 = constant maximum value for each monthly calculation for Liquid Sludge Receiving, Stabilized Sludge, Ash, Grit and Scum truck traffic, in tons/month Step 2) The 12-month rolling sum total PM10 emissions by summing the monthly total PM10 emissions data determined in Step 1 above, for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
5.38.5	Visible Emissions: The Permittee shall take all measures to avoid visible emissions from all paved road surfaces according to the Fugitive Dust Control Plan (Appendix I). [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.0150]
5.38.6	The Permittee shall implement a facility-wide speed limit of 20 miles per hour. The Permittee must post the speed limit in a highly visible location near the facility entrance. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.0150]
5.38.7	Inspections and Sweeping: The Permittee shall visually inspect haul roads monthly during Stormwater Pollution Prevention Inspections to minimize or eliminate the material that causes fugitive emissions. The roads shall be swept 2 times per year or more often if there is visible accumulation of debris, gravel, sand, salt, clippings or leaves on the haul roads. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.0150]
5.38.8	Inspections and Sweeping Recordkeeping: The facility shall maintain records that include the date of the inspection, whether issues were observed, the date of the sweepings, what corrective actions were taken, and when the corrective actions were taken. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.0150]
TREA 1	Alk Stab Cell Baghouse
5.39.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.39.2	Alternative Operating Scenario (AOS) 1. EQUI 6 is permitted. EQUI 133 (FBR 4) has not undergone initial startup. AOS1 requirements include requirements 5.39.3 - 5.39.17. [Minn. R. 7007.0800, subp. 11(B)]
5.39.3	The Permittee shall vent emissions from EQUI 6 to TREA 1 whenever EQUI 6 operates, and operate and maintain TREA 1 at all times that any emissions are vented to TREA 1. The Permittee shall document periods of non-operation of the control equipment TREA 1 whenever EQUI 6 is operating. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.39.4	If the Permittee replaces TREA 1, the replacement control must meet or exceed the control efficiency requirements of TREA 1 as well as comply with all other requirements of TREA 1. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit

Requirement number	Requirement and citation
	amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.39.5	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.39.6	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.39.7	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.39.8	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.39.9	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B)]
5.39.10	The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.39.11	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record file for the pressure drop. The pressure drop shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values shall be calculated and recorded based on the 15-minute readings. [40 CFR 64.3, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.39.12	Recordkeeping of Pressure Drop: The Permittee shall record the time and date of each pressure drop reading, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]

Requirement number	Requirement and citation
5.39.13	Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.39.14	The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]
5.39.15	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]
5.39.16	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.39.17	Pressure Drop ≥ 1.0 and ≤ 10.0 inches of water, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.39.18	Alternative Operating Scenario (AOS) 2. EQUI 6 is not authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11(B)]
TREA 2	Alk Stab Cell Baghouse
5.40.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.40.2	Alternative Operating Scenario (AOS) 1. EQUI 7 is permitted. EQUI 133 (FBR 4) has not undergone initial startup. AOS1 requirements include requirements 5.40.3 - 5.40.17. [Minn. R. 7007.0800, subp. 11(B)]
5.40.3	The Permittee shall vent emissions from EQUI 7 to TREA 2 whenever EQUI 7 operates, and operate and maintain TREA 2 at all times that any emissions are vented to TREA 2. The Permittee shall document periods of non-operation of the control equipment TREA 2 whenever EQUI 7 is operating. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.40.4	If the Permittee replaces TREA 2, the replacement control must meet or exceed the control efficiency requirements of TREA 2 as well as comply with all other requirements of TREA 2. Prior

Requirement number	Requirement and citation
	to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.40.5	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.40.6	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.40.7	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.40.8	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.40.9	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B)]
5.40.10	The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.40.11	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the pressure drop. The pressure drop shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values shall be calculated and recorded based on the 15-minute readings. [40 CFR 64.3, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.40.12	Recordkeeping of Pressure Drop: The Permittee shall record the time and date of each pressure drop reading, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I

Requirement number	Requirement and citation
	Condition: Avoid major source under 40 CFR 63.2]
5.40.13	Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.40.14	The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]
5.40.15	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]
5.40.16	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.40.17	Pressure Drop ≥ 1.0 and ≤ 10.0 inches of water, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR pt. 52, 1220(PM10 SIP), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.40.18	Alternative Operating Scenario (AOS) 2. EQUI 7 is not authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11(B)]
TREA 3	Alk Stab Cell Baghouse
5.41.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.41.2	Alternative Operating Scenario (AOS) 1. EQUI 8 is permitted. EQUI 133 (FBR 4) has not undergone initial startup. AOS1 requirements include requirements 5.41.3 - 5.41.17. [Minn. R. 7007.0800, subp. 11(B)]
5.41.3	The Permittee shall vent emissions from EQUI 8 to TREA 3 whenever EQUI 8 operates, and operate and maintain TREA 3 at all times that any emissions are vented to TREA 3. The Permittee shall document periods of non-operation of the control equipment TREA 3 whenever EQUI 8 is operating. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.41.4	If the Permittee replaces TREA 3, the replacement control must meet or exceed the control

Requirement number	Requirement and citation
	efficiency requirements of TREA 3 as well as comply with all other requirements of TREA 3. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.41.5	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.41.6	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.41.7	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.41.8	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.41.9	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B)]
5.41.10	The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.41.11	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the pressure drop. The pressure drop shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values shall be calculated and recorded based on the 15-minute readings. [40 CFR 64.3, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.41.12	Recordkeeping of Pressure Drop: The Permittee shall record the time and date of each pressure drop reading, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I

Requirement number	Requirement and citation
	Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.41.13	Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.41.14	The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]
5.41.15	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]
5.41.16	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.41.17	Pressure Drop ≥ 1.0 and ≤ 10.0 inches of water, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR pt. 52, 1220(PM10 SIP), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
5.41.18	Alternative Operating Scenario (AOS) 2. EQUI 8 is not authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11(B)]
TREA 4	Alk Loadout Baghouse DC 888
5.42.1	The Permittee shall vent emissions from EQUI 9 to TREA 4 whenever EQUI 9 operates, and operate and maintain TREA 4 at all times that any emissions are vented to TREA 4. The Permittee shall document periods of non-operation of the control equipment TREA 4 whenever EQUI 9 is operating. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.42.2	If the Permittee replaces TREA 4, the replacement control must meet or exceed the control efficiency requirements of TREA 4 as well as comply with all other requirements of TREA 4. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit

Requirement number	Requirement and citation
	amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.42.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.42.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.42.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.42.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.42.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B)]
5.42.8	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron ≥ 93 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B)]
5.42.9	The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.42.10	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the pressure drop. The pressure drop shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values shall be calculated and recorded based on the 15-minute readings. [40 CFR 64.3, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.42.11	Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The

Requirement number	Requirement and citation
	monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.42.12	Recordkeeping of Pressure Drop: The Permittee shall record the time and date of each pressure drop reading, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.42.13	The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]
5.42.14	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]
5.42.15	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.42.16	Pressure Drop ≥ 1.0 and ≤ 10.0 inches of water, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: 40 CFR pt. 52, 1220(PM10 SIP), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title I Condition: Limit to avoid 40 CFR pt. 51, Appendix S]
TREA 5	Chemical Neutralization
5.43.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.43.2	Alternative Operating Scenario (AOS) 1. EQUI 6 is permitted. EQUI 133 (FBR 4) has not undergone initial startup. AOS1 requirements include requirements 5.47.3 - 5.47.20. [Minn. R. 7007.0800, subp. 11(B)]
5.43.3	The Permittee shall vent emissions from EQUI 6 to TREA 5 whenever EQUI 6 operates, and operate and maintain TREA 5 at all times that any emissions are vented to TREA 5. The Permittee shall document periods of non-operation of the control equipment TREA 5 whenever EQUI 6 is operating. [Minn. R. 7007.0800, subp. 2(B), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]

Requirement number	Requirement and citation
5.43.4	pH $\geq$ 2.0 and $\leq$ 7.0 (no units) in any one of the three stages of the Three-Stage Odor Scrubber concurrently with greater than or equal to 8.0 and less than or equal to 12.5 in the other two stages, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pH at least once every 24 hours when in operation. If the recorded pH is outside the required range, the emissions during that time shall be considered uncontrolled until the pH is once again within the required range. The period of time for which the pH is considered out of range shall be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 2(B), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & 7007.3000]
5.43.5	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Hydrogen Sulfide (H ₂ S) $\geq$ 99.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.43.6	The Permittee shall install and operate a flow monitoring device or pumping pressure monitor to indicate liquid flow within the recirculation loops. The monitoring equipment must be installed, in use, and properly maintained at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.43.7	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 1 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.43.8	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 2 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.43.9	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 3 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.43.10	The Permittee shall install, maintain, and operate an alarm indication loss of liquid flow in the recirculation loop. The alarm shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16 (J), Minn. R. 7007.0800, subp. 4(D)]
5.43.11	All monitors required by this subject item shall be operational when operating the Three-stage Odor Scrubber. [Minn. R. 7007.0800, subp. 4(D)]
5.43.12	Monitoring Data: For all monitors required by this subject item (except for the Flow Monitoring Device or Pumping Pressure Monitor), reduce all data to 1-hour averages. 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Record all 1-hour averages. [Minn. R. 7007.0800, subps. 4-5]
5.43.13	Monitoring Data for Flow Monitoring Device or Pumping Pressure Monitor: The Permittee shall record readings on an hourly basis. [Minn. R. 7007.0800, subps.4-5]
5.43.14	During planned outages, confirm and record that the flow monitoring device or pumping

Requirement number	Requirement and citation
	pressure monitor delivers a no-flow signal when flow is not occurring in the recirculation loop. [Minn. R. 7007.0800, subp. 16(J)]
5.43.15	Recordkeeping of pH: The Permittee shall record the time and date of each pH reading, and whether or not the recorded values were within the ranges specified in this permit. [Minn. R. 7007.0800, subp. 2(B), Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.43.16	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the water flow in the recirculation loop is not occurring; - the recorded pH is outside the required operating range; - the flow monitoring device or pumping pressure monitor is not working; or - the Three-stage Odor Scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the operating parameters to within the permitted range(s), and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the Operation and Maintenance (O & M) Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for each scrubber. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.43.17	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.43.18	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pH and water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [Minn. R. 7007.0800, subp. 4(D)]
5.43.19	The Permittee shall calibrate the pH at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.43.20	The Permittee shall operate and maintain the scrubber in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.43.21	Alternative Operating Scenario (AOS) 2. EQUI 6 is not authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11]
TREA 6	Chemical Neutralization
5.44.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.44.2	Alternative Operating Scenario (AOS) 1. EQUI 7 is permitted. EQUI 133 (FBR 4) has not undergone initial startup. AOS1 requirements include requirements 5.48.3 - 5.48.20. [Minn. R. 7007.0800, subp. 11(B)]
5.44.3	The Permittee shall vent emissions from EQUI 7 to TREA 6 whenever EQUI 7 operates, and operate and maintain TREA 6 at all times that any emissions are vented to TREA 6. The Permittee shall document periods of non-operation of the control equipment TREA 6 whenever EQUI 7 is

Requirement number	Requirement and citation
	operating. [Minn. R. 7007.0800, subp. 2(B), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.44.4	pH $\geq$ 2.0 and $\leq$ 7.0 (no units) in any one of the three stages of the Three-Stage Odor Scrubber concurrently with greater than or equal to 8.0 and less than or equal to 12.5 in the other two stages, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pH at least once every 24 hours when in operation. If the recorded pH is outside the required range, the emissions during that time shall be considered uncontrolled until the pH is once again within the required range. The period of time for which the pH is considered out of range shall be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 2, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.44.5	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Hydrogen Sulfide (H ₂ S) $\geq$ 99.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.44.6	The Permittee shall install and operate a flow monitoring device or pumping pressure monitor to indicate liquid flow within the recirculation loops. The monitoring equipment must be installed, in use, and properly maintained at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.44.7	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 1 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.44.8	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 2 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.44.9	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 3 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.44.10	The Permittee shall install, maintain, and operate an alarm indication loss of liquid flow in the recirculation loop. The alarm shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16 (J), Minn. R. 7007.0800, subp. 4(D)]
5.44.11	All monitors required by this subject item shall be operational when operating the Three-stage Odor Scrubber. [Minn. R. 7007.0800, subp. 4(D)]
5.44.12	Monitoring Data: For all monitors required by this subject item (except for the Flow Monitoring Device or Pumping Pressure Monitor), reduce all data to 1-hour averages. 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Record all 1-hour averages. [Minn. R. 7007.0800, subps. 4-5]
5.44.13	Monitoring Data for Flow Monitoring Device or Pumping Pressure Monitor: The Permittee shall

Requirement number	Requirement and citation
	record readings on an hourly basis. [Minn. R. 7007.0800, subps.4-5]
5.44.14	During planned outages, confirm and record that the flow monitoring device or pumping pressure monitor delivers a no-flow signal when flow is not occurring in the recirculation loop. [Minn. R. 7007.0800, subp. 16(J)]
5.44.15	Recordkeeping of pH: The Permittee shall record the time and date of each pH reading, and whether or not the recorded values were within the ranges specified in this permit. [Minn. R. 7007.0800, subp. 2(B), Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.44.16	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the water flow in the recirculation loop is not occurring; - the recorded pH is outside the required operating range; - the flow monitoring device or pumping pressure monitor is not working; or - the Three-stage Odor Scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the operating parameters to within the permitted range(s), and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the Operation and Maintenance (O & M) Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for each scrubber. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.44.17	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.44.18	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pH and water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [Minn. R. 7007.0800, subp. 4(D)]
5.44.19	The Permittee shall calibrate the pH at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.44.20	The Permittee shall operate and maintain the scrubber in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.44.21	Alternative Operating Scenario (AOS) 2. EQUI 7 is not authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11]
TREA 7	Chemical Neutralization
5.45.1	Alternative Operating Scenarios (AOS) - The Permittee shall continue to adhere to the requirements found in AOS 1 until described as follows. AOS 1 will terminate upon the initial startup of EQUI 133 (FBR 4). Upon termination of AOS 1, the Permittee shall adhere to the requirements found in AOS 2. [Minn. R. 7007.0800, subp. 11(B)]
5.45.2	Alternative Operating Scenario (AOS) 1. EQUI 8 is permitted. EQUI 133 (FBR 4) has not undergone initial startup. AOS1 requirements include requirements 5.49.3 - 5.49.20. [Minn. R. 7007.0800, subp. 11(B)]

Requirement number	Requirement and citation
5.45.3	The Permittee shall vent emissions from EQUI 8 to TREA 7 whenever EQUI 8 operates, and operate and maintain TREA 7 at all times that any emissions are vented to TREA 7. The Permittee shall document periods of non-operation of the control equipment TREA 7 whenever EQUI 8 is operating. [Minn. R. 7007.0800, subp. 2, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.45.4	pH $\geq$ 2.0 and $\leq$ 7.0 (no units) in any one of the three stages of the Three-Stage Odor Scrubber concurrently with greater than or equal to 8.0 and less than or equal to 12.5 in the other two stages, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pH at least once every 24 hours when in operation. If the recorded pH is outside the required range, the emissions during that time shall be considered uncontrolled until the pH is once again within the required range. The period of time for which the pH is considered out of range shall be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 2, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.45.5	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Hydrogen Sulfide (H ₂ S) $\geq$ 99.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.45.6	The Permittee shall install and operate a flow monitoring device or pumping pressure monitor to indicate liquid flow within the recirculation loops. The monitoring equipment must be installed, in use, and properly maintained at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.45.7	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 1 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.45.8	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 2 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.45.9	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 3 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.45.10	The Permittee shall install, maintain, and operate an alarm indication loss of liquid flow in the recirculation loop. The alarm shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16 (J), Minn. R. 7007.0800, subp. 4(D)]
5.45.11	All monitors required by this subject item shall be operational when operating the Three-stage Odor Scrubber. [Minn. R. 7007.0800, subp. 4(D)]
5.45.12	Monitoring Data: For all monitors required by this subject item (except for the Flow Monitoring Device or Pumping Pressure Monitor), reduce all data to 1-hour averages. 1-hour averages shall

Requirement number	Requirement and citation
	be computed from four or more data points equally spaced over each 1-hour period. Record all 1-hour averages. [Minn. R. 7007.0800, subps. 4-5]
5.45.13	Monitoring Data for Flow Monitoring Device or Pumping Pressure Monitor: The Permittee shall record readings on an hourly basis. [Minn. R. 7007.0800, subps.4-5]
5.45.14	During planned outages, confirm and record that the flow monitoring device or pumping pressure monitor delivers a no-flow signal when flow is not occurring in the recirculation loop. [Minn. R. 7007.0800, subp. 16(J)]
5.45.15	Recordkeeping of pH: The Permittee shall record the time and date of each pH reading, and whether or not the recorded values were within the ranges specified in this permit. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.45.16	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the water flow in the recirculation loop is not occurring; - the recorded pH is outside the required operating range; - the flow monitoring device or pumping pressure monitor is not working; or - the Three-stage Odor Scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the operating parameters to within the permitted range(s), and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the Operation and Maintenance (O & M) Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for each scrubber. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.45.17	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.45.18	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pH and water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [Minn. R. 7007.0800, subp. 4(D)]
5.45.19	The Permittee shall calibrate the pH at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.45.20	The Permittee shall operate and maintain the scrubber in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.45.21	Alternative Operating Scenario (AOS) 2. EQUI 8 is not authorized to operate. EQUI 133 (FBR 4) has undergone initial startup. [Minn. R. 7007.0800, subp. 11]
TREA 8	Alk Loadout Odor Scrubber OCS 888
5.46.1	The Permittee shall vent emissions from EQUI 9 to TREA 8 whenever EQUI 9 operates, and operate and maintain TREA 8 at all times that any emissions are vented to TREA 8. The Permittee shall document periods of non-operation of the control equipment TREA 8 whenever EQUI 9 is operating. [Minn. R. 7007.0800, subp. 2(B), Title I Condition: Avoid major modification under 40

Requirement number	Requirement and citation
	CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.46.2	pH $\geq$ 2.0 and $\leq$ 7.0 (no units) in any one of the three stages of the Three-Stage Odor Scrubber concurrently with greater than or equal to 8.0 and less than or equal to 12.5 in the other two stages, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pH at least once every 24 hours when in operation. If the recorded pH is outside the required range, the emissions during that time shall be considered uncontrolled until the pH is once again within the required range. The period of time for which the pH is considered out of range shall be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 2(B), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.46.3	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Hydrogen Sulfide (H ₂ S) $\geq$ 99.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.46.4	The Permittee shall install and operate a flow monitoring device or pumping pressure monitor to indicate liquid flow within the recirculation loops. The monitoring equipment must be installed, in use, and properly maintained at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.46.5	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 1 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.46.6	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 2 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.46.7	The Permittee shall install, calibrate, maintain, and operate the necessary monitoring equipment for measuring and recording Stage 3 pH. The measuring device shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 4(D)]
5.46.8	The Permittee shall install, maintain, and operate an alarm indication loss of liquid flow in the recirculation loop. The alarm shall be operated continuously at all times that any process equipment controlled by the Three-stage Odor Scrubber is operating. [Minn. R. 7007.0800, subp. 16 (J), Minn. R. 7007.0800, subp. 4(D)]
5.46.9	All monitors required by this subject item shall be operational when operating the Three-stage Odor Scrubber. [Minn. R. 7007.0800, subp. 4(D)]
5.46.10	Monitoring Data: For all monitors required by this subject item (except for the Flow Monitoring Device or Pumping Pressure Monitor), reduce all data to 1-hour averages. 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Record all 1-hour averages. [Minn. R. 7007.0800, subps. 4-5]
5.46.11	Monitoring Data for Flow Monitoring Device or Pumping Pressure Monitor: The Permittee shall record readings on an hourly basis. [Minn. R. 7007.0800, subps.4-5]

Requirement number	Requirement and citation
5.46.12	During planned outages, confirm and record that the flow monitoring device or pumping pressure monitor delivers a no-flow signal when flow is not occurring in the recirculation loop. [Minn. R. 7007.0800, subp. 16(J)]
5.46.13	Recordkeeping of pH: The Permittee shall record the time and date of each pH reading, and whether or not the recorded values were within the ranges specified in this permit. [Minn. R. 7007.0800, subp. 2(B), Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.46.14	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the water flow in the recirculation loop is not occurring; - the recorded pH is outside the required operating range; - the flow monitoring device or pumping pressure monitor is not working; or - the Three-stage Odor Scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the operating parameters to within the permitted range(s), and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the Operation and Maintenance (O & M) Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for each scrubber. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.46.15	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.46.16	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pH and water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [Minn. R. 7007.0800, subp. 4(D)]
5.46.17	The Permittee shall calibrate the pH at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.46.18	The Permittee shall operate and maintain the scrubber in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
TREA 11	FBR Baghouse 3
5.47.1	The Permittee shall vent emissions from EQUI 5 to TREA 11 whenever EQUI 5 operates, and operate and maintain TREA 11 at all times that any emissions are vented to TREA 11. The Permittee shall document periods of non-operation of the control equipment TREA 11 whenever EQUI 5 is operating. [40 CFR 50.6, 40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.47.2	If the Permittee replaces TREA 11, the replacement control must meet or exceed the control efficiency requirements of TREA 11 as well as comply with all other requirements of TREA 11. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable.

Requirement number	Requirement and citation
	If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.47.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify operations, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.47.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.47.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.47.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.47.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.47.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron ≥ 93 percent collection efficiency. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.47.9	The Permittee must operate and maintain the bag leak detection system in continuous operation according to the site-specific monitoring plan required under 40 CFR part 62.16020(b). [40 CFR 62.16020(b), 40 CFR 64.7(b)]
5.47.10	The Permittee must operate the 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 block reporting period. In calculating this operating time fraction, 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 the Permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the Permittee to initiate corrective action. [40 CFR 62.15960(c), 40 CFR 62.16005(a)(2)(ii), 40 CFR 64.3]
5.47.11	The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]

Requirement number	Requirement and citation
5.47.12	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.47.13	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - alarm activates; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.47.14	Baghouse Corrective Actions. In the event a bag leak detection system alarm is triggered, the Permittee must initiate procedures to determine the cause of every alarm within 8 hours of the alarm, and the Permittee must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following: (i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media or any other condition that may cause an increase in particulate matter emissions. (ii) Sealing off defective bags or filter media. (iii) Replacing defective bags or filter media or otherwise repairing the control device. (iv) Sealing off a defective fabric filter compartment. (v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system. (vi) Shutting down the process producing the particulate matter emissions. [40 CFR 62.15960(c), 40 CFR 62.16020(b)(3), 40 CFR 64.7(d)]
TREA 33	BF 08
5.48.1	The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee shall vent emissions from EQUI 36 to TREA 33 (or TREA 36 as backup) whenever EQUI 36 operates, and operate and maintain TREA 33 at all times that any emissions are vented to TREA 33. The Permittee shall document periods of non-operation of the control equipment TREA 33 and TREA 36 whenever any of EQUI 36 are operating. [Minn. R. 7011.0715, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.48.2	If the Permittee replaces TREA 33, the replacement control must meet or exceed the control efficiency requirements of TREA 33 as well as comply with all other requirements of TREA 33. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.48.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of

Requirement number	Requirement and citation
	an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.48.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.48.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.48.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Minn. R. 7011.0715, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.48.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.48.8	Visible Emissions: The Permittee shall check either the fabric filter stack STRU 3 for any visible emissions once each day of operation during daylight hours or record the pressure drop. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation. [Minn. R. 7011.0080, Minn. R. 7011.0715, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.48.9	Recordkeeping of Visible Emissions or Pressure Drop. The Permittee shall record, daily, either the time and date of each visible emission inspection or pressure drop reading, and whether or not any visible emissions were observed, or whether or not the observed pressure drop was within the range specified in this permit. [40 CFR 64.9(b), Minn. R. 7011.0080, Minn. R. 7011.0715, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.48.10	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]
5.48.11	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action

Requirement number	Requirement and citation
	taken for each filter. [40 CFR 64.7(d), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.48.12	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [Minn. R. 7011.0075, subp. 3]
5.48.13	The Permittee shall maintain each piece of control equipment according to the control equipment manufacturer's specifications, and shall: A. maintain an inventory of spare parts that are subject to frequent replacement, as required by the manufacturing specification or documented in records under items H and I; B. train staff on the operation and monitoring of control equipment and troubleshooting, and train and require staff to respond to indications of malfunctioning equipment; C. thoroughly inspect all control equipment at least annually, or as required by the manufacturing specification; D. inspect monthly, or as required by the manufacturing specification, components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts; E. inspect quarterly, or as required by the manufacturing specification, components that are not subject to wear including structural components, housings, ducts, and hoods; F. check daily, or as required by the manufacturing specification, monitoring equipment, for example: pressure gauges, chart recorders, temperature indicators, and recorders; G. calibrate (or replace) annually, or as required by the manufacturing specification, all monitoring equipment; H. maintain a record of activities conducted in items A to G consisting of the activity completed, the date the activity was completed, and any corrective action taken; and I. maintain a record of parts replaced, repaired, or modified for the previous five years. [Minn. R. 7011.0075, subp. 2, Minn. R. 7011.0715, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.48.14	Pressure Drop ≥ 0.5 and ≤ 10.0 inches of water, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. The Permittee shall record either the pressure drop or visible emission check at least once every 24 hours when in operation. [Minn. R. 7011.0080, Minn. R. 7011.0715, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
TREA 36	BF 01
5.49.1	The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee shall vent emissions from TREA 36 to STRU 19, STRU 20, STRU 21, STRU 22, STRU 29, and STRU 30 whenever EQUI 50 operates, and operate and maintain TREA 36 at all times that any emissions are vented to TREA 36. The Permittee shall document periods of non-operation of the control equipment TREA 36 whenever EQUI 50 is operating. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major source under 40 CFR 63.2]
5.49.2	If the Permittee replaces TREA 36, the replacement control must meet or exceed the control

Requirement number	Requirement and citation
	efficiency requirements of TREA 36 as well as comply with all other requirements of TREA 36. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major source under 40 CFR 63.2]
5.49.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.49.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.49.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.49.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major source under 40 CFR 63.2]
5.49.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.0070, subp. 1(A)]
5.49.8	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron ≥ 93 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A)]
5.49.9	Pressure Drop: The Permittee shall check the pressure drop, daily, when the process equipment controlled by the fabric filter is in operation. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major source under 40 CFR 63.2]
5.49.10	Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading, and whether or not the observed pressure drop was within the range specified in this permit. [40 CFR 50.6, 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 5, Minn. R. 7009.0090, Minn. R. 7011.0080, Title I Condition: Avoid major source under 40 CFR 63.2]
5.49.11	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]
5.49.12	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:

Requirement number	Requirement and citation
	- the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.49.13	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [Minn. R. 7011.0075, subp. 3]
5.49.14	The Permittee shall maintain each piece of control equipment according to the control equipment manufacturer's specifications, and shall: A. maintain an inventory of spare parts that are subject to frequent replacement, as required by the manufacturing specification or documented in records under items H and I; B. train staff on the operation and monitoring of control equipment and troubleshooting, and train and require staff to respond to indications of malfunctioning equipment; C. thoroughly inspect all control equipment at least annually, or as required by the manufacturing specification; D. inspect monthly, or as required by the manufacturing specification, components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts; E. inspect quarterly, or as required by the manufacturing specification, components that are not subject to wear including structural components, housings, ducts, and hoods; F. check daily, or as required by the manufacturing specification, monitoring equipment, for example: pressure gauges, chart recorders, temperature indicators, and recorders; G. calibrate (or replace) annually, or as required by the manufacturing specification, all monitoring equipment; H. maintain a record of activities conducted in items A to G consisting of the activity completed, the date the activity was completed, and any corrective action taken; and I. maintain a record of parts replaced, repaired, or modified for the previous five years. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.0075, subp. 2, Title I Condition: Avoid major source under 40 CFR 63.2]
5.49.15	Pressure Drop ≥ 1.0 and ≤ 10.0 inches of water, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. The Permittee shall record the pressure drop at least once every 24 hours when in operation. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.0080, Title I Condition: Avoid major source under 40 CFR 63.2]
TREA 37	FBR Baghouse 1
5.50.1	The Permittee shall vent emissions from EQUI 3 to TREA 37 whenever EQUI 3 operates, and operate and maintain TREA 37 at all times that any emissions are vented to TREA 37. The

Requirement number	Requirement and citation
	Permittee shall document periods of non-operation of the control equipment TREA 37 whenever EQUI 3 is operating. [40 CFR 50.6, 40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.50.2	If the Permittee replaces TREA 37, the replacement control must meet or exceed the control efficiency requirements of TREA 37 as well as comply with all other requirements of TREA 37. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.50.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify operations, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.50.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.50.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.50.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.50.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.50.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron ≥ 93 percent collection efficiency. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.50.9	The Permittee must operate and maintain the bag leak detection system in continuous operation according to the site-specific monitoring plan required under 40 CFR part 62.16020(b). [40 CFR 62.16020(b), 40 CFR 64.7(b)]
5.50.10	The Permittee must operate the 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 block

Requirement number	Requirement and citation
	reporting period. In calculating this operating time fraction, 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 the Permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the Permittee to initiate corrective action. [40 CFR 62.15960(c), 40 CFR 62.16005(a)(2)(ii), 40 CFR 64.3]
5.50.11	The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.50.12	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.50.13	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - alarm activates; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.50.14	Baghouse Corrective Actions. In the event a bag leak detection system alarm is triggered, the Permittee must initiate procedures to determine the cause of every alarm within 8 hours of the alarm, and the Permittee must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following: (i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media or any other condition that may cause an increase in particulate matter emissions. (ii) Sealing off defective bags or filter media. (iii) Replacing defective bags or filter media or otherwise repairing the control device. (iv) Sealing off a defective fabric filter compartment. (v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system. (vi) Shutting down the process producing the particulate matter emissions. [40 CFR 62.15960(c), 40 CFR 62.16020(b)(3), 40 CFR 64.7(d)]
TREA 40	FBR Baghouse 2
5.51.1	The Permittee shall vent emissions from EQUI 4 to TREA 40 whenever EQUI 4 operates, and operate and maintain TREA 40 at all times that any emissions are vented to TREA 40. The Permittee shall document periods of non-operation of the control equipment TREA 40 whenever EQUI 4 is operating. [40 CFR 50.6, 40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.51.2	If the Permittee replaces TREA 40, the replacement control must meet or exceed the control efficiency requirements of TREA 40 as well as comply with all other requirements of TREA 40. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable.

Requirement number	Requirement and citation
	If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.51.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify operations, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.51.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.51.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.51.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.51.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.51.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron ≥ 93 percent collection efficiency. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.51.9	The Permittee must operate and maintain the bag leak detection system in continuous operation according to the site-specific monitoring plan required under 40 CFR part 62.16020(b). [40 CFR 62.16020(b), 40 CFR 64.7(b)]
5.51.10	The Permittee must operate the 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 block reporting period. In calculating this operating time fraction, 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 the Permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the Permittee to initiate corrective action. [40 CFR 62.15960(c), 40 CFR 62.16005(a)(2)(ii), 40 CFR 64.3]
5.51.11	The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for

Requirement number	Requirement and citation
	use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.51.12	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.51.13	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - alarm activates; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.51.14	Baghouse Corrective Actions. In the event a bag leak detection system alarm is triggered, the Permittee must initiate procedures to determine the cause of every alarm within 8 hours of the alarm, and the Permittee must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following: (i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media or any other condition that may cause an increase in particulate matter emissions. (ii) Sealing off defective bags or filter media. (iii) Replacing defective bags or filter media or otherwise repairing the control device. (iv) Sealing off a defective fabric filter compartment. (v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system. (vi) Shutting down the process producing the particulate matter emissions. [40 CFR 62.15960(c), 40 CFR 62.16020(b)(3), 40 CFR 64.7(d)]
TREA 46	FBR Enhanced Hg Removal System CRT 1
5.52.1	The Permittee shall vent emissions from EQUI 3 to TREA 46 whenever EQUI 3 operates, and operate and maintain TREA 46 at all times that any emissions are vented to TREA 46. The Permittee shall document periods of non-operation of the control equipment TREA 46 whenever EQUI 3 is operating. [40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a]
5.52.2	If the Permittee replaces TREA 46, the replacement control must meet or exceed the control efficiency requirements of TREA 46 as well as comply with all other requirements of TREA 46. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Minn. R. 7007.0800, subp. 2(A)]
5.52.3	The Permittee shall operate and maintain the activated carbon injection system in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.52.4	Recordkeeping of Mercury Sorbent Injection Rate: The Permittee shall record the time and date

Requirement number	Requirement and citation
	of the mercury sorbent injection rate reading, and whether or not the observed value was within the range specified in this permit. The mercury sorbent injection flow rate shall be recorded at least once every hour. The twelve-hour block values shall be calculated and recorded based on the hourly readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 62.16020(a), 40 CFR 62.16025(f), Minn. R. 7007.0800, subps. 4-5]
5.52.5	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the carrier gas flow rate or pressure drop. The carrier gas flow or pressure drop rate shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values shall be calculated and recorded based on the 15-minute readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 62.16025(f), Minn. R. 7007.0800, subps. 4-5]
5.52.6	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording mercury sorbent injection rate and carrier gas flow rate or pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored activated carbon injection system is in operation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.52.7	The Permittee shall calibrate, maintain and operate a carrier gas flow monitor or pressure drop measuring device for the activated carbon injection in accordance with the site-specific monitoring plan. [40 CFR 62.16020(a)]
5.52.8	The Permittee shall calibrate the gauges (sorbent injection rate, carrier gas flow) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.52.9	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.52.10	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the carrier gas flow rate or pressure drop is below the required carrier gas flow rate or required pressure drop limit; or - the mercury sorbent injection rate is below the required mercury sorbent injection rate; or - the activated carbon injection system or any of its components are found during the inspections to need repair. Corrective actions shall return the mercury sorbent injection rate and/or carrier gas flow rate or pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the activated carbon injection system. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.52.11	Mercury Reagent $\geq$ 3.2 pounds per hour, on a 12-hour block, unless a new range is set pursuant to 40 CFR 62.15985(h)(1) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded mercury sorbent injection rate is outside the required range, the emissions during that time shall be considered uncontrolled until the mercury sorbent injection rate is once again within the required range. The period of time for which the mercury sorbent injection rate is

Requirement number	Requirement and citation
	considered out of range shall be reported as a deviation. [40 CFR 62.15985(h)(1), Minn. R. 7017.2025, subp. 3]
5.52.12	Carrier Gas Flow $\geq$ 60.0 cubic feet per minute, on a 12-hour block, unless a new range is set pursuant to 40 CFR 62.15985(h)(3) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded carrier gas flow rate is below the Carrier Gas Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the carrier gas flow rate is above the Carrier Gas Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 62.15985(h)(3), Minn. R. 7017.2025, subp. 3]
5.52.13	As an alternative to carrier flow, Pressure Drop $\geq$ 19.0 inches of water, on a 12-hour block, unless a new range is set pursuant to 40 CFR 62.15985(h)(3) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pressure drop is below the Pressure Drop Limit, the emissions during that time shall be considered uncontrolled until the pressure drop is above the Pressure Drop Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 62.15985(h)(3), Minn. R. 7017.2025, subp. 3]
TREA 47	FBR Enhanced Hg Removal System CRT 2
5.53.1	The Permittee shall vent emissions from EQUI 4 to TREA 47 whenever EQUI 4 operates, and operate and maintain TREA 47 at all times that any emissions are vented to TREA 47. The Permittee shall document periods of non-operation of the control equipment TREA 47 whenever EQUI 4 is operating. [40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a]
5.53.2	If the Permittee replaces TREA 47, the replacement control must meet or exceed the control efficiency requirements of TREA 47 as well as comply with all other requirements of TREA 47. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Minn. R. 7007.0800, subp. 2(A)]
5.53.3	The Permittee shall operate and maintain the activated carbon injection system in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.53.4	Recordkeeping of Mercury Sorbent Injection Rate: The Permittee shall record the time and date of the mercury sorbent injection rate reading, and whether or not the observed value was within the range specified in this permit. The mercury sorbent injection flow rate shall be recorded at least once every hour. The twelve-hour block values shall be calculated and recorded based on the hourly readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 62.16020(a), 40 CFR 62.16025(f), Minn. R. 7007.0800, subps. 4-5]
5.53.5	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the carrier gas flow rate or pressure drop. The carrier gas flow rate or pressure drop shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values shall be calculated and recorded based on the 15-minute readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 62.16025(f), Minn. R. 7007.0800, subps. 4-5]

Requirement number	Requirement and citation
5.53.6	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording mercury sorbent injection rate and carrier gas flow rate or pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored activated carbon injection system is in operation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.53.7	The Permittee shall calibrate, maintain and operate a carrier gas flow monitor or pressure drop measuring device for the activated carbon injection in accordance with the site-specific monitoring plan. [40 CFR 62.16020(a)]
5.53.8	The Permittee shall calibrate the gauges (sorbent injection rate, carrier gas flow) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.53.9	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.53.10	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the carrier gas flow rate or pressure drop is below the required carrier gas flow rate or required pressure drop limit; or - the mercury sorbent injection rate is below the required mercury sorbent injection rate; or - the activated carbon injection system or any of its components are found during the inspections to need repair. Corrective actions shall return the mercury sorbent injection rate and/or carrier gas flow rate or pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the activated carbon injection system. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.53.11	Mercury Reagent $\geq$ 3.0 pounds per hour, on a 12-hour block, unless a new range is set pursuant to 40 CFR 62.15985(h)(1) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded mercury sorbent injection rate is outside the required range, the emissions during that time shall be considered uncontrolled until the mercury sorbent injection rate is once again within the required range. The period of time for which the mercury sorbent injection rate is considered out of range shall be reported as a deviation. [40 CFR 62.15985(h)(1), Minn. R. 7017.2025, subp. 3]
5.53.12	Carrier Gas Flow $\geq$ 60.0 cubic feet per minute, on a 12-hour block, unless a new limit is set pursuant to 40 CFR 62.15985(h)(3) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded carrier gas flow rate is below the Carrier Gas Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the carrier gas flow rate is above the Carrier Gas Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 62.15985(h)(3), Minn. R. 7017.2025, subp. 3]
5.53.13	As an alternative to carrier gas flow, Pressure Drop $\geq$ 19.0 inches of water, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15985(h)(3) or permit term 5.1.17. The Permittee

Requirement number	Requirement and citation
	shall maintain on-site documentation justifying this determination. If the recorded pressure drop is below the Pressure Drop Limit, the emissions during that time shall be considered uncontrolled until the pressure drop is above the Pressure Drop Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 62.15985(h)(3), Minn. R. 7017.2025, subp. 3]
TREA 48	FBR Enhanced Hg Removal System CRT 3
5.54.1	The Permittee shall vent emissions from EQUI 5 to TREA 48 whenever EQUI 5 operates, and operate and maintain TREA 48 at all times that any emissions are vented to TREA 48. The Permittee shall document periods of non-operation of the control equipment TREA 48 whenever EQUI 5 is operating. [40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a]
5.54.2	If the Permittee replaces TREA 48, the replacement control must meet or exceed the control efficiency requirements of TREA 48 as well as comply with all other requirements of TREA 48. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Minn. R. 7007.0800, subp. 2(A)]
5.54.3	The Permittee shall operate and maintain the activated carbon injection system in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.54.4	Recordkeeping of Mercury Sorbent Injection Rate: The Permittee shall record the time and date of the mercury sorbent injection rate reading, and whether or not the observed value was within the range specified in this permit. The mercury sorbent injection flow rate shall be recorded at least once every hour. The twelve-hour block values shall be calculated and recorded based on the hourly readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 62.16020(a), 40 CFR 62.16025(f), Minn. R. 7007.0800, subps. 4-5]
5.54.5	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the carrier gas flow rate or pressure drop. The carrier gas flow rate or pressure drop shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values shall be calculated and recorded based on the 15-minute readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 62.16025(f), Minn. R. 7007.0800, subps. 4-5]
5.54.6	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording mercury sorbent injection rate and carrier gas flow rate or pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored activated carbon injection system is in operation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.54.7	The Permittee shall calibrate, maintain and operate a carrier gas flow monitor or pressure drop measuring device for the activated carbon injection in accordance with the site-specific monitoring plan. [40 CFR 62.16020(a)]
5.54.8	The Permittee shall calibrate the gauges (sorbent injection rate, carrier gas flow) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]

Requirement number	Requirement and citation
5.54.9	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.54.10	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the carrier gas flow rate or pressure drop is below the required carrier gas flow rate or required pressure drop limit; or - the mercury sorbent injection rate is below the required mercury sorbent injection rate; or - the activated carbon injection system or any of its components are found during the inspections to need repair. Corrective actions shall return the mercury sorbent injection rate and/or carrier gas flow rate or pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the activated carbon injection system. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 62.16025(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.54.11	Mercury Reagent ≥ 3.3 pounds per hour, on a 12-hour block, unless a new range is set pursuant to 40 CFR 62.15985(h)(1) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded mercury sorbent injection rate is outside the required range, the emissions during that time shall be considered uncontrolled until the mercury sorbent injection rate is once again within the required range. The period of time for which the mercury sorbent injection rate is considered out of range shall be reported as a deviation. [40 CFR 62.15985(h)(1), Minn. R. 7017.2025, subp. 3]
5.54.12	Carrier Gas Flow ≥ 60.0 cubic feet per minute, on a 12-hour block, unless a new limit is set pursuant to 40 CFR 62.15985(h)(3) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded carrier gas flow rate is below the Carrier Gas Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the carrier gas flow rate is above the Carrier Gas Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 62.15985(h)(3), Minn. R. 7017.2025, subp. 3]
5.54.13	As an alternative to carrier gas flow, Pressure Drop ≥ 19.0 inches of water, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15985(h)(3) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pressure drop is below the Pressure Drop Limit, the emissions during that time shall be considered uncontrolled until the pressure drop is above the Pressure Drop Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 62.15985(h)(3), Minn. R. 7017.2025, subp. 3]
TREA 49	Biofilter 1
5.55.1	The Permittee shall vent emissions from EQUI 20 and/or EQUI 22 to TREA 49 whenever EQUI 20 and/or EQUI 22 operates, and operate and maintain TREA 49 at all times that any emissions are vented to TREA 49. The Permittee shall document periods of non-operation of the control equipment TREA 49 whenever EQUI 20 and/or EQUI 22 are operating. [Minn. R. 7007.0800, subp.

Requirement number	Requirement and citation
	2(A)]
5.55.2	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for hydrogen sulfide ≥ 90.0 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A)]
5.55.3	The Permittee shall operate and maintain the biofilter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.55.4	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the pressure drop of the gas flow through the scrubber. [Minn. R. 7007.0800, subp. 2(A)]
5.55.5	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the pressure drop. The pressure drop shall be calculated and recorded at least once every 15 minutes. The one-hour block values (pressure drop) shall be calculated and recorded based on the 15-minute readings. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5]
5.55.6	Recordkeeping of Pressure Drop: The Permittee shall record the time and date of each pressure drop reading, and whether or not the observed value was within the range specified in this permit. Recorded values outside any range specified in this permit are considered. Deviations as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5]
5.55.7	The Permittee shall calibrate the gauges (pressure drop) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.55.8	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.55.9	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7017.0800, subp. 14]
5.55.10	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the Biofilter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the Biofilter. The Permittee shall keep a record of the type and date of any corrective action taken for each Biofilter. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.55.11	Pressure Drop ≥ 4.0 and ≤ 18.0 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. Measure the pressure in the odorous air plenum downstream of the odorous air fans but prior to the point

Requirement number	Requirement and citation
	where the duct exits the building. If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 2(A)]
TREA 50	Biofilter 2
5.56.1	The Permittee shall vent emissions from FUGI 2 effluent weirs and effluent channel to TREA 50 whenever FUGI 2 operates, and operate and maintain TREA 50 at all times that any emissions are vented to TREA 50. The Permittee shall document periods of non-operation of the control equipment TREA 50 whenever FUGI 2 is operating. [Minn. R. 7007.0800, subp. 2(A)]
5.56.2	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for hydrogen sulfide ≥ 90.0 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A)]
5.56.3	The Permittee shall operate and maintain the biofilter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.56.4	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the pressure drop of the gas flow through the scrubber. [Minn. R. 7007.0800, subp. 2(A)]
5.56.5	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic records for the pressure drop. The pressure drop shall be calculated and recorded at least once every 15 minutes. The one-hour block values (pressure drop) shall be calculated and recorded based on the 15-minute readings. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5]
5.56.6	Recordkeeping of Pressure Drop: The Permittee shall record the time and date of each pressure drop reading, and whether or not the observed value was within the range specified in this permit. Recorded values outside any range specified in this permit are considered. Deviations as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5]
5.56.7	The Permittee shall calibrate the gauges (pressure drop) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.56.8	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.56.9	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7017.0800, subp. 14]
5.56.10	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the Biofilter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range and/or include

Requirement number	Requirement and citation
	completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the Biofilter. The Permittee shall keep a record of the type and date of any corrective action taken for each Biofilter. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.56.11	Pressure Drop ≥ 4.0 and ≤ 18.0 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. Measure the pressure in the odorous air plenum downstream of the odorous air fans but prior to the point where the duct exits the building. If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 2(A)]
TREA 52	FBR Wet Scrubber 1
5.57.1	The Permittee shall vent emissions from EQUI 3 to TREA 52 whenever EQUI 3 operates, and operate and maintain TREA 52 at all times that any emissions are vented to TREA 52. The Permittee shall document periods of non-operation of the control equipment TREA 52 whenever EQUI 3 is operating. [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.57.2	If the Permittee replaces TREA 52, the replacement control must meet or exceed the control efficiency requirements of TREA 52 as well as comply with all other requirements of TREA 52. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, 40 CFR 60.153(b)(1), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.57.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, scrubber liquid flow rate, or scrubber liquid pH, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.57.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.57.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective

Requirement number	Requirement and citation
	actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.57.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 94.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.57.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 84.0 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.57.8	The Permittee shall operate and maintain the scrubber in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.57.9	The Permittee shall calibrate, maintain and operate a pH measuring device for the scrubber in accordance with the site-specific monitoring plan. [40 CFR 62.16020(a), 40 CFR 64.7(b)]
5.57.10	The Permittee shall calibrate, maintain and operate a liquid flow rate measuring device for the scrubber in accordance with the site-specific monitoring plan. [40 CFR 62.16020(a), 40 CFR 64.7(b)]
5.57.11	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the pressure drop of the gas flow through the Wet Scrubber venturi. The device used to monitor scrubber pressure drop shall be certified by the manufacturer to be accurate within ± 250 pascals ± 1 inch water gauge). [40 CFR 60.153(b)(1), 40 CFR 64.7(b), Minn. R. 7011.1350, subp. 1]
5.57.12	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for each of the pressure drop, scrubber liquid flow rate, and scrubber liquid pH. The pressure drop, scrubber liquid flow rate, and scrubber liquid pH shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values (pressure drop, liquid flow rate) shall be calculated and recorded based on the 15-minute readings as described in 40 CFR 62.16020(a)(1)(ii). The three-hour block values (pH) shall be calculated and recorded based on the 15-minute readings as described in 40 CFR 62.16020(a)(1)(ii). [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 62.16020(a)(1)(ii), 40 CFR 62.16025(f), 40 CFR 64.3, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.57.13	Recordkeeping of Pressure Drop, Scrubber Liquid Flow Rate, and Scrubber Liquid pH: The Permittee shall record the time and date of each pressure drop reading, scrubber liquid flow rate reading, and scrubber liquid pH reading, and whether or not the observed value was within the range specified in this permit. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 50.6, 40 CFR 60.153(c)(1), 40 CFR 62.16020(a), 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.57.14	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop, scrubber liquid flow rate, and scrubber liquid pH as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [40 CFR 64.7(b), Minn. R.

Requirement number	Requirement and citation
	7017.0200]
5.57.15	The Permittee shall calibrate the gauges (pressure drop, liquid flow rate, pH) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 60.153(b)(1), 40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.57.16	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.57.17	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded scrubber liquid pH is below the required Scrubber Liquid pH limit; - the recorded scrubber liquid flow rate is below the required scrubber liquid flow rate limit; - the recorded pressure drop is outside the required operating range; - the scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the scrubber liquid flow rate, scrubber liquid pH and/or pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for the filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.57.18	Venturi Pressure Drop $\geq$ 17.8 inches of water, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15985(h)(3) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 62.15985(b), 40 CFR pt. 51, Appendix S, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: 40 CFR 50.6(PM10 SIP), Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.57.19	Liquid Flow Application Rate $\geq$ 874 gallons per minute, on a 12-hour block, until a new limit is set pursuant to either 40 CFR 62.15985(c) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded scrubber liquid flow rate is below the Scrubber Liquid Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the scrubber liquid flow rate is above the Scrubber Liquid Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(c), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.57.20	pH $\geq$ 5.4 (no units), on a 3-hour block, until a new limit is set pursuant to either 40 CFR 62.15985(d) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pH level is below the pH Limit, the emissions during that time shall be considered uncontrolled until the pH level is above the pH Limit. The period of time for which emissions are

Requirement number	Requirement and citation
	considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(d), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
TREA 53	FBR Wet Scrubber 2
5.58.1	The Permittee shall vent emissions from EQUI 4 to TREA 53 whenever EQUI 4 operates, and operate and maintain TREA 53 at all times that any emissions are vented to TREA 53. The Permittee shall document periods of non-operation of the control equipment TREA 53 whenever EQUI 4 is operating. [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.58.2	If the Permittee replaces TREA 53, the replacement control must meet or exceed the control efficiency requirements of TREA 53 as well as comply with all other requirements of TREA 53. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, 40 CFR 60.153(b)(1), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.58.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, scrubber liquid flow rate, or scrubber liquid pH, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.58.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.58.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.58.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 94.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.58.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 84.0 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]

Requirement number	Requirement and citation
5.58.8	The Permittee shall operate and maintain the scrubber in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.58.9	The Permittee shall calibrate, maintain and operate a pH measuring device for the scrubber in accordance with the site-specific monitoring plan. [40 CFR 62.16020(a), 40 CFR 64.7(b)]
5.58.10	The Permittee shall calibrate, maintain and operate a liquid flow rate measuring device for the scrubber in accordance with the site-specific monitoring plan. [40 CFR 62.16020(a), 40 CFR 64.7(b)]
5.58.11	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the pressure drop of the gas flow through the Wet Scrubber venturi. The device used to monitor scrubber pressure drop shall be certified by the manufacturer to be accurate within +/-250 pascals +/-1 inch water gauge). [40 CFR 60.153(b)(1), 40 CFR 64.7(b), Minn. R. 7011.1350, subp. 1]
5.58.12	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for each of the pressure drop, scrubber liquid flow rate, and scrubber liquid pH. The pressure drop, scrubber liquid flow rate, and scrubber liquid pH shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values (pressure drop, liquid flow rate) shall be calculated and recorded based on the 15-minute readings as described in 40 CFR 62.16020(a)(1)(ii). The three-hour block values (pH) shall be calculated and recorded based on the 15-minute readings as described in 40 CFR 62.16020(a)(1)(ii). [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 62.15985(a), 40 CFR 62.16020(a)(1)(ii), 40 CFR 62.16025(f), 40 CFR 64.3, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.58.13	Recordkeeping of Pressure Drop, Scrubber Liquid Flow Rate, and Scrubber Liquid pH: The Permittee shall record the time and date of each pressure drop reading, scrubber liquid flow rate reading, and scrubber liquid pH reading, and whether or not the observed value was within the range specified in this permit. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 50.6, 40 CFR 60.153(c)(1), 40 CFR 62.16020(a), 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.58.14	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop, scrubber liquid flow rate, and scrubber liquid pH as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.58.15	The Permittee shall calibrate the gauges (pressure drop, liquid flow rate, pH) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 60.153(b)(1), 40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.58.16	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.58.17	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded scrubber liquid pH is below the required Scrubber Liquid pH limit;

Requirement number	Requirement and citation
	- the recorded scrubber liquid flow rate is below the required scrubber liquid flow rate limit; - the recorded pressure drop is outside the required operating range; - the scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the scrubber liquid flow rate, scrubber liquid pH and/or pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for the filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.58.18	Venturi Pressure Drop $\geq$ 17.8 inches of water, on a 12-hour block, until a new limit is set pursuant to either 40 CFR 62.15985(b) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 62.15985(b), 40 CFR pt. 51, Appendix S, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: 40 CFR 50.6(PM10 SIP), Title I Condition: 40 CFR 52.1220(M10 SIP), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.58.19	Liquid Flow Application Rate $\geq$ 825 gallons per minute, on a 12-hour block, until a new limit is set pursuant to either 40 CFR 62.15985(c) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded scrubber liquid flow rate is below the Scrubber Liquid Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the scrubber liquid flow rate is above the Scrubber Liquid Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(c), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.58.20	pH $\geq$ 5.6 (no units), on a 3-hour block, until a new limit is set pursuant to either 40 CFR 62.15985(d) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pH level is below the pH Limit, the emissions during that time shall be considered uncontrolled until the pH level is above the pH Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(d), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
TREA 54	FBR Wet Scrubber 3
5.59.1	The Permittee shall vent emissions from EQUI 5 to TREA 54 whenever EQUI 5 operates, and operate and maintain TREA 54 at all times that any emissions are vented to TREA 54. The Permittee shall document periods of non-operation of the control equipment TREA 54 whenever EQUI 5 is operating. [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]

Requirement number	Requirement and citation
5.59.2	If the Permittee replaces TREA 54, the replacement control must meet or exceed the control efficiency requirements of TREA 54 as well as comply with all other requirements of TREA 54. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, 40 CFR 60.153(b)(1), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.59.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, scrubber liquid flow rate, or scrubber liquid pH, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.59.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.59.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.59.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 94.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.59.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 84.0 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.59.8	The Permittee shall operate and maintain the scrubber in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.59.9	The Permittee shall calibrate, maintain and operate a pH measuring device for the scrubber in accordance with the site-specific monitoring plan. [40 CFR 62.16020(a), 40 CFR 64.7(b)]
5.59.10	The Permittee shall calibrate, maintain and operate a liquid flow rate measuring device for the scrubber in accordance with the site-specific monitoring plan. [40 CFR 62.16020(a), 40 CFR 64.7(b)]
5.59.11	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the pressure drop of the gas flow through the Wet Scrubber venturi. The device used to monitor scrubber pressure drop shall be certified by the manufacturer to be

Requirement number	Requirement and citation
	accurate within +/-250 pascals +/-1 inch water gauge). [40 CFR 60.153(b)(1), 40 CFR 64.7(b), Minn. R. 7011.1350, subp. 1]
5.59.12	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for each of the pressure drop, scrubber liquid flow rate, and scrubber liquid pH. The pressure drop, scrubber liquid flow rate, and scrubber liquid pH shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values (pressure drop, liquid flow rate) shall be calculated and recorded based on the 15-minute readings as described in 40 CFR 62.16020(a)(1)(ii). The three-hour block values (pH) shall be calculated and recorded based on the 15-minute readings as described in 40 CFR 62.16020(a)(1)(ii). [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 62.15985(a), 40 CFR 62.16020(a)(1)(ii), 40 CFR 62.16025(f), 40 CFR 64.3, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.59.13	Recordkeeping of Pressure Drop, Scrubber Liquid Flow Rate, and Scrubber Liquid pH: The Permittee shall record the time and date of each pressure drop reading, scrubber liquid flow rate reading, and scrubber liquid pH reading, and whether or not the observed value was within the range specified in this permit. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 50.6, 40 CFR 60.153(c)(1), 40 CFR 62.16020(a), 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.59.14	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop, scrubber liquid flow rate, and scrubber liquid pH as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.59.15	The Permittee shall calibrate the gauges (pressure drop, liquid flow rate, pH) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 60.153(b)(1), 40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.59.16	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.59.17	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded scrubber liquid pH is below the required Scrubber Liquid pH limit; - the recorded scrubber liquid flow rate is below the required scrubber liquid flow rate limit; - the recorded pressure drop is outside the required operating range; - the scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the scrubber liquid flow rate, scrubber liquid pH and/or pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for the filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.59.18	Venturi Pressure Drop $\geq$ 17.7 inches of water, on a 12-hour block, until a new limit is set pursuant to either 40 CFR 62.15985(b) or permit term 5.1.18. The Permittee shall maintain on-site documentation justifying this determination.

Requirement number	Requirement and citation
	If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 62.15985(b), 40 CFR pt. 51, Appendix S, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: 40 CFR 50.6(PM10 SIP), Title I Condition: 40 CFR 52.1220(PM10 SIP), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.59.19	Liquid Flow Application Rate $\geq$ 770 gallons per minute, on a 12-hour block, until a new limit is set pursuant to either 40 CFR 62.15985(c) or permit term 5.1.18. The Permittee shall maintain on-site documentation justifying this determination. If the recorded scrubber liquid flow rate is below the Scrubber Liquid Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the scrubber liquid flow rate is above the Scrubber Liquid Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(c), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.59.20	pH $\geq$ 5.8 (no units), on a 3-hour block, until a new limit is set pursuant to either 40 CFR 62.15985(d) or permit term 5.1.18. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pH level is below the pH Limit, the emissions during that time shall be considered uncontrolled until the pH level is above the pH Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(d), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
TREA 55	FBR Wet Electrostatic Precipitator 1
5.60.1	The Permittee shall vent emissions from EQUI 3 to TREA 55 whenever EQUI 3 operates, and operate and maintain TREA 55 at all times that any emissions are vented to TREA 55. The Permittee shall document periods of non-operation of the control equipment TREA 55 whenever EQUI 3 is operating. [40 CFR 50.6, 40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.60.2	If the Permittee replaces TREA 55, the replacement control must meet or exceed the control efficiency requirements of TREA 55 as well as comply with all other requirements of TREA 55. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.60.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of

Requirement number	Requirement and citation
	an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing power and/or influent water flow rate, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.60.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.60.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain electronic records provided that the use of electronic records allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.60.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 98.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.60.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 94.0 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.60.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron ≥ 93 percent collection efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.60.9	The Permittee shall operate and maintain the electrostatic precipitator (ESP) in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.60.10	The Permittee shall check, maintain, and operate a measuring device to monitor secondary voltage for the precipitator collection rods of the ESP. The minimum accuracy of the monitor is plus-or-minus 0.5 kV. The measuring device shall be operated continuously. [40 CFR 64.7(b), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
5.60.11	The Permittee shall maintain and operate a measuring device to monitor secondary amperage for the precipitator collection rods of the ESP. The measuring device shall be operated continuously. [40 CFR 64.7(b), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
5.60.12	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the secondary voltage and secondary amperage. The secondary voltage and secondary amperage shall be recorded at least once every 15 minutes. The twelve-hour block values for power shall be calculated and recorded based on the hourly power calculations. Power shall be calculated as secondary voltage multiplied by secondary amperage. [40 CFR 50.6, 40 CFR 62.16020(a), 40 CFR 62.16025(f), 40 CFR 64.3, 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0300, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.60.13	Data Collection: The Permittee shall maintain a hard copy readout or electronic record for influent water flowrate. One-hour measurements shall be recorded. [Minn. R. 7007.0800, subs.

Requirement number	Requirement and citation
	4-5]
5.60.14	Recordkeeping of Power Input: The Permittee shall record the time and date of the power input (secondary voltage multiplied by secondary current), and whether or not the observed value was within the range specified in this permit. The power input shall be calculated and recorded for each operating hour. The twelve-hour block values shall be calculated and recorded based on the hourly calculations. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 62.15985(a), Minn. R. 7007.0800, subp. 5]
5.60.15	Recordkeeping of Influent Water Flow Rate: The Permittee shall record the time and date of the influent water flow rate reading, and whether or not the observed value was within the range specified in this permit. The influent water flow rate shall be recorded at least once every hour. The twelve-hour block values shall be calculated and recorded based on the hourly readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 50.6, 40 CFR 62.15985(a), 40 CFR 64.3, 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.60.16	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording: - secondary voltage; - secondary amperage; and, - influent water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored electrostatic precipitator is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.60.17	The Permittee shall calibrate or inspect the gauges at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.60.18	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.60.19	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded influent water flow rate is below the required influent water flow rate limit; or - the calculated power is below the required power limit; or - the electrostatic precipitator or any of its components are found during the inspections to need repair. Corrective actions shall return the secondary voltage and/or influent water flow rate to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.60.20	Power Input $\geq$ 22.5 watts, calculated as the product of secondary voltage and secondary current, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15985(f) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination.

Requirement number	Requirement and citation
	If the calculated power input is below the power input limit, the emissions during that time shall be considered uncontrolled until the power input is above the Power Input Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(f), 40 CFR 64.3(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.60.21	Influent Water flow rate $\geq$ 0.0 gallons per minute, as a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15985(g) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded influent water flow rate is below the Influent Water Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the water flow rate is above the Influent Water Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(g), 40 CFR 64.3(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.60.22	Voltmeter zero check: The Permittee shall perform a zero check on the secondary voltage monitor at least once every 30 days, not less than 21 days between each check. The Permittee shall record the results. [Minn. R. 7007.0800, subp. 4(D)]
TREA 56	FBR Wet Electrostatic Precipitator 2
5.61.1	The Permittee shall vent emissions from EQUI 4 to TREA 56 whenever EQUI 4 operates, and operate and maintain TREA 56 at all times that any emissions are vented to TREA 56. The Permittee shall document periods of non-operation of the control equipment TREA 56 whenever EQUI 4 is operating. [40 CFR 50.6, 40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.61.2	If the Permittee replaces TREA 56, the replacement control must meet or exceed the control efficiency requirements of TREA 56 as well as comply with all other requirements of TREA 56. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.61.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing power and/or influent water flow rate, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.61.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the

Requirement number	Requirement and citation
	monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.61.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain electronic records provided that the use of such electronic records allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.61.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 98.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.61.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 94.0 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.61.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron ≥ 93 percent collection efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.61.9	The Permittee shall operate and maintain the electrostatic precipitator (ESP) in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.61.10	The Permittee shall check, maintain, and operate a measuring device to monitor secondary voltage for the precipitator collection rods of the ESP. The minimum accuracy of the monitor is plus-or-minus 0.5 kV. The measuring device shall be operated continuously. [40 CFR 64.7(b), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
5.61.11	The Permittee shall maintain and operate a measuring device to monitor secondary amperage for the precipitator collection rods of the ESP. The measuring device shall be operated continuously. [40 CFR 64.7(b), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
5.61.12	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic records for the secondary voltage and secondary amperage. The secondary voltage and secondary amperage shall be recorded at least once every 15 minutes. The twelve-hour block values for power shall be calculated and recorded based on the hourly power calculations. Power shall be calculated as secondary voltage multiplied by secondary amperage. [40 CFR 50.6, 40 CFR 62.16020(a), 40 CFR 62.16025(f), 40 CFR 64.3, 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0300, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.61.13	Data Collection: The Permittee shall maintain a hard copy readout or electronic record for influent water flowrate. One-hour measurements shall be recorded. [Minn. R. 7007.0800, subps. 4-5]
5.61.14	Recordkeeping of Power Input: The Permittee shall record the time and date of the power input (secondary voltage multiplied by secondary current), and whether or not the observed value was within the range specified in this permit. The power input shall be calculated and recorded for each operating hour. The twelve-hour block values shall be calculated and recorded based on the hourly calculations. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 5]
5.61.15	Recordkeeping of Influent Water Flow Rate: The Permittee shall record the time and date of the

Requirement number	Requirement and citation
	influent water flow rate reading, and whether or not the observed value was within the range specified in this permit. The influent water flow rate shall be recorded at least once every hour. The twelve-hour block values shall be calculated and recorded based on the hourly readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 50.6, 40 CFR 62.15985(a), 40 CFR 64.3, 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.61.16	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording: - secondary voltage; - secondary amperage; and, - influent water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored electrostatic precipitator is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.61.17	The Permittee shall calibrate or inspect the gauges at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.61.18	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.61.19	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded influent water flow rate is below the required influent water flow rate limit; or - the calculated power is below the required power limit; or - the electrostatic precipitator or any of its components are found during the inspections to need repair. Corrective actions shall return the secondary voltage and/or influent water flow rate to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.61.20	Power Input $\geq$ 52.2 watts, calculated as the product of secondary voltage and secondary current, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15985(f) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the calculated power input is below the power input limit, the emissions during that time shall be considered uncontrolled until the power input is above the Power Input Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(f), 40 CFR 64.3(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.61.21	Influent Water flow rate $\geq$ 0.0 gallons per minute, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15985(g) or permit term 5.1.17. The Permittee shall maintain on-site

Requirement number	Requirement and citation
	documentation justifying this determination. If the recorded influent water flow rate is below the Influent Water Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the water flow rate is above the Influent Water Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(g), 40 CFR 64.3(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.61.22	Voltmeter zero check: The Permittee shall perform a zero check on the secondary voltage monitor at least once every 30 days, not less than 21 days between each check. The Permittee shall record the results. [Minn. R. 7007.0800, subp. 4(D)]
TREA 57	FBR Wet Electrostatic Precipitator 3
5.62.1	The Permittee shall vent emissions from EQUI 5 to TREA 57 whenever EQUI 5 operates, and operate and maintain TREA 57 at all times that any emissions are vented to TREA 57. The Permittee shall document periods of non-operation of the control equipment TREA 57 whenever EQUI 5 is operating. [40 CFR 50.6, 40 CFR 62.15960, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.62.2	If the Permittee replaces TREA 57, the replacement control must meet or exceed the control efficiency requirements of TREA 57 as well as comply with all other requirements of TREA 57. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.62.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing power and/or influent water flow rate, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.62.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.62.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain electronic records provided that the use of such electronic records allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]

Requirement number	Requirement and citation
5.62.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 98.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.62.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 94.0 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.62.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron ≥ 93 percent collection efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090]
5.62.9	The Permittee shall operate and maintain the electrostatic precipitator (ESP) in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.62.10	The Permittee shall check, maintain, and operate a measuring device secondary voltage for the precipitator collection rods of the ESP. The minimum accuracy of the monitor is plus-or-minus 0.5 kV. The measuring device shall be operated continuously. [40 CFR 64.7(b), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
5.62.11	The Permittee shall maintain and operate a measuring device to monitor secondary amperage for the precipitator collection rods of the ESP. The measuring device shall be operated continuously. [40 CFR 64.7(b), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
5.62.12	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the secondary voltage and secondary amperage. The secondary voltage and secondary amperage shall be recorded at least once every 15 minutes. The twelve-hour block values for power shall be calculated and recorded based on the hourly power calculations. Power shall be calculated as secondary voltage multiplied by secondary amperage. [40 CFR 50.6, 40 CFR 62.16020(a), 40 CFR 62.16025(f), 40 CFR 64.3, 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0300, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.62.13	Data Collection: The Permittee shall maintain a hard copy readout or electronic record for influent water flowrate. One-hour measurements shall be recorded. [Minn. R. 7007.0800, subps. 4-5]
5.62.14	Recordkeeping of Power Input: The Permittee shall record the time and date of the power input (secondary voltage multiplied by secondary current), and whether or not the observed value was within the range specified in this permit. The power input shall be calculated and recorded for each operating hour. The twelve-hour block values shall be calculated and recorded based on the hourly calculations. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 5]
5.62.15	Recordkeeping of Influent Water Flow Rate: The Permittee shall record the time and date of the influent water flow rate reading, and whether or not the observed value was within the range specified in this permit. The influent water flow rate shall be recorded at least once every hour. The twelve-hour block values shall be calculated and recorded based on the hourly readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 50.6, 40 CFR 62.15985(a), 40 CFR 64.3, 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
5.62.16	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring

Requirement number	Requirement and citation
	equipment for measuring and recording: - secondary voltage; - secondary amperage; and, - influent water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored electrostatic precipitator is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.62.17	The Permittee shall calibrate or inspect the gauges at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.62.18	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 62.16025(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.62.19	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded influent water flow rate is below the required influent water flow rate limit; or - the calculated power is below the required power limit; or - the electrostatic precipitator or any of its components are found during the inspections to need repair. Corrective actions shall return the secondary voltage and/or influent water flow rate to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.62.20	Power Input $\geq$ 66.2 watts, calculated as the product of secondary voltage and secondary current, on a 12-hour average basis, until a new limit is set pursuant to 40 CFR 62.15985(f) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the calculated power input is below the power input limit, the emissions during that time shall be considered uncontrolled until the power input is above the Power Input Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(f), 40 CFR 64.3(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.62.21	Influent Water flow rate $\geq$ 0.0 gallons per minute, on a 12-hour block, until a new limit is set pursuant to 40 CFR 62.15985(g) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded influent water flow rate is below the Influent Water Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the water flow rate is above the Influent Water Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 62.15985(g), 40 CFR 64.3(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and

Requirement number	Requirement and citation
	Minn. R. 7007.3000]
5.62.22	Voltmeter zero check: The Permittee shall perform a zero check on the secondary voltage monitor at least once every 30 days, not less than 21 days between each check. The Permittee shall record the results. [Minn. R. 7007.0800, subp. 4(D)]
TREA 58	FBR4 Baghouse
5.63.1	The Permittee shall vent emissions from EQUI 133 to TREA 58 whenever EQUI 133 operates, and operate and maintain TREA 58 at all times that any emissions are vented to TREA 58. The Permittee shall document periods of non-operation of the control equipment TREA 58 whenever EQUI 133 is operating. [40 CFR 50.6, 40 CFR 60.4850, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.63.2	If the Permittee replaces TREA 58, the replacement control must meet or exceed the control efficiency requirements of TREA 58 as well as comply with all other requirements of TREA 58. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.63.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing operations, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.63.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.63.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.63.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 99 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.63.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 93 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]

Requirement number	Requirement and citation
5.63.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron $\geq$ 93 percent collection efficiency. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.63.9	The Permittee must operate and maintain the bag leak detection system in continuous operation according to the site-specific monitoring plan required under 40 CFR part 60.4880. [40 CFR 60.4880, 40 CFR 64.7(b)]
5.63.10	The Permittee must operate the 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 block reporting period. In calculating this operating time fraction, 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 the Permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the Permittee to initiate corrective action. [40 CFR 60.4850(c), 40 CFR 60.4890(a)(2)(ii), 40 CFR 64.3, Minn. R. 7011.1350]
5.63.11	The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.63.12	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 60.4910(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.63.13	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - alarm activates; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.63.14	Baghouse Corrective Actions. In the event a bag leak detection system alarm is triggered, the Permittee must initiate procedures to determine the cause of every alarm within 8 hours of the alarm, and the Permittee must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following: (i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media or any other condition that may cause an increase in particulate matter emissions. (ii) Sealing off defective bags or filter media. (iii) Replacing defective bags or filter media or otherwise repairing the control device. (iv) Sealing off a defective fabric filter compartment. (v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system. (vi) Shutting down the process producing the particulate matter emissions. [40 CFR 60.4850(c), 40 CFR 60.4905(b)(3), 40 CFR 64.7(d), Minn. R. 7011.1350]
TREA 59	FBR4 Wet Scrubber

Requirement number	Requirement and citation
5.64.1	The Permittee shall vent emissions from EQUI 133 to TREA 59 whenever EQUI 133 operates, and operate and maintain TREA 59 at all times that any emissions are vented to TREA 59. The Permittee shall document periods of non-operation of the control equipment TREA 59 whenever EQUI 133 is operating. [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 60.4850, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.64.2	If the Permittee replaces TREA 59, the replacement control must meet or exceed the control efficiency requirements of TREA 59 as well as comply with all other requirements of TREA 59. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, 40 CFR 60.153(b)(1), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.64.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, scrubber liquid flow rate, or scrubber liquid pH, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.64.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.64.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.64.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 94.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.64.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 84.0 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) (i) & Minn. R. 7007.3000]
5.64.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron ≥ 84 percent collection efficiency. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]

Requirement number	Requirement and citation
5.64.9	The Permittee shall operate and maintain the scrubber in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.64.10	The Permittee shall calibrate, maintain and operate a pH measuring device for the scrubber in accordance with the site-specific monitoring plan. [40 CFR 60.4905(a), 40 CFR 60.7(b)]
5.64.11	The Permittee shall calibrate, maintain and operate a liquid flow rate measuring device for the scrubber in accordance with the site specific monitoring plan. [40 CFR 60.4905(a), 40 CFR 64.7(b)]
5.64.12	The Permittee shall calibrate, maintain and operate a monitoring device that continuously measures and records the pressure drop of the gas flow through the Wet Scrubber. The device used to monitor scrubber pressure drop shall be certified by the manufacturer to be accurate within +/-250 pascals +/-1 inch water gauge). [40 CFR 60.153(b)(1), 40 CFR 60.7(b), Minn. R. 7011.1350, subp. 1]
5.64.13	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for each of the pressure drop, scrubber liquid flow rate, and scrubber liquid pH. The pressure drop, scrubber liquid flow rate, and scrubber liquid pH shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values (pressure drop, liquid flow rate) shall be calculated and recorded based on the 15-minute readings as described in 40 CFR 60.4905(a)(1)(ii). The three-hour block values (pH) shall be calculated and recorded based on the 15-minute readings as described in 40 CFR 60.4905(a)(1)(ii). [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 60.4870(a), 40 CFR 60.4905(a)(1)(ii), 40 CFR 60.4910(f), 40 CFR 64.3, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.64.14	Recordkeeping of Pressure Drop, Scrubber Liquid Flow Rate, and Scrubber Liquid pH: The Permittee shall record the time and date of each pressure drop reading, scrubber liquid flow rate reading, and scrubber liquid pH reading, and whether or not the observed value was within the range specified in this permit. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 50.6, 40 CFR 60.153(c)(1), 40 CFR 60.4905(a), 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.64.15	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop, scrubber liquid flow rate, and scrubber liquid pH as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.64.16	The Permittee shall calibrate the gauges (pressure drop, liquid flow rate, pH) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 60.153(b)(1), 40 CFR 60.4910(j), 40 CFR 64.3, Minn. R. 7011.1350, subp. 1, Minn. R. 7017.0200]
5.64.17	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 60.4910(j), 40 CFR 64.3, Minn. R. 7011.1350, subp. 1, Minn. R. 7017.0200]
5.64.18	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded scrubber liquid pH is below the required Scrubber Liquid pH limit; - the recorded scrubber liquid flow rate is below the required scrubber liquid flow rate limit;

Requirement number	Requirement and citation
	- the recorded pressure drop is outside the required operating range; - the scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the scrubber liquid flow rate, scrubber liquid pH and/or pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for the filter. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.64.19	Venturi Pressure Drop $\geq$ 14.0 inches of water, on a 12-hour block, until a new limit is set pursuant to 40 CFR 60.4870(b) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 50.6, 40 CFR 60.153(b)(1), 40 CFR 60.4870(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.64.20	Liquid Flow Application Rate $\geq$ 439 gallons per minute, on a 12-hour block, until a new limit is set pursuant to 40 CFR 60.4870(c) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded scrubber liquid flow rate is below the Scrubber Liquid Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the scrubber liquid flow rate is above the Scrubber Liquid Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 60.4870(c), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.64.21	pH $\geq$ 4.6 (no units), on a 3-hour block, until a new limit is set pursuant to 40 CFR 60.4870(d) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pH level is below the pH Limit, the emissions during that time shall be considered uncontrolled until the pH level is above the pH Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 60.4870(d), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
TREA 60	FBR4 Powder Activated Carbon Injection System
5.65.1	The Permittee shall vent emissions from EQUI 133 to TREA 60 whenever EQUI 133 operates, and operate and maintain TREA 60 at all times that any emissions are vented to TREA 60. The Permittee shall document periods of non-operation of the control equipment TREA 60 whenever EQUI 133 is operating. [40 CFR 60.4850, Minn. R. 7007.0800, subp. 2(B), Minn. Stat. 116.07, subd. 4a]
5.65.2	If the Permittee replaces TREA 60, the replacement control must meet or exceed the control efficiency requirements of TREA 60 as well as comply with all other requirements of TREA 60. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable.

Requirement number	Requirement and citation
	If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Minn. R. 7007.0800, subp. 2(B)]
5.65.3	The Permittee shall operate and maintain the activated carbon injection system in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.65.4	Recordkeeping of Mercury Sorbent Injection Rate: The Permittee shall record the time and date of the mercury sorbent injection rate reading, and whether or not the observed value was within the range specified in this permit. The mercury sorbent injection flow rate shall be recorded at least once every hour. The twelve-hour block values shall be calculated and recorded based on the hourly readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 60.4905(a), 40 CFR 60.4910(f), Minn. R. 7007.0800, subps. 4-5]
5.65.5	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the carrier gas flow rate or pressure drop. The carrier gas flow rate or pressure drop shall be calculated and recorded at least once every 15 minutes. The twelve-hour block values shall be calculated and recorded based on the 15-minute readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 60.4870(a), 40 CFR 60.4910(f), Minn. R. 7007.0800, subps. 4-5]
5.65.6	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording mercury sorbent injection rate and carrier gas flow rate or pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored activated carbon injection system is in operation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.65.7	The Permittee shall calibrate, maintain and operate a carrier gas flow monitor or pressure drop measuring device for the activated carbon injection in accordance with the site-specific monitoring plan. [40 CFR 60.4905(a)]
5.65.8	The Permittee shall calibrate the gauges (sorbent injection rate, carrier gas flow or pressure drop) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 60.4910(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.65.9	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 60.4910(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.65.10	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the carrier gas flow rate or pressure drop is below the required carrier gas flow rate or required pressure drop limit; or - the mercury sorbent injection rate is below the required mercury sorbent injection rate; or - the activated carbon injection system or any of its components are found during the inspections to need repair. Corrective actions shall return the mercury sorbent injection rate and/or carrier gas flow rate or pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the activated carbon injection system. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 60.4910(j), Minn. R.

Requirement number	Requirement and citation
	7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
5.65.11	Mercury Reagent $\geq$ 2.4 pounds per hour, on a 12-hour block, unless a new range is set pursuant to 40 CFR 60.4870(h)(1) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded mercury sorbent injection rate is outside the required range, the emissions during that time shall be considered uncontrolled until the mercury sorbent injection rate is once again within the required range. The period of time for which the mercury sorbent injection rate is considered out of range shall be reported as a deviation. [40 CFR 60.4870(h)(1), Minn. R. 7017.2025, subp. 3]
5.65.12	Carrier Gas Flow $\geq$ 48.0 cubic feet per minute, on a 12-hour block, unless a new limit is set pursuant to 40 CFR 60.4870(h)(3) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded carrier gas flow rate is below the Carrier Gas Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the carrier gas flow rate is above the Carrier Gas Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 60.4870(h)(3), Minn. R. 7017.2025, subp. 3]
5.65.13	As an alternative to carrier gas flow, Pressure Drop $\geq$ 15.2 inches of water, on a 12-hour block, until a new limit is set pursuant to 40 CFR 60.4870(h)(3) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded pressure drop is below the Pressure Drop Limit, the emissions during that time shall be considered uncontrolled until the pressure drop is above the Pressure Drop Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 60.4870(h)(3), Minn. R. 7017.2025, subp. 3]
TREA 61	FBR4 Wet ESP
5.66.1	The Permittee shall vent emissions from EQUI 133 to TREA 61 whenever EQUI 133 operates, and operate and maintain TREA 61 at all times that any emissions are vented to TREA 61. The Permittee shall document periods of non-operation of the control equipment TREA 61 whenever EQUI 133 is operating. [40 CFR 50.6, 40 CFR 60.4850, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.66.2	If the Permittee replaces TREA 61, the replacement control must meet or exceed the control efficiency requirements of TREA 61 as well as comply with all other requirements of TREA 61. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.66.3	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing power and/or influent water flow rate, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit

Requirement number	Requirement and citation
	amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]
5.66.4	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]
5.66.5	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain electronic records provided that the use of electronic records allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
5.66.6	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter ≥ 98.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.66.7	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron ≥ 94.0 percent control efficiency. [40 CFR 50.6, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & Minn. R. 7007.3000]
5.66.8	The Permittee must operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 2.5 micron ≥ 93 percent collection efficiency. [40 CFR 50.7, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) & 7007.3000]
5.66.9	The Permittee shall operate and maintain the electrostatic precipitator (ESP) in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.66.10	The Permittee shall check, maintain, and operate a measuring device to monitor secondary voltage for the precipitator collection plates or rods of the ESP. The minimum accuracy of the monitor is plus-or-minus 0.5 kV. The measuring device shall be operated continuously. [40 CFR 64.7(b), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
5.66.11	The Permittee shall maintain and operate a measuring device to monitor secondary amperage for the precipitator collection rods of the ESP. The measuring device shall be operated continuously. [40 CFR 64.7(b), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
5.66.12	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the secondary voltage and secondary amperage. The secondary voltage and secondary amperage shall be recorded at least once every 15 minutes. The twelve-hour block values for power shall be calculated and recorded based on the hourly power calculations. Power shall be calculated as secondary voltage multiplied by secondary amperage. [40 CFR 50.6, 40 CFR 60.4905(a), 40 CFR 60.4910(f), 40 CFR 64.3, 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0300, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.66.13	Data Collection: The Permittee shall maintain a hard copy readout or electronic record for influent water flowrate. One-hour measurements shall be recorded. [Minn. R. 7007.0800, subps. 4-5]
5.66.14	Recordkeeping of Power Input: The Permittee shall record the time and date of the power input

Requirement number	Requirement and citation
	(secondary voltage multiplied by secondary current), and whether or not the observed value was within the range specified in this permit. The power input shall be calculated and recorded for each operating hour. The twelve-hour block values shall be calculated and recorded based on the hourly calculations. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 5]
5.66.15	Recordkeeping of Influent Water Flow Rate: The Permittee shall record the time and date of the influent water flow rate reading, and whether or not the observed value was within the range specified in this permit. The influent water flow rate shall be recorded at least once every hour. The twelve-hour block values shall be calculated and recorded based on the hourly readings. Recorded values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 50.6, 40 CFR 60.4870(a), 40 CFR 64.3, 40 CFR 64.9(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.66.16	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording: - secondary voltage; - secondary amperage; and - influent water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored electrostatic precipitator is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]
5.66.17	The Permittee shall calibrate or inspect the gauges at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 60.4910(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.66.18	Periodic Inspections: The Permittee shall inspect the control equipment components in accordance with the Site-Specific Monitoring Plan (Appendix H) and Operation and Maintenance Plan. The Permittee shall maintain a written record of these inspections. [40 CFR 60.4910(j), 40 CFR 64.3, Minn. R. 7017.0200]
5.66.19	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded influent water flow rate is below the required influent water flow rate limit; or - the calculated power is below the required power limit; or - the electrostatic precipitator or any of its components are found during the inspections to need repair. Corrective actions shall return the secondary voltage and/or influent water flow rate to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 64.7(d), Minn. R. 7017.0200]
5.66.20	Power Input $\geq$ 15.0 watts, calculated as the product of secondary voltage and secondary amperage, on a 12-hour block, until a new limit is set pursuant to 40 CFR 60.4870(f) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the calculated power input is below the power input limit, the emissions during that time shall be considered uncontrolled until the power input is above the Power Input Limit. The period of

Requirement number	Requirement and citation
	time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 60.4870(f), 40 CFR 64.3(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.66.21	Influent Water flow rate $\geq$ 0.0 gallons per minute, on a 12-hour block, until a new limit is set pursuant to 40 CFR 60.4870(g) or permit term 5.1.17. The Permittee shall maintain on-site documentation justifying this determination. If the recorded influent water flow rate is below the Influent Water Flow Rate Limit, the emissions during that time shall be considered uncontrolled until the water flow rate is above the Influent Water Flow Rate Limit. The period of time for which emissions are considered uncontrolled shall be reported as a deviation. [40 CFR 50.6, 40 CFR 60.4870(g), 40 CFR 64.3(b), Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0090, Minn. R. 7011.1350, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
5.66.22	Voltmeter zero check: The Permittee shall perform a zero check on the secondary voltage monitor at least once every 30 days, not less than 21 days between each check. The Permittee shall record the results. [Minn. R. 7007.0800, subp. 4(D)]
TREA 62	FRB #4 SNCR
5.67.1	The Permittee is authorized to construct and operate a SNCR system (TREA 62) in accordance to the following permit requirements and upon EPA's approval of the Permittee's site-specific operating parameters, operating limits, and averaging periods for a nitrogen oxides (NOx) control device in accordance with 40 CFR part 60, subpart LLLL. The operating parameters, operating limits, and averaging periods, as approved by EPA, shall be adhered to at all times the unit (TREA 62) is in operation. [40 CFR 60.4855(a), Minn. R. 7007.0800, subp. 14]
5.67.2	The Permittee shall conduct, at least, one engineering test during the design/build construction phase of EQUI 133. The engineering test shall be conducted at a minimum of 85% of the maximum capacity, using EPA Reference Method 7 or 7E at 40 CFR part 60, appendix A-4. The averaging method shall be 3-run average. The minimum sampling duration to collect a sample shall be for a minimum duration of one hour per run. [40 CFR 60.4855(a), Minn. R. 7007.0800, subp. 14]
5.67.3	The engineering test will be conducted without the SNCR controls in operation. If the engineering test exceeds 27.0 ppm at 7-percent oxygen, dry basis at standard conditions, 3-run average, the Permittee shall vent emissions from EQUI 133 to TREA 62 whenever EQUI 133 operates, and operate and maintain TREA 62 at all times that any emissions are vented to TREA 62. The Permittee shall document periods of non-operation of the control equipment TREA 62 whenever EQUI 133 is operating. The use of TREA 62 may be discontinued if subsequent subpart LLLL required testing demonstrates that the NOx concentrations are less than 90% of the applicable limit without the operation of TREA 62. [40 CFR 60.4855(a), Minn. R. 7007.0800, subp. 14]
5.67.4	If any subsequent subpart LLLL required performance testing following the engineering test exceeds 27.0 ppm, uncontrolled at 7-percent oxygen, dry basis at standard conditions, 3-run average, the Permittee shall vent emissions from EQUI 133 to TREA 62 whenever EQUI 133 operates, and operate and maintain TREA 62 at all times that any emissions are vented to TREA 62. The Permittee shall document periods of non-operation of the control equipment TREA 62 whenever EQUI 133 is operating. The use of TREA 62 may be discontinued if subsequent subpart LLLL required testing demonstrates that the NOx concentrations are less than 90% of the applicable limit without the operation of TREA 62. [40 CFR 60.4855(a), Minn. R. 7007.0800, subp. 14]

Requirement number	Requirement and citation
5.67.5	If a performance test, without the SNCR controls operating, results in NOx emissions greater than 27.0 ppm at 7-percent oxygen, dry basis at standard conditions, 3-run average, the Permittee shall retest the NOx emissions with the SNCR in operation. The value in the reagent flow rate during the this retest shall be used to set the reagent permitted flow rate. [40 CFR 60.4855(a), Minn. R. 7007.0800, subp. 14]
5.67.6	In accordance with 40 CFR 60.4855(b), the Permittee shall petition the Administrator for specific operating parameters, operating limits, and averaging periods to be established for TREA 62 during the initial performance test and to be monitored continuously thereafter. [40 CFR 60.4855(b)]
5.67.7	If the Permittee replaces TREA 62, the replacement control must meet or exceed the control efficiency requirements of TREA 62 as well as comply with all other requirements of TREA 62. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. If no amendment is needed for the replacement, the Permittee shall submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [40 CFR 60.4855(a), Minn. R. 7007.0800, subp. 14]
5.67.8	The Permittee shall operate and maintain the SNCR system in accordance with the Site-Specific Monitoring Plan. The Permittee shall keep copies of the Site-Specific Monitoring Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
5.67.9	The Permittee shall maintain, calibrate and operate a reagent measuring and recording device at an appropriate location. [40 CFR 60.4855(a), Minn. R. 7007.0800, subp. 14]
5.67.10	Reporting - Breakdown: The Permittee shall report as a Breakdown any incident of more than one hour duration of SNCR equipment breakdown while sludge is being burned. The Permittee shall comply with the requirements in Minn. R. 7019.1000. [Minn. R. 7019.1000, subp. 2]
5.67.11	Data Collection: The Permittee shall maintain a continuous hard copy readout or electronic record for the reagent flow rate. The reagent flow rate shall be calculated and recorded at least once every 60 minutes. Values outside any range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 60.4870(a), 40 CFR 60.4910(f), Minn. R. 7007.0800, subps. 4-5]
5.67.12	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording reagent flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored SNCR system is in operation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.67.13	The Permittee shall calibrate the gauges (reagent flow rate) at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 60.4910(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.67.14	Periodic Inspections: At least once per calendar quarter, or as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 60.4910(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
5.67.15	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the reagent flow rate is below the reagent flow rate limit; or - the reagent injection system or any of its components are found during the inspections to need repair.

Requirement number	Requirement and citation
	Corrective actions shall return the reagent flow rate to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the SNCR system. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 60.4910(j), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 5]
5.67.16	Reagent, dry $\geq$ 0.1 gallons per hour, until a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. If the recorded reagent rate is outside the required range, the emissions during that time shall be considered uncontrolled until the reagent injection rate is once again within the required range. The period of time for which the reagent injection rate is considered out of range shall be reported as a deviation. [40 CFR 60.4855(a)]
5.67.17	Daily Monitoring: The Permittee shall physically verify the operation of the Continuous Parameter Monitoring System (CPMS) at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain a written record of the daily verifications. [Minn. R. 7007.0800, subps. 4-5]

6. Submittal/action requirements

This section lists most of the submittals required by this permit. Please note that some submittal requirements may appear in the Limits and Other Requirements section, or, if applicable, within a Compliance Schedule section.

Requirement number	Requirement and citation
TFAC 3	Metropolitan Wastewater Treatment Plant
6.1.1	The Permittee must submit a schedule : Due annually, by the 31st of January provide a complete summary of all performance tests required at the facility which includes the subject item, pollutant, most recent test date (if applicable), and the date of the next test on a form approved by the Commissioner. The performance test summary must be submitted with the Annual Compliance Certification (CR-04) Report. [Minn. R. 7007.0800, subp. 16(L)]
6.1.2	The Permittee shall submit excess emission/downtime report : Due by 30 days after the end of each calendar quarter following permit issuance. Submit this on form DRF-1 (Excess Emissions Reporting) as amended. The EER shall indicate all periods of monitor bypass and exceedances of the limit including those allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions, as well as a summary of audit results and frequencies. If no excess emissions, downtime or bypasses occurred during the quarter, submit a signed report supplying the necessary monitor data needed to verify this. [Minn. R. 7017.1110, subp. 1-2]
6.1.3	The Permittee must submit a semiannual deviations report : Due semiannually, by the 30th of January and July. The first semiannual report submitted by the Permittee must cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. Submit this on form DRF-2 (Deviation Reporting Form). If no deviations have occurred, submit

Requirement number	Requirement and citation
	the signed report certifying that there were no deviations. [Minn. R. 7007.0800, subp. 6(B)(2)]
6.1.4	The Permittee must submit a compliance certification : Due annually, by the 31st of January (for the previous calendar year). Submit this on form CR-04 (Annual Compliance Certification Report). This report covers all deviations experienced during the calendar year. If no deviations have occurred, submit the signed report certifying that there were no deviations. [Minn. R. 7007.0800, subp. 6(D)]
6.1.5	The Permittee shall submit an application for permit reissuance : Due 180 calendar days before Permit Expiration Date. [Minn. R. 7007.0400, subp. 2]
EQUI 3	Fluidized Bed Sewage Sludge Reactor 1
6.2.1	Deviation Report: The Permittee must submit a Deviation Report (deviations from emission limits, emission standards, or operating limits, as specified in 40 CFR 62.16030(e)(1)): due by August 1 of a calendar year for data collected during the first half of the calendar year; by February 1 of a calendar year for data collected during the second half of the calendar year. In the Deviation Report, the Permittee must submit: 1. Company name and address. 2. Statement by a responsible official. If using a Continuous Monitoring System (CMS): 3. The calendar dates and times a unit deviated from the emission limits or operating limits. 4. The averaged and recorded data for those dates. 5. Duration and cause of each deviation. 6. Dates, times, and causes for monitor downtime incidents. 7. A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels. 8. For periods of CMS malfunction or when a CMS was out of control, the Permittee must include the following information for each deviation from an emission limit or operating limit: (A) The date and time that each malfunction started and stopped. (B) The date, time and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks. (C) 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. (D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction, during a period when the system as out of control or during another period. (E) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period. (F) A 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. (G) 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 SSI unit at which the continuous monitoring system downtime occurred during that reporting period. (H) An identification of each parameter and pollutant that was monitored at the SSI unit. (I) A brief description of the SSI unit. (J) A brief description of the continuous monitoring system. (K) The date of the latest continuous monitoring system certification or audit. (L) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.

Requirement number	Requirement and citation
	If not using a CMS: 1. The total operating time of each affected FBR unit. 2. The calendar dates and times a unit deviated from the emission limits, emission standard, or operating limits. 3. The averaged and recorded data for those dates. 4. Duration and cause of each deviation. 5. A copy of any performance test report that showed a deviation from the emission limits or standards. 6. A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken. [40 CFR 62.16000(d), 40 CFR 62.16030(d)]
6.2.2	Annual Compliance Report: The Permittee must submit an Annual Compliance Report: No later than 12 months following the submission of the initial compliance report; subsequent reports are to be submitted no more than 12 months following the previous report. In the Annual Compliance Report, the Permittee must submit: 1. Company name and address. 2. Statement and signature by responsible official. 3. Date and beginning and ending dates of report. 4. If a performance test was conducted during the reporting period, the results of the test, including any new operating limits and associated calculations and the type of activated carbon used, if applicable. 5. For each pollutant and operating parameter recorded using a CMS, the highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable. 6. If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred. 7. If a fabric filter is used, the date, time, and duration of alarms. 8. If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated calculations. 9. If the Permittee meets the requirements of 40 CFR 62.16000(a)(3) and did not conduct a performance test, include the dates of the last three performance tests, a comparison to the 50 percent emission limit threshold of the emission level achieved in the last three performance tests, and a statement as to whether there have been any process changes. 10. Documentation of periods when all qualified FBR operators were unavailable for more than 8 hours but less than 2 weeks. 11. Results of annual pollutions control device inspections, including description of repairs. 12. If there were no periods during which the CMSs had malfunctions, a statement that there were no periods during which the CMSs had malfunctions. 13. If there were no periods during which the CMSs were out of control, a statement that there were no periods during which the CMSs were out of control. 14. If there were no operator training deviations, a statement that there were no such deviations. 15. Information on site specific monitoring plan revisions, including a copy of any revised monitoring plan. 16. If a malfunction occurred 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

Requirement number	Requirement and citation
	40 CFR 60.11(d), including actions taken to correct a malfunction. [40 CFR 62.16000(d), 40 CFR 62.16005(c), 40 CFR 62.16030(c)]
6.2.3	Notification of Qualified Operator Deviation: The Permittee must submit a Notification of Qualified Operator Deviation Report if all qualified operators are not accessible for 2 weeks or more: due Within 10 days of deviation. In the Notification of Qualified Operator Deviation Report, the Permittee must submit: 1. Statement of cause of deviation. 2. Description of actions taken to ensure that a qualified operator will be available. 3. The date when a qualified operator will be accessible. [40 CFR 62.16030(e)(1)(i)]
6.2.4	Notification of Status of Qualified Operator Deviation: The Permittee must submit a Notification of Status of Qualified Operator Deviation: due every 4 weeks following notification of deviation. In the Notification of Status of Qualified Operator Deviation, the Permittee must submit: 1. Description of actions taken to ensure that a qualified operator is accessible. 2. The anticipated date when a qualified operator will be accessible. 3. Request for approval to continue operation. [40 CFR 62.16030(e)(1)(ii)]
6.2.5	Reporting - Deviations: Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in in this permit constitutes a deviation from the operating limits established, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. The Permittee must submit the deviation report for each instance that one of the operating limits established was not met. [40 CFR 62.16005(b)]
6.2.6	Notification of Resumed Operation Following Shut Down: The Permittee must submit a Notification of Resumed Operation Following Shut Down (due to qualified operator deviation and as specified in 40 CFR 62.15945(b)(2)(i)): due within five days of obtaining a qualified operator and resuming operation. In the Notification of Resumed Operation Following Shut Down, the Permittee must submit: 1. Notification that the Permittee has obtained a qualified operator and are resuming operation. [40 CFR 62.16030(e)(2)]
6.2.7	Filterable Particulate Matter: The Permittee shall conduct a performance test due before 6/2/2025 and no more than every 37 months thereafter to measure filterable PM emissions (mg/dscm), unless otherwise required by the 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 5 at 40 CFR part 60, appendix A-3; Method 26A or Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. The sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator. [40 CFR 62.15955, 40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.8	Hydrogen Chloride: The Permittee shall conduct a performance test due before 6/2/2025 and no more than every 37 months thereafter to measure HCl emissions (ppm) unless otherwise required 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted

Requirement number	Requirement and citation
	capacity, using EPA Reference Method 26A at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run (Method 26A). [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.9	Carbon Monoxide: The Permittee shall conduct a performance test due before 6/2/2025 and no more than every 37 months thereafter to measure CO emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling duration shall be to collect a sample for a minimum duration of one hour per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.10	Total PCDD/PCDF: The Permittee shall conduct a performance test due before 6/2/2025 and no more than every 37 months thereafter to measure total dioxin/furan emissions (ng/dscm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 23 at 40 CFR part 60, appendix A-7, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.11	Mercury: The Permittee shall conduct a performance test due before 6/2/2025 and every 37 months thereafter to measure mercury emissions (mg/dscm) unless otherwise required by 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; or ASTM D6784-02, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). . The averaging method shall be a 3-run average. For Method 29 and ASTM D6784-02, the Permittee shall collect a minimum volume of 1 dry standard cubic meter per run. For Method 30B, the permittee shall collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8). [40 CFR 62.16000(a), 40 CFR 62.16020(a)(2)(i), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.12	Nitrogen Oxides: The Permittee shall conduct a performance test due before 6/2/2025 and no more than every 37 months thereafter to measure NOx emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 7 or 7E at 40 CFR part 60, appendix A-4, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling duration shall be to collect a sample for a

Requirement number	Requirement and citation
	minimum duration of one hour per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.13	Sulfur Dioxide: The Permittee shall conduct a performance test due before 6/2/2025 and no more than every 37 months thereafter to measure SO₂ emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 6 or 6C at 40 CFR part 40, appendix A-4; ANSI/ASME PTC-19.10-1981, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. For Method 6, the Permittee shall collect a minimum volume of 60 liters per run. For Method 6C, the Permittee shall collect sample for a minimum duration of one hour per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.14	Cadmium: The Permittee shall conduct a performance test due before 6/2/2025 and no more than every 37 months thereafter to measure cadmium emissions (mg/dscm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.15	Lead: The Permittee shall conduct a performance test due before 6/2/2025 and no more than every 37 months thereafter to measure lead emissions (mg/dscm) unless otherwise required by 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.16	Visible Emissions: The Permittee shall conduct a performance test due before 6/2/2025 and no more than every 37 months thereafter to measure fugitive emissions from ash handling unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 22 or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The test will consist of three 1-hour observation periods. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.2.17	Filterable Particulate Matter: The Permittee shall conduct a performance test due before 12/21/2025 and no more than every 60 months thereafter to measure filterable PM emissions (mg/dscm and lb/ton dry sludge). At the time of permit issuance, the previous stack test was conducted on Dec. 22, 2020.

Requirement number	Requirement and citation
	The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 5; or other method approved by the commissioner in the performance test plan approval. During each performance test for particulate matter, the sludge rate monitor, wet scrubber pressure drop, oxygen monitor, FBR temperature monitor, and auxiliary fuel flow monitor required by 40 CFR 60.153(a)(1) through (b)(4) must be operating, and the daily sludge sampling and analysis procedures required under 40 CFR 60.153(b)(5) must be performed. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 60.154, Minn. R. 7011.1310, Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
6.2.18	PM < 10 micron: The Permittee shall conduct a performance test due before 12/21/2025 and every 60 months thereafter to measure PM10 emissions (lb/hr). At the time of permit issuance, the previous stack test was conducted on Dec. 22, 2020. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 50.6, Minn. R. 7009.0090, Minn. R. 7017.2020, subp. 1]
6.2.19	PM < 2.5 micron: The Permittee shall conduct a performance test due before 180 days after startup of EQUI 133 and every 60 months thereafter to measure PM2.5 emissions (lb/hr). The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the

Requirement number	Requirement and citation
	performance test date. [40 CFR 50.7, Minn. R. 7009.0090, Minn. R. 7017.2020, subp. 1]
6.2.20	Hydrogen Chloride: The Permittee shall conduct a performance test due before 5/2/2027 and no more than every 60 months thereafter to measure HCl emissions (ppm, lb/ton). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 26A at 40 CFR part 60, appendix A-8 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 200 liters per run (Method 26) or 1 dry standard cubic meter sample per run (Method 26A). Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.2.21	Total PCDD/PCDF: The Permittee shall conduct a performance test due before 5/2/2027 and no more than every 60 months thereafter to measure total dioxin/furan emissions (ng/dscm). The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 23 at 40 CFR part 60, appendix A-7 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1]
6.2.22	Mercury: The Permittee shall conduct a performance test due before 5/2/2025 and every 36 months thereafter to measure mercury emissions (mg/dscm and lb/ton) unless otherwise required differently, as provided by Minn. Stat. 116.85, subd. 1(a). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. If a test conducted shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the Permittee shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the Permittee demonstrates that mercury emissions are again below 50 percent of the facility's permitted mercury limit, the Permittee may resume testing every three years, upon notifying the commissioner. The performance test shall be conducted at worst-case conditions defined at Minn. R.

Requirement number	Requirement and citation
	7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; ASTM D6784-02 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. For Method 29 and ASTM D6784-02, the Permittee shall collect a minimum volume of 1 dry standard cubic meter per run. For Method 30B, the permittee shall collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8). Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.85, subd. 1(a)]
6.2.23	Lead: The Permittee shall conduct a performance test due before 5/2/2027 and no more than every 60 months thereafter to measure lead emissions (lb/ton). At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
6.2.24	HAPs - Volatile: The Permittee shall conduct a performance test due before 12/21/2025 and every 60 months thereafter to measure HAPs - volatile emissions (lb/ton) including Methylene Chloride, Perchloroethylene, Toluene, Carbon disulfide, and Vinyl Acetate. At the time of permit issuance, the previous stack test was conducted on Dec. 22, 2020. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18, 320, or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test

Requirement number	Requirement and citation
6.2.25	due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2] HAPs - Metal: The Permittee shall conduct a performance test due before 5/2/2027 and every 60 months thereafter to measure HAPs - metal emissions (lb/ton) including antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium. At the time of permit issuance, the previous stack test was conducted on May 3-4, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29, or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.2.26	Opacity: The Permittee shall conduct a performance test due before 12/21/2025 and every 60 months thereafter to measure opacity. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 9, or other method approved by the Administrator or the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 60.152(a)(2), 40 CFR 60.154, Minn. R. 7011.1310, Minn. R. 7017.2020, subp. 1]
6.2.27	PFAS: The Permittee shall conduct performance tests due 270 calendar days after Permit Issuance (12300053-101) to measure emissions of PFAS, including but not limited to the following compounds: Perfluorobutanoic acid (PFBA), Perfluorohexanesulfonic acid (PFHxS), Perfluorohexanoic acid (PFHxA), Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), and Perfluorobutane sulfonic acid (PFBS). The performance tests shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using both OTM-45 and OTM-50, or other method approved by MPCA in the performance test plan approval. This is a state-only requirement and is not enforceable by the U.S. Environmental Protection Agency (EPA) Administrator and citizens under the Clean Air Act. [Minn. R. 4410, Minn. R. 7017.2020, subp. 1]
EQUI 4	Fluidized Bed Sewage Sludge Reactor 2

Requirement number	Requirement and citation
6.3.1	Deviation Report: The Permittee must submit a Deviation Report (deviations from emission limits, emission standards, or operating limits, as specified in 40 CFR 62.16030(e)(1)): due by August 1 of a calendar year for data collected during the first half of the calendar year; by February 1 of a calendar year for data collected during the second half of the calendar year. In the Deviation Report, the Permittee must submit: 1. Company name and address. 2. Statement by a responsible official. If using a Continuous Monitoring System (CMS): 3. The calendar dates and times a unit deviated from the emission limits or operating limits. 4. The averaged and recorded data for those dates. 5. Duration and cause of each deviation. 6. Dates, times, and causes for monitor downtime incidents. 7. A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels. 8. For periods of CMS malfunction or when a CMS was out of control, the Permittee must include the following information for each deviation from an emission limit or operating limit: (A) The date and time that each malfunction started and stopped. (B) The date, time and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks. (C) 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. (D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction, during a period when the system was out of control or during another period. (E) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period. (F) A 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. (G) 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 SSI unit at which the continuous monitoring system downtime occurred during that reporting period. (H) An identification of each parameter and pollutant that was monitored at the SSI unit. (I) A brief description of the SSI unit. (J) A brief description of the continuous monitoring system. (K) The date of the latest continuous monitoring system certification or audit. (L) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period. If not using a CMS: 1. The total operating time of each affected FBR unit. 2. The calendar dates and times a unit deviated from the emission limits, emission standard, or operating limits. 3. The averaged and recorded data for those dates. 4. Duration and cause of each deviation. 5. A copy of any performance test report that showed a deviation from the emission limits or standards.

Requirement number	Requirement and citation
6.3.2	6. A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken. [40 CFR 62.16000(d), 40 CFR 62.16030(d)] Annual Compliance Report: The Permittee must submit an Annual Compliance Report: No later than 12 months following the submission of the initial compliance report; subsequent reports are to be submitted no more than 12 months following the previous report. In the Annual Compliance Report, the Permittee must submit: 1. Company name and address. 2. Statement and signature by responsible official. 3. Date and beginning and ending dates of report. 4. If a performance test was conducted during the reporting period, the results of the test, including any new operating limits and associated calculations and the type of activated carbon used, if applicable. 5. For each pollutant and operating parameter recorded using a CMS, the highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable. 6. If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred. 7. If a fabric filter is used, the date, time, and duration of alarms. 8. If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated calculations. 9. If the Permittee meets the requirements of 40 CFR 62.16000(a)(3) and did not conduct a performance test, include the dates of the last three performance tests, a comparison to the 50 percent emission limit threshold of the emission level achieved in the last three performance tests, and a statement as to whether there have been any process changes. 10. Documentation of periods when all qualified FBR operators were unavailable for more than 8 hours but less than 2 weeks. 11. Results of annual pollutions control device inspections, including description of repairs. 12. If there were no periods during which the CMSs had malfunctions, a statement that there were no periods during which the CMSs had malfunctions. 13. If there were no periods during which the CMSs were out of control, a statement that there were no periods during which the CMSs were out of control. 14. If there were no operator training deviations, a statement that there were no such deviations. 15. Information on site specific monitoring plan revisions, including a copy of any revised monitoring plan. 16. If a malfunction occurred 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 40 CFR 60.11(d), including actions taken to correct a malfunction. [40 CFR 62.16000(d), 40 CFR 62.16005(c), 40 CFR 62.16030(c)]
6.3.3	Notification of Qualified Operator Deviation: The Permittee must submit a Notification of Qualified Operator Deviation Report if all qualified operators are not accessible for 2 weeks or more: due Within 10 days of deviation. In the Notification of Qualified Operator Deviation Report, the Permittee must submit: 1. Statement of cause of deviation. 2. Description of actions taken to ensure that a qualified operator will be available. 3. The date when a qualified operator will be accessible. [40 CFR 62.16030(e)(1)(i)]

Requirement number	Requirement and citation
6.3.4	Notification of Status of Qualified Operator Deviation: The Permittee must submit a Notification of Status of Qualified Operator Deviation: due every 4 weeks following notification of deviation. In the Notification of Status of Qualified Operator Deviation, the Permittee must submit: 1. Description of actions taken to ensure that a qualified operator is accessible. 2. The anticipated date when a qualified operator will be accessible. 3. Request for approval to continue operation. [40 CFR 62.16030(e)(1)(ii)]
6.3.5	Reporting - Deviations: Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in in this permit constitutes a deviation from the operating limits established, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. The Permittee must submit the deviation report for each instance that one of the operating limits established was not met. [40 CFR 62.16005(b)]
6.3.6	Notification of Resumed Operation Following Shut Down: The Permittee must submit a Notification of Resumed Operation Following Shut Down (due to qualified operator deviation and as specified in 40 CFR 62.15945(b)(2)(i)): due within five days of obtaining a qualified operator and resuming operation. In the Notification of Resumed Operation Following Shut Down, the Permittee must submit: 1. Notification that the Permittee has obtained a qualified operator and are resuming operation. [40 CFR 62.16030(e)(2)]
6.3.7	Filterable Particulate Matter: The Permittee shall conduct a performance test due before 3/6/2025 and no more than every 37 months thereafter to measure filterable PM emissions (mg/dscm), unless otherwise required by the 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 5 at 40 CFR part 60, appendix A-3; Method 26A or Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. The sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator. [40 CFR 62.15955, 40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.3.8	Hydrogen Chloride: The Permittee shall conduct a performance test due before 3/6//2025 and no more than every 37 months thereafter to measure HCl emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 26A at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run (Method 26A). [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.3.9	Carbon Monoxide: The Permittee shall conduct a performance test due before 3/6/2025 and no more than every 37 months thereafter to measure CO emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022.

Requirement number	Requirement and citation
	The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling duration shall be to collect a sample for a minimum duration of one hour per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.3.10	Total PCDD/PCDF: The Permittee shall conduct a performance test due before 3/6/2025 and no more than every 37 months thereafter to measure total dioxin/furan emissions (ng/dscm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 23 at 40 CFR part 60, appendix A-7, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.3.11	Mercury: The Permittee shall conduct a performance test due before 3/6/2025 and every 37 months thereafter to measure mercury emissions (mg/dscm) unless otherwise required by 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; or ASTM D6784-02, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). . The averaging method shall be a 3-run average. For Method 29 and ASTM D6784-02, the Permittee shall collect a minimum volume of 1 dry standard cubic meter per run. For Method 30B, the permittee shall collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8). [40 CFR 62.16000(a), 40 CFR 62.16020(a)(2)(i), 40 CFR pt. 62, subp. LLL(Table 2)]
6.3.12	Nitrogen Oxides: The Permittee shall conduct a performance test due before 3/6/2025 and no more than every 37 months thereafter to measure NOx emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 7 or 7E at 40 CFR part 60, appendix A-4, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling duration shall be to collect a sample for a minimum duration of one hour per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.3.13	Sulfur Dioxide: The Permittee shall conduct a performance test due before 3/6/2025 and no more than every 37 months thereafter to measure SO2 emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 6 or 6C at 40 CFR part 40, appendix A-4; ANSI/ASME PTC-19.10-1981, or an alternative method approved by the Administrator under 40 CFR

Requirement number	Requirement and citation
	62.16015(a)(7). The averaging method shall be a 3-run average. For Method 6, the Permittee shall collect a minimum volume of 60 liters per run. For Method 6C, the Permittee shall collect sample for a minimum duration of one hour per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.3.14	Cadmium: The Permittee shall conduct a performance test due before 3/6/2025 and no more than every 37 months thereafter to measure cadmium emissions (mg/dscm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.3.15	Lead: The Permittee shall conduct a performance test due before 3/6/2025 and no more than every 37 months thereafter to measure lead emissions (mg/dscm) unless otherwise required by 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.3.16	Visible Emissions: The Permittee shall conduct a performance test due before 3/6/2025 and no more than every 37 months thereafter to measure fugitive emissions from ash handling unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 7-8, 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 22 or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The test will consist of three 1-hour observation periods. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL((Table 2))]
6.3.17	Filterable Particulate Matter: The Permittee shall conduct a performance test due before 12/5/2027 and no more than every 60 months thereafter to measure filterable PM emissions (mg/dscm and lb/ton dry sludge). At the time of permit issuance, the previous stack test was conducted on Dec. 6, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 5; or other method approved by the commissioner in the performance test plan approval. During each performance test for particulate matter, the sludge rate monitor, wet scrubber pressure drop, oxygen monitor, FBR temperature monitor, and auxiliary fuel flow monitor required by 40 CFR 60.153(a)(1) through (b)(4) must be operating, and the daily sludge sampling and analysis procedures required under 40 CFR 60.153(b)(5) must be performed.

Requirement number	Requirement and citation
	Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 60.154, Minn. R. 7011.1310, Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
6.3.18	PM < 10 micron: The Permittee shall conduct a performance test due before 12/5/2027 and every 60 months thereafter to measure PM10 emissions (lb/hr). At the time of permit issuance, the previous stack test was conducted on Dec. 6, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 50.6, Minn. R. 7009.0090, Minn. R. 7017.2020, subp. 1]
6.3.19	PM < 2.5 micron: The Permittee shall conduct a performance test due before 180 days after the startup of EQUI 133 and every 60 months thereafter to measure PM2.5 emissions (lb/hr). The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 50.7, Minn. R. 7009.0090, Minn. R. 7017.2020, subp. 1]
6.3.20	Hydrogen Chloride: The Permittee shall conduct a performance test due before 12/5/2027 and no more than every 60 months thereafter to measure HCl emissions (ppm, lb/ton). At the time of permit issuance, the previous stack test was conducted on Dec. 6, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 26A at 40 CFR part 60, appendix A-8 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 200 liters per

Requirement number	Requirement and citation
	run (Method 26) or 1 dry standard cubic meter sample per run (Method 26A). Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.3.21	Total PCDD/PCDF: The Permittee shall conduct a performance test due before 12/5/2027 and no more than every 60 months thereafter to measure total dioxin/furan emissions (ng/dscm). The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 23 at 40 CFR part 60, appendix A-7 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1]
6.3.22	Mercury: The Permittee shall conduct a performance test due before 12/5/2025 and every 36 months thereafter to measure mercury emissions (mg/dscm and lb/ton) unless otherwise required differently, as provided by Minn. Stat. 116.85, subd. 1(a). At the time of permit issuance, the previous stack test was conducted on Dec. 6, 2022. If a test conducted shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the Permittee shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the Permittee demonstrates that mercury emissions are again below 50 percent of the facility's permitted mercury limit, the Permittee may resume testing every three years, upon notifying the commissioner. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; ASTM D6784-02 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. For Method 29 and ASTM D6784-02, the Permittee shall collect a minimum volume of 1 dry standard cubic meter per run. For Method 30B, the permittee shall collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8). Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance

Requirement number	Requirement and citation
	letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.85, subd. 1(a)]
6.3.23	Lead: The Permittee shall conduct a performance test due before 12/5/2027 and no more than every 60 months thereafter to measure lead emissions (lb/ton). At the time of permit issuance, the previous stack test was conducted on Dec. 6, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
6.3.24	HAPs - Volatile: The Permittee shall conduct a performance test due before 12/5/2027 and every 60 months thereafter to measure HAPs - volatile emissions (lb/ton) including Methylene Chloride, Perchloroethylene, Toluene, Carbon disulfide, and Vinyl Acetate. At the time of permit issuance, the previous stack test was conducted on Dec. 6, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18, 320, or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.3.25	HAPs - Metal: The Permittee shall conduct a performance test due before 12/5/2027 and every 60 months thereafter to measure HAPs - metal emissions (lb/ton) including antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium. At the time of permit issuance, the previous stack test was conducted on Dec. 6, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2,

Requirement number	Requirement and citation
	using EPA Reference Method 29, or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.3.26	Opacity: The Permittee shall conduct a performance test due before 12/5/2027 and every 60 months thereafter to measure opacity. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 9, or other method approved by the Administrator or the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 60.152(a)(2), 40 CFR 60.154, Minn. R. 7011.1310, Minn. R. 7017.2020, subp. 1]
EQUI 5	Fluidized Bed Sewage Sludge Reactor 3
6.4.1	Deviation Report: The Permittee must submit a Deviation Report (deviations from emission limits, emission standards, or operating limits, as specified in 40 CFR 62.16030(e)(1)): due by August 1 of a calendar year for data collected during the first half of the calendar year; by February 1 of a calendar year for data collected during the second half of the calendar year. In the Deviation Report, the Permittee must submit: 1. Company name and address. 2. Statement by a responsible official. If using a Continuous Monitoring System (CMS): 3. The calendar dates and times a unit deviated from the emission limits or operating limits. 4. The averaged and recorded data for those dates. 5. Duration and cause of each deviation. 6. Dates, times, and causes for monitor downtime incidents. 7. A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels. 8. For periods of CMS malfunction or when a CMS was out of control, the Permittee must include the following information for each deviation from an emission limit or operating limit: (A) The date and time that each malfunction started and stopped. (B) The date, time and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks. (C) The date, time and duration that each continuous monitoring system was out of control,

Requirement number	Requirement and citation
	including start and end dates and hours and descriptions of corrective actions taken. (D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction, during a period when the system as out of control or during another period. (E) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period. (F) A 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. (G) 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 SSI unit at which the continuous monitoring system downtime occurred during that reporting period. (H) An identification of each parameter and pollutant that was monitored at the SSI unit. (I) A brief description of the SSI unit. (J) A brief description of the continuous monitoring system. (K) The date of the latest continuous monitoring system certification or audit. (L) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period. If not using a CMS: 1. The total operating time of each affected FBR unit. 2. The calendar dates and times a unit deviated from the emission limits, emission standard, or operating limits. 3. The averaged and recorded data for those dates. 4. Duration and cause of each deviation. 5. A copy of any performance test report that showed a deviation from the emission limits or standards. 6. A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken. [40 CFR 62.16000(d), 40 CFR 62.16030(d)]
6.4.2	Annual Compliance Report: The Permittee must submit an Annual Compliance Report: No later than 12 months following the submission of the initial compliance report; subsequent reports are to be submitted no more than 12 months following the previous report. In the Annual Compliance Report, the Permittee must submit: 1. Company name and address. 2. Statement and signature by responsible official. 3. Date and beginning and ending dates of report. 4. If a performance test was conducted during the reporting period, the results of the test, including any new operating limits and associated calculations and the type of activated carbon used, if applicable. 5. For each pollutant and operating parameter recorded using a CMS, the highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable. 6. If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred. 7. If a fabric filter is used, the date, time, and duration of alarms. 8. If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated calculations. 9. If the Permittee meets the requirements of 40 CFR 62.16000(a)(3) and did not conduct a

Requirement number	Requirement and citation
	performance test, include the dates of the last three performance tests, a comparison to the 50 percent emission limit threshold of the emission level achieved in the last three performance tests, and a statement as to whether there have been any process changes. 10. Documentation of periods when all qualified FBR operators were unavailable for more than 8 hours but less than 2 weeks. 11. Results of annual pollutions control device inspections, including description of repairs. 12. If there were no periods during which the CMSs had malfunctions, a statement that there were no periods during which the CMSs had malfunctions. 13. If there were no periods during which the CMSs were out of control, a statement that there were no periods during which the CMSs were out of control. 14. If there were no operator training deviations, a statement that there were no such deviations. 15. Information on site specific monitoring plan revisions, including a copy of any revised monitoring plan. 16. If a malfunction occurred 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 40 CFR 60.11(d), including actions taken to correct a malfunction. [40 CFR 62.16000(d), 40 CFR 62.16005(c), 40 CFR 62.16030(c)]
6.4.3	Notification of Qualified Operator Deviation: The Permittee must submit a Notification of Qualified Operator Deviation Report if all qualified operators are not accessible for 2 weeks or more: due Within 10 days of deviation. In the Notification of Qualified Operator Deviation Report, the Permittee must submit: 1. Statement of cause of deviation. 2. Description of actions taken to ensure that a qualified operator will be available. 3. The date when a qualified operator will be accessible. [40 CFR 62.16030(e)(1)(i)]
6.4.4	Notification of Status of Qualified Operator Deviation: The Permittee must submit a Notification of Status of Qualified Operator Deviation: due every 4 weeks following notification of deviation. In the Notification of Status of Qualified Operator Deviation, the Permittee must submit: 1. Description of actions taken to ensure that a qualified operator is accessible. 2. The anticipated date when a qualified operator will be accessible. 3. Request for approval to continue operation. [40 CFR 62.16030(e)(1)(ii)]
6.4.5	Reporting - Deviations: Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in in this permit constitutes a deviation from the operating limits established, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. The Permittee must submit the deviation report for each instance that one of the operating limits established was not met. [40 CFR 62.16005(b)]
6.4.6	Notification of Resumed Operation Following Shut Down: The Permittee must submit a Notification of Resumed Operation Following Shut Down (due to qualified operator deviation and as specified in 40 CFR 62.15945(b)(2)(i)): due within five days of obtaining a qualified operator and resuming operation. In the Notification of Resumed Operation Following Shut Down, the Permittee must submit: 1. Notification that the Permittee has obtained a qualified operator and are resuming operation. [40 CFR 62.16030(e)(2)]
6.4.7	Filterable Particulate Matter: The Permittee shall conduct a performance test due before

Requirement number	Requirement and citation
	3/8/2025 and no more than every 37 months thereafter to measure filterable PM emissions (mg/dscm), unless otherwise required by the 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10. 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 5 at 40 CFR part 60, appendix A-3; Method 26A or Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. The sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator. [40 CFR 62.15955, 40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.4.8	Hydrogen Chloride: The Permittee shall conduct a performance test due before 3/8/2025 and no more than every 37 months thereafter to measure HCl emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10. 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 26A at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run (Method 26A). [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.4.9	Carbon Monoxide: The Permittee shall conduct a performance test due before 3/8/2025 and no more than every 37 months thereafter to measure CO emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10. 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling duration shall be to collect a sample for a minimum duration of one hour per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.4.10	Total PCDD/PCDF: The Permittee shall conduct a performance test due before 3/8/2025 and no more than every 37 months thereafter to measure total dioxin/furan emissions (ng/dscm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10. 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 23 at 40 CFR part 60, appendix A-7, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.4.11	Mercury: The Permittee shall conduct a performance test due before 3/8/2025 and every 37 months thereafter to measure mercury emissions (mg/dscm) unless otherwise required by 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10.

Requirement number	Requirement and citation
	2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; or ASTM D6784-02, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). . The averaging method shall be a 3-run average. For Method 29 and ASTM D6784-02, the Permittee shall collect a minimum volume of 1 dry standard cubic meter per run. For Method 30B, the permittee shall collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8). [40 CFR 62.16000(a), 40 CFR 62.16020(a)(2)(i), 40 CFR pt. 62, subp. LLL(Table 2)]
6.4.12	Nitrogen Oxides: The Permittee shall conduct a performance test due before 3/8/2025 and no more than every 37 months thereafter to measure NOx emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10. 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 7 or 7E at 40 CFR part 60, appendix A-4, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling duration shall be to collect a sample for a minimum duration of one hour per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.4.13	Sulfur Dioxide: The Permittee shall conduct a performance test due before 3/8/2025 and no more than every 37 months thereafter to measure SO2 emissions (ppm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10. 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 6 or 6C at 40 CFR part 40, appendix A-4; ANSI/ASME PTC-19.10-1981, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. For Method 6, the Permittee shall collect a minimum volume of 60 liters per run. For Method 6C, the Permittee shall collect sample for a minimum duration of one hour per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.4.14	Cadmium: The Permittee shall conduct a performance test due before 3/8/2025 and no more than every 37 months thereafter to measure cadmium emissions (mg/dscm) unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10. 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.4.15	Lead: The Permittee shall conduct a performance test due before 3/8/2025 and no more than every 37 months thereafter to measure lead emissions (mg/dscm) unless otherwise required by 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10. 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted

Requirement number	Requirement and citation
	capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL(Table 2)]
6.4.16	Visible Emissions: The Permittee shall conduct a performance test due before 3/8/2025 and no more than every 37 months thereafter to measure fugitive emissions from ash handling unless otherwise required by 40 CFR 62.16000(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10. 2022. The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 22 or an alternative method approved by the Administrator under 40 CFR 62.16015(a)(7). The test will consist of three 1-hour observation periods. [40 CFR 62.16000(a), 40 CFR pt. 62, subp. LLL((Table 2))]
6.4.17	Filterable Particulate Matter: The Permittee shall conduct a performance test due before 12/6/2026 and no more than every 60 months thereafter to measure filterable PM emissions (mg/dscm and lb/ton dry sludge). At the time of permit issuance, the previous stack test was conducted on Dec. 7, 2021. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 5; or other method approved by the commissioner in the performance test plan approval. During each performance test for particulate matter, the sludge rate monitor, wet scrubber pressure drop, oxygen monitor, FBR temperature monitor, and auxiliary fuel flow monitor required by 40 CFR 60.153(a)(1) through (b)(4) must be operating, and the daily sludge sampling and analysis procedures required under 40 CFR 60.153(b)(5) must be performed. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 60.154, Minn. R. 7011.1310, Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
6.4.18	PM < 10 micron: The Permittee shall conduct a performance test due before 12/6/2026 and every 60 months thereafter to measure PM10 emissions (lb/hr). At the time of permit issuance, the previous stack test was conducted on Dec. 7, 2021. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter.

Requirement number	Requirement and citation
	Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 50.6, Minn. R. 7009.0090, Minn. R. 7017.2020, subp. 1]
6.4.19	PM < 2.5 micron: The Permittee shall conduct a performance test due 180 days after startup of EQUI 133 and every 60 months thereafter to measure PM2.5 emissions (lb/hr). The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 50.7, Minn. R. 7009.0090, Minn. R. 7017.2020, subp. 1]
6.4.20	Hydrogen Chloride: The Permittee shall conduct a performance test due before 2/8/2027 and no more than every 60 months thereafter to measure HCl emissions (ppm, lb/ton). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 26A at 40 CFR part 60, appendix A-8 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 200 liters per run (Method 26) or 1 dry standard cubic meter sample per run (Method 26A). Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.4.21	Total PCDD/PCDF: The Permittee shall conduct a performance test due before 2/8/2027 and no more than every 60 months thereafter to measure total dioxin/furan emissions (ng/dscm). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 23 at 40 CFR part 60, appendix A-7 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run.

Requirement number	Requirement and citation
	Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1]
6.4.22	Mercury: The Permittee shall conduct a performance test due before 2/8/2025 and every 36 months thereafter to measure mercury emissions (mg/dscm and lb/ton) unless otherwise required differently, as provided by Minn. Stat. 116.85, subd. 1(a). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10, 2022. If a test conducted shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the Permittee shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the Permittee demonstrates that mercury emissions are again below 50 percent of the facility's permitted mercury limit, the Permittee may resume testing every three years, upon notifying the commissioner. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; ASTM D6784-02 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. For Method 29 and ASTM D6784-02, the Permittee shall collect a minimum volume of 1 dry standard cubic meter per run. For Method 30B, the permittee shall collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8). Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.85, subd. 1(a)]
6.4.23	Lead: The Permittee shall conduct a performance test due before 2/8/2027 and no more than every 60 months thereafter to measure lead emissions (lb/ton). At the time of permit issuance, the previous stack test was conducted on Feb. 9-10, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter.

Requirement number	Requirement and citation
	Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
6.4.24	HAPs - Volatile: The Permittee shall conduct a performance test due before 12/6/2026 and every 60 months thereafter to measure HAPs - volatile emissions (lb/ton) including Methylene Chloride, Perchloroethylene, Toluene, Carbon disulfide, and Vinyl Acetate. At the time of permit issuance, the previous stack test was conducted on Dec. 7, 2021. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18, 320, or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.4.25	HAPs - Metal: The Permittee shall conduct a performance test due before 2/8/2027 and every 60 months thereafter to measure HAPs - metal emissions (lb/ton) including antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium. At the time of permit issuance, the previous stack test was conducted on Feb. 9-10, 2022. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29, or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.4.26	Opacity: The Permittee shall conduct a performance test due before 2/8/2027 and every 60 months thereafter to measure opacity. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 9, or other method approved by the Administrator or the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the

Requirement number	Requirement and citation
	test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [40 CFR 60.152(a)(2), 40 CFR 60.154, Minn. R. 7011.1310, Minn. R. 7017.2020, subp. 1]
EQUI 6	Alkaline Stabilization Cell
6.5.1	The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start. Submit the name and number of the Subject Item and the date construction began. The notification shall be submitted electronically on Form CS-02. The Permittee shall submit process flow diagrams showing the configuration of the emission unit and the control equipment that it will be utilizing. [Minn. R. 7007.0800, subp. 16(L)]
6.5.2	The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a. The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]
6.5.3	PM < 10 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1]
6.5.4	Particulate Matter: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions.

Requirement number	Requirement and citation
	The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
6.5.5	Opacity: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure opacity. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 9, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1]
6.5.6	Hydrogen Sulfide (H₂S): The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions.

Requirement number	Requirement and citation
	The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 15, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
EQUI 7	Alkaline Stabilization Cell
6.6.1	The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start. Submit the name and number of the Subject Item and the date construction began. The notification shall be submitted electronically on Form CS-02. The Permittee shall submit process flow diagrams showing the configuration of the emission unit and the control equipment that it will be utilizing. [Minn. R. 7007.0800, subp. 16(L)]
6.6.2	The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a. The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]
6.6.3	PM < 10 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.

Requirement number	Requirement and citation
	The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1]
6.6.4	Particulate Matter: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
6.6.5	Opacity: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure opacity. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.

Requirement number	Requirement and citation
	The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 9, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1]
6.6.6	Hydrogen Sulfide (H₂S): The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 15, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
EQUI 8	Alkaline Stabilization Cell
6.7.1	The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start. Submit the name and number of the Subject Item and the date construction began. The notification shall be submitted electronically on Form CS-02. The Permittee shall submit process flow diagrams showing the configuration of the emission unit and the control equipment that it will be utilizing. [Minn. R. 7007.0800, subp. 16(L)]
6.7.2	The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.

Requirement number	Requirement and citation
	The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]
6.7.3	PM < 10 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1]
6.7.4	Particulate Matter: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification

Requirement number	Requirement and citation
	under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
6.7.5	Opacity: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure opacity. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 9, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1]
6.7.6	Hydrogen Sulfide (H₂S): The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 15, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification

Requirement number	Requirement and citation
	under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
EQUI 9	Alkaline Stabilization Loading Area
6.8.1	PM < 2.5 micron: The Permittee shall conduct an initial performance test due 180 days after the startup of EQUI 133 and every 60 months thereafter to measure PM_{2.5} emissions (gr/dscf and lb/hr). The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (June 1) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1]
6.8.2	PM < 10 micron: The Permittee shall conduct a performance test due before 6/1/2025 and every 60 months thereafter to measure PM₁₀ emissions (gr/dscf and lb/hr). The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (June 1) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1]
6.8.3	Particulate Matter: The Permittee shall conduct a performance test due before 6/1/2025 and every 60 months thereafter to measure PM emissions (lb/dscf and lb/hr). The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (June 1) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at

Requirement number	Requirement and citation
	the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
6.8.4	Opacity: The Permittee shall conduct a performance test due before 6/1/2025 and every 60 months thereafter to measure opacity. The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (June 1) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 9, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1]
6.8.5	Hydrogen Sulfide (H₂S): The Permittee shall conduct a performance test due before 6/1/2025 and every 60 months thereafter to measure H₂S emissions (lb/hr). The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (June 1) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 15, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000]
EQUI 10	Auxiliary Boiler No. 1
6.9.1	The Permittee shall submit a notification of anticipated date for conducting opacity observations: Due 30 calendar days before Opacity Observation Date. [40 CFR 60.7(a)(6), Minn. R. 7019.0100, subp. 1]

Requirement number	Requirement and citation
6.9.2	The Permittee shall submit a semiannual compliance report: Due by 30 days after end of each calendar half-year. The report shall include the information specified in of this permit. This report may be submitted with the Semiannual Deviations Report also specified in this permit. [40 CFR 60.48c(d), (j), Minn. R. 7011.0570]
EQUI 11	Auxiliary Boiler No. 2
6.10.1	The Permittee shall submit a notification of anticipated date for conducting opacity observations: Due 30 calendar days before Opacity Observation Date. [40 CFR 60.7(a)(6), Minn. R. 7019.0100, subp. 1]
6.10.2	The Permittee shall submit a semiannual compliance report: Due by 30 days after end of each calendar half-year. The report shall include the information specified in of this permit. This report may be submitted with the Semiannual Deviations Report also specified in this permit. [40 CFR 60.48c(d), (j), Minn. R. 7011.0570]
EQUI 36	Local Exhaust Control Ash Loadout Building Transporter Vent (ASHTR 3)
6.11.1	PM < 10 micron: The Permittee shall conduct a performance test due before 09/26/2025 and every 60 months thereafter to measure emissions. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1]
6.11.2	Particulate Matter: The Permittee shall conduct a performance test due before 09/26/2025 and every 60 months thereafter to measure emissions. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]
6.11.3	Opacity: The Permittee shall conduct a performance test due before 09/26/2025 and every 60 months thereafter to measure opacity.

Requirement number	Requirement and citation
	The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 9, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1]
EQUI 57	FBR #2 Oxygen
6.12.1	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7017.1180, subp. 3]
6.12.2	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7017.1180, subp. 1]
6.12.3	The Permittee must conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7017.1010, subp. 1(C)]
6.12.4	The Permittee must conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7017.1010, subp. 1(C)]
EQUI 60	FBR #3 Oxygen
6.13.1	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7017.1180, subp. 3]
6.13.2	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7017.1180, subp. 1]
6.13.3	The Permittee must conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7017.1010, subp. 1(C)]
6.13.4	The Permittee must conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7017.1010, subp. 1(C)]
EQUI 128	FBR #1 Oxygen
6.14.1	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7017.1180, subp. 3]
6.14.2	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7017.1180, subp. 1]
6.14.3	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F, 5.1.2]
6.14.4	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR pt. 60, Appendix F, 5.1.1]
EQUI 133	Fluidized Bed Sewage Sludge Reactor 4

Requirement number	Requirement and citation
6.15.1	Notification of Construction: the Permittee must submit to the commissioner a Notification of Construction prior to commencing construction. The Notification of Construction shall include the following information: (1) A statement of intent to construct. (2) The anticipated date of commencement of construction. (3) All documentation produced as a result of the siting requirements. (4) Anticipated date of initial startup. [40 CFR 60.4915(a), Minn. R. 7011.1350]
6.15.2	Notification of Initial Startup: the Permittee must submit to the commissioner a Notification of Initial Startup prior to initial startup. The Notification of Initial Startup shall include the following information: (1) The maximum design dry sludge burning capacity. (2) The anticipated and permitted maximum dry sludge feed rate. (3) If applicable, the petition for site-specific operating limits specified in 40 CFR 60.4855. (4) The anticipated date of initial startup. [40 CFR 60.4915(b), Minn. R. 7011.1350]
6.15.3	Site-Specific Monitoring Plan of continuous monitoring system: the Permittee must submit to the commissioner a Site-Specific Monitoring Plan of continuous monitoring system, at least 60 days before the initial performance evaluation of the continuous monitoring system. [40 CFR 60.4880(c), 40 CFR 60.4915(b)(5), Minn. R. 7011.1350]
6.15.4	Monitoring Plan of ash handling system: the Permittee must submit to the commissioner a Monitoring Plan of ash handling system, at least 60 days before the initial performance evaluation to demonstrate compliance with the fugitive ash emission limit. [40 CFR 60.4880(c), 40 CFR 60.4915(b)(6), Minn. R. 7011.1350]
6.15.5	Initial Compliance Report: the Permittee must submit to the commissioner an Initial Compliance Report no later than 60 days following the initial performance test. The Notification of Initial Startup shall include the following information: (1) Company name, physical address, and mailing address. (2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report. (3) Date of report. (4) The complete test report for the initial performance test results obtained by using the test methods specified in Table 1 of 40 CFR 60 subpart LLLL. (5) If an initial performance evaluation of a continuous monitoring system was conducted, the results of that initial performance evaluation. (6) The values for the site-specific operating limits established pursuant to 40 CFR 60.4850 and 60.4855 and the calculations and methods, as applicable, used to establish each operating limit. (7) Documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by 40 CFR 60.4850(b). (8) The results of the initial air pollution control device inspection required in 40 CFR 60.4875, including a description of repairs. [40 CFR 60.4915(c), Minn. R. 7011.1350]
6.15.6	Deviation Report: The Permittee must submit to the commissioner a Deviation Report (deviations from emission limits, emission standards, or operating limits, as specified in 40 CFR 60.4915(e)(1)): due by August 1 of a calendar year for data collected during the first half of the calendar year; by February 1 of a calendar year for data collected during the second half of the calendar year. In the Deviation Report, the Permittee must submit: 1. Company name and address. 2. Statement by a responsible official.

Requirement number	Requirement and citation
	If using a Continuous Monitoring System (CMS): 3. The calendar dates and times a unit deviated from the emission limits or operating limits. 4. The averaged and recorded data for those dates. 5. Duration and cause of each deviation. 6. Dates, times, and causes for monitor downtime incidents. 7. A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels. 8. For periods of CMS malfunction or when a CMS was out of control, the Permittee must include the following information for each deviation from an emission limit or operating limit: (A) The date and time that each malfunction started and stopped. (B) The date, time, and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks. (C) 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. (D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction, during a period when the system was out of control, or during another period. (E) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period. (F) A 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. (G) 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 SSI unit at which the continuous monitoring system downtime occurred during that reporting period. (H) An identification of each parameter and pollutant that was monitored at the SSI unit. (I) A brief description of the SSI unit. (J) A brief description of the continuous monitoring system. (K) The date of the latest continuous monitoring system certification or audit. (L) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.. If not using a CMS: 1. The total operating time of each affected FBR unit. 2. The calendar dates and times a unit deviated from the emission limits, emission standard, or operating limits. 3. The averaged and recorded data for those dates. 4. Duration and cause of each deviation. 5. A copy of any performance test report that showed a deviation from the emission limits or standards. 6. A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken. [40 CFR 60.4885(d), 40 CFR 60.4915(e), Minn. R. 7011.1350]
6.15.7	Annual Compliance Report: The Permittee must submit to the commissioner an Annual Compliance Report: No later than 12 months following the submission of the initial compliance report; subsequent reports are to be submitted no more than 12 months following the previous report. In the Annual Compliance Report, the Permittee must submit:

Requirement number	Requirement and citation
	1. Company name and address. 2. Statement and signature by responsible official. 3. Date and beginning and ending dates of report. 4. If a performance test was conducted during the reporting period, the results of the test, including any new operating limits and associated calculations and the type of activated carbon used, if applicable. 5. For each pollutant and operating parameter recorded using a CMS, the highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable. 6. If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred. 7. If a fabric filter is used, the date, time, and duration of alarms. 8. If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated calculations. 9. If the Permittee meets the requirements of 40 CFR 60.4885(a)(3) and did not conduct a performance test, include the dates of the last three performance tests, a comparison to the 50 percent emission limit threshold of the emission level achieved in the last three performance tests, and a statement as to whether there have been any process changes. 10. Documentation of periods when all qualified FBR operators were unavailable for more than 8 hours but less than 2 weeks. 11. Results of annual pollutions control device inspections, including description of repairs. 12. If there were no periods during which the CMSs had malfunctions, a statement that there were no periods during which the CMSs had malfunctions. 13. If there were no periods during which the CMSs were out of control, a statement that there were no periods during which the CMSs were out of control. 14. If there were no operator training deviations, a statement that there were no such deviations. 15. Information on site specific monitoring plan revisions, including a copy of any revised monitoring plan. [40 CFR 60.4885(d), 40 CFR 60.4890(c), 40 CFR 60.4915(d), Minn. R. 7011.1350]
6.15.8	Notification of Qualified Operator Deviation: The Permittee must submit to the commissioner a Notification of Qualified Operator Deviation Report if all qualified operators are not accessible for 2 weeks or more: due Within 10 days of deviation. In the Notification of Qualified Operator Deviation Report, the Permittee must submit: 1. Statement of cause of deviation. 2. Description of actions taken to ensure that a qualified operator will be available. 3. The date when a qualified operator will be accessible. [40 CFR 60.4915(f)(1)(i), Minn. R. 7011.1350]
6.15.9	Notification of Status of Qualified Operator Deviation: The Permittee must submit to the commissioner a Notification of Status of Qualified Operator Deviation: due every 4 weeks following notification of deviation. In the Notification of Status of Qualified Operator Deviation, the Permittee must submit: 1. Description of actions taken to ensure that a qualified operator is accessible. 2. The anticipated date when a qualified operator will be accessible. 3. Request for approval to continue operation. [40 CFR 60.4915(f)(ii), Minn. R. 7011.1350]
6.15.10	Reporting - Deviations: Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in in this permit constitutes a deviation from the operating limits established, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. The Permittee must submit to the commissioner the deviation report for each

Requirement number	Requirement and citation
	instance that one of the operating limits established was not met. [40 CFR 60.4890(b), Minn. R. 7011.1350]
6.15.11	Notification of Resumed Operation Following Shut Down: The Permittee must submit to the commissioner a Notification of Resumed Operation Following Shut Down (due to qualified operator deviation and as specified in 40 CFR 60.4835(b)(2)(i)): due within five days of obtaining a qualified operator and resuming operation. In the Notification of Resumed Operation Following Shut Down, the Permittee must submit: 1. Notification that the Permittee has obtained a qualified operator and are resuming operation. [40 CFR 60.4915(f)(2), Minn. R. 7011.1350]
6.15.12	Filterable Particulate Matter: The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which EQUI 133 will be operated, but not later than 180 days after initial startup of EQUI 133. The subsequent testing schedule to measure emissions from STRU 77 shall be determined by the provisions found in the 40 CFR 60.4885(a). The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 5 at 40 CFR part 60, appendix A-3; Method 26A or Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 60.4900(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1.0 dry standard cubic meters sample per run. [40 CFR 60.4885(a), 40 CFR pt. 60, subp. LLLL(Table 1)]
6.15.13	Nitrogen Oxides: The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which EQUI 133 will be operated, but not later than 180 days after initial startup of EQUI 133. The subsequent testing schedule to measure emissions from STRU 77 shall be determined by the provisions found in 40 CFR 60.4885(a). The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 7 or 7E at 40 CFR part 60, appendix A-4, or an alternative method approved by the Administrator under 40 CFR 60.4900(a)(7). The averaging method shall be a 3-run average. The minimum sampling duration shall be to collect a sample for a minimum duration of one hour per run. [40 CFR 60.4885(a), 40 CFR pt. 60, subp. LLLL(Table 1)]
6.15.14	Sulfur Dioxide: The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which EQUI 133 will be operated, but not later than 180 days after initial startup of EQUI 133. The subsequent testing schedule to measure emissions from STRU 77 shall be determined by the provisions found in 40 CFR 60.4885(a). The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 6 or 6C at 40 CFR part 40, appendix A-4; ANSI/ASME PTC-19.10-1981, or an alternative method approved by the Administrator under 40 CFR 60.4900(a)(7). The averaging method shall be a 3-run average. For Method 6, the Permittee shall collect a minimum volume of 60 liters per run. For Method 6C, the Permittee shall collect sample for a minimum duration of one hour per run. [40 CFR 60.4885(a), 40 CFR pt. 60, subp. LLLL(Table 1)]
6.15.15	Hydrogen Chloride: The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which EQUI 133 will be operated, but not later than 180 days after initial startup of EQUI 133. The subsequent testing schedule to measure emissions from STRU 77 shall be determined by the provisions found in 40 CFR 60.4885(a).

Requirement number	Requirement and citation
	The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 26A at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 60.4900(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run (Method 26A). [40 CFR 60.4885(a), 40 CFR pt. 60, subp. LLLL(Table 1)]
6.15.16	Mercury: The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which EQUI 133 will be operated, but not later than 180 days after initial startup of EQUI 133. The subsequent testing schedule to measure emissions from STRU 77 shall be determined by the provisions found in 40 CFR 60.4885(a). The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; ASTM D6784-02, or an alternative method approved by the Administrator under 40 CFR 60.4900(a)(7). The averaging method shall be a 3-run average. For Method 29 and ASTM D6784-02, the Permittee shall collect a minimum volume of 1 dry standard cubic meter per run. For Method 30B, the permittee shall collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8). [40 CFR 60.4885(a), 40 CFR 60.4905(a)(2)(i), 40 CFR pt. 60, subp. LLLL(Table 1)]
6.15.17	Total PCDD/PCDF: The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which EQUI 133 will be operated, but not later than 180 days after initial startup of EQUI 133. The subsequent testing schedule to measure emissions from STRU 77 shall be determined by the provisions found in 40 CFR 60.4885(a). The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 23 at 40 CFR part 60, appendix A-7, or an alternative method approved by the Administrator under 40 CFR 60.4900(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 60.4885(a), 40 CFR pt. 60, subp. LLLL(Table 1)]
6.15.18	Cadmium: The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which EQUI 133 will be operated, but not later than 180 days after initial startup of EQUI 133. The subsequent testing schedule to measure emissions from STRU 77 shall be determined by the provisions found in 40 CFR 60.4885(a). The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 60.4900(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 60.4885(a), 40 CFR pt. 60, subp. LLLL(Table 1)]
6.15.19	Lead: The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which EQUI 133 will be operated, but not later than 180 days after initial startup of EQUI 133. The subsequent testing schedule to measure emissions from STRU 77 shall be determined by the provisions found in 40 CFR 60.4885(a). The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8, or an alternative method approved by the Administrator under 40 CFR 60.4900(a)(7). The averaging method shall be a 3-run average. The minimum sampling volume shall be to collect a minimum volume of 1 dry standard cubic meter sample per run. [40 CFR 60.4885(a), 40 CFR pt. 60, subp. LLLL(Table 1)]

Requirement number	Requirement and citation
6.15.20	Visible Emissions: The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which EQUI 133 will be operated, but not later than 180 days after initial startup of EQUI 133. The subsequent testing schedule to measure emissions from the ash conveying system shall be determined by the provisions found in 40 CFR 60.4885(a). The performance test shall be conducted at a minimum of 85% of the maximum permitted capacity, using EPA Reference Method 22 or an alternative method approved by the Administrator under 40 CFR 60.4900(a)(7). The test will consist of three 1-hour observation periods. [40 CFR 60.4885(a), 40 CFR pt. 60, subp. LLLL(Table 1)]
6.15.21	Filterable Particulate Matter: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 5, or other method approved by the Administrator or commissioner in the performance test plan approval. During each performance test for particulate matter, the sludge rate monitor, wet scrubber pressure drop, oxygen monitor, FBR temperature monitor, and auxiliary fuel flow monitor required by 40 CFR 60.153(a)(1) through (b)(4) must be operating, and the daily sludge sampling and analysis procedures required under 40 CFR 60.153(b)(5) must be performed. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [40 CFR 60.154, Minn. R. 7011.1310, Minn. R. 7017.2020, subp. 1]
6.15.22	PM < 10 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the

Requirement number	Requirement and citation
	permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [40 CFR 50.6, Minn. R. 7009.0090, Minn. R. 7017.2020, subp. 1]
6.15.23	PM < 2.5 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [40 CFR 50.7, Minn. R. 7009.0090, Minn. R. 7017.2020, subp. 1]
6.15.24	Mercury: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and not to exceed 3 month intervals for the first 12 months of operation thereafter to measure emissions. After demonstrating that mercury emissions have been below 50 percent of the permitted mercury limit for one year, the Permittee may conduct stack testing once every three years. With the approval of the commissioner, an incinerator facility may use methods other than stack testing for determining mercury in air emissions. The Permittee shall notify the commissioner of its mercury testing schedule. If a test conducted shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the Permittee shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the Permittee demonstrates

Requirement number	Requirement and citation
	that mercury emissions are again below 50 percent of the facility's permitted mercury limit, the Permittee may resume testing every three years, upon notifying the commissioner. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; ASTM D6784-02 or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. For Method 29 and ASTM D6784-02, the Permittee shall collect a minimum volume of 1 dry standard cubic meter per run. For Method 30B, the permittee shall collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8). Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter. Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.85, subd. 1(a)]
6.15.25	Opacity: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 9, or other method approved by the commissioner in the performance test plan approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [40 CFR 60.154, Minn. R. 7011.1310, Minn. R. 7017.2020, subp. 1]
6.15.26	HAPs - Volatile: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure HAPs - volatile emissions (lb/ton) including Methylene Chloride, Perchloroethylene, Toluene, Carbon disulfide, and Vinyl Acetate. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test.

Requirement number	Requirement and citation
	Subsequent tests shall be completed no less than every 60-months by the due date based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18, Method 320, or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.15.27	HAPs - Metal: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure HAPs - metal emissions (lb/ton) including antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 29, or other method approved by the commissioner in the performance test plan approval. The averaging method shall be a 3-run average. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
6.15.28	PFAS: The Permittee shall conduct performance tests due 180 calendar days after startup of EQUI 133 to measure emissions of PFAS, including but not limited to the following compounds: Perfluorobutanoic acid (PFBA), Perfluorohexanesulfonic acid (PFHxS), Perfluorohexanoic acid (PFHxA), Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), and

Requirement number	Requirement and citation
	Perfluorobutane sulfonic acid (PFBS). The performance tests shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using both OTM-45 and OTM-50, or other method approved by MPCA in the performance test plan approval. This is a state-only requirement and is not enforceable by the U.S. Environmental Protection Agency (EPA) Administrator and citizens under the Clean Air Act. [Minn. R. 4410, Minn. R. 7017.2020, subp. 1]
6.15.29	Ammonia: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions if a NOx control is installed that utilizes an ammonia-based reagent. The Commissioner will set the subsequent test frequency as stated in a Notice of Compliance (NOC) or Notice of Verification (NOV) letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date based on the initial test date or more frequently as stated in the NOC/NOV letter. If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using method approved by the commissioner in the performance test approval. Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing. Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7007.0800, subp. 2]
EQUI 134	FBR #4 Baghouse Bag Leak Detector
6.16.1	Initial Performance Evaluation: Within 60 days of installation of the monitoring system, the Permittee must conduct an initial performance evaluation of bag leak detection system, in accordance with the Permittee's site specific monitoring plan and to 40 CFR 60.13. [40 CFR 60.4880(c), Minn. R. 7011.1350]
EQUI 137	Fire Pump Engine
6.17.1	The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start. Submit the name and number of the Subject Item and the date construction began. The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]
6.17.2	The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a. The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]

7. Appendices

Appendix A. Insignificant activities and general applicable requirements

The table below lists the insignificant activities that are currently at the Facility and their associated general applicable requirements.

Minn. R.	Rule description of the activity	General applicable requirement
Minn. R. 7007.1300, subp. 3(A)	Fuel Use: space heaters with a capacity less than 420,000 Btu/hr. - kerosene “torpedo” space heaters. - propane heating.	PM <= 0.4 lb/MMBtu, Opacity <= 20% with exceptions (Minn. R. 7011.0515)
Minn. R. 7007.1300, subp. 3(C)(1)	Gasoline storage Tank (FTK3) with a capacity less than 10,000 gallons.	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)
Minn. R. 7007.1300, subp. 3(D)	Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(D)	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)
Minn. R. 7007.1300, subp. 3(E)	Brazing, soldering or welding equipment (including gas welders, electric welders, and plasma cutters)	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)
Minn. R. 7007.1300, subp. 3(F)	Individual emission units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than 2000 lb/yr of VOC, PM or PM10. The following activities at the facility are insignificant under subp. 3(F): Solvent Degreasers (10), Fuel Oil Storage Tanks (FT10, TK5, TSFG3A, TSFG3B, FTK1, FTK2, FTK4, FTK5, FTK13, FTK14), Gasoline Pump, Diesel fuel pump, Kerosene fuel pump. Limestone Silo (Bin Vent) (To be removed as part of the construction	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)

Minn. R.	Rule description of the activity	General applicable requirement
	authorized by permit 12300053-101.) Sand Silo (Bin Vent) Lime Kiln Dust Handling – Vents Inside - 2 - LKD Delivery Trucks (Silos 5 or 8 Bin Vents) - Silo 5 and 8 Transporters (SB13 and SB14) Ash Handling – vents inside - 9-Incinerator Baghouses and 6-Waste Heat Boiler Transporters (SU10 and SU11 Bin Vents) (To be removed as part of the construction authorized by permit 12300053-101.) - 2 Main (SU10 and SU 11) Transporters – relief venting (SU10 and SU11 Bin Vents) - 2 Main (SU10 and SU 11) Transporters (Silos 1-8 – Bin Vents) - Silo 1 and 3 Transporters (Silo 2 – Bin Vents) - Silo 5 and 7 Transporters (Silo 4, 6 – Bin Vents) - 2- Ash Delivery Trucks (Silos 1, 2, 3, 4 or 6 – Bin Vents) - Silos 1-8 Transporters (SU01 or SU02 Bin Vents) - SU01 and SU02 to optional water mixing and to truck loadout (vents to inside loadout area) - Silos 1, 2, 3, 4, or 6 Transporters (SB11 and/or SB12 Bin Vents) - Minor Vacuum in SMB (To be removed as part of the construction authorized by	

Minn. R.	Rule description of the activity	General applicable requirement
	permit 12300053-101.) Carbon Silo. SMB Ash Housekeeping Vacuum System with to exhaust through an external vent. Ash Vacuum Conveyance System located in Solids Management Building, with a 200 lb/min pickup capacity, moving ash from FBRs 1-4 to SU10 or SU11 bins.	
Minn. R. 7007.1300, subp. 3(G)	Fugitive dust emissions from unpaved entrance roads and parking lots	Requirement to take reasonable measures to prevent PM from becoming airborne (Minn. R. 7011.0150)
Minn. R. 7007.1300, subp. 4	Liquids: - East Primary Influent Channel - East Aeration Influent Channel - East Secondary Influent Channel - West Secondary Influent Channel - East Final Clarifiers - West Final Clarifiers - Chlorination - Dechlorination Solids: - Gravity Thickeners - Flotation Thickeners - HCl Storage Tank	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)

Appendix B. Modeling Parameters and Emission Rates

Table 1. 2021 Modeling Point Source Parameters

Permit ID	Modeling source ID	Description	Release type	UTM: Zone 15 (NAD83)		Base elevation (m)	Height (m)	Exit temperature (K)	Exit velocity (m/s)	Diameter (m)	Flow rate (acfm)
				Easting (m)	Easting (m)						
STRU3	SV023	BF08 Stack	POINTHOR	496,481.556	4,974,734.663	213.96	23.50	294.26	6.89	0.83	7,900
STRU6	SV039	Fluidized Bed Reactor #1 Stack	POINT	496,712.100	4,975,119.700	214.15	32.00	394.10	19.40	0.91	27,000
STRU7	SV040	Fluidized Bed Reactor #2 Stack	POINT	496,713.900	4,975,117.800	214.19	32.00	394.10	19.40	0.91	27,000
STRU8	SV041	Fluidized Bed Reactor #3 Stack	POINT	496,715.800	4,975,119.400	214.16	32.00	394.10	19.40	0.91	27,000
STRU9	SV046	Auxiliary Boiler No. 1	POINT	496,686.859	4,975,084.212	214.15	23.70	421.89	10.50	1.22	26,000
STRU10	SV047	Auxiliary Boiler No. 2	POINT	496,686.800	4,975,079.700	214.16	23.70	421.89	10.50	1.22	26,000
STRU13	SV050	Carbon Truck Unloading Vent	POINT	496,762.790	4,975,082.430	213.21	14.63	Ambient	20.70	0.15	800
STRU19	SV033	BF01 Stack (Plenum Room Vent)	POINT	496,392.372	4,974,733.675	214.72	21.95	294.26	0.047	2.31	420
STRU20	SV035	BF01 Stack (Plenum Room Vent)	POINT	496,398.472	4,974,732.575	214.77	21.95	294.26	0.047	2.31	420
STRU21	SV036	BF01 Stack (Plenum Room Vent)	POINT	496,398.072	4,974,728.475	214.77	21.95	294.26	0.047	2.31	420
STRU22	SV037	BF01 Stack (Plenum Room Vent)	POINT	496,394.772	4,974,726.875	214.74	21.95	294.26	0.053	2.19	420.00
STRU23	SV007	Sludge Storage Tanks	POINT	496,476.990	4,974,789.640	214.34	14.94	294.26	9.93	1.07	18,800
STRU24	SV006	Sludge Storage Tanks	POINT	496,481.680	4,974,868.480	214.85	14.94	294.26	9.93	1.07	18,800
STRU29	SV038	BF01 Stack (Plenum Room Vent)	POINT	496,391.772	4,974,729.075	214.71	21.95	294.26	0.053	2.19	420.00
STRU30	SV034	BF01 Stack (Plenum Room Vent)	POINT	496,395.572	4,974,734.975	214.74	21.95	294.26	0.047	2.31	420
STRU35	SV045	Alkaline Stabilization Loading	POINT	496,712.700	4,974,989.300	213.73	22.25	294.26	14.29	1.02	24,500
STRU70	NEWFBR	Fluidized Bed Reactor #4	POINT	496,717.006	4,975,117.996	214.18	32.00	394.10	19.54	1.07	37,000

Permit Issued: January 4, 2024
Permit Expires: January 4, 2029

12300053-101
Page 265 of 707

Permit ID	Modeling source ID	Description	Release type	UTM: Zone 15 (NAD83)		Base elevation (m)	Height (m)	Exit temperature (K)	Exit velocity (m/s)	Diameter (m)	Flow rate (acfm)
				Easting (m)	Easting (m)						
IA	EXVAC	Replacement SMB Ash Housekeeping Vacuum	POINTHOR	496,735.080	4,975,035.310	213.5	5.46	338.56	4.91	0.4064	1,350
IA -STRU1	SMB_IA_1	Internally Venting Subp. 3(F) Insignificant Activities. EP1 in calculations	POINT	496,705.559	4,975,072.708	214.03	21.34	300.00	10.08	1.727	50,000
IA -STRU12	SMB_IA_2		POINT	496,716.276	4,975,072.574	213.94	21.34	300.00	10.08	1.727	50,000
IA -STRU12	SMB_IA_3		POINT	496,727.514	4,975,071.921	213.84	21.34	300.00	10.08	1.727	50,000
IA -STRU1	SMB_IA_4		POINT	496,704.778	4,975,061.468	214.01	21.34	300.00	10.08	1.727	50,000
IA -STRU1	SMB_IA_5		POINT	496,715.884	4,975,061.206	213.90	21.34	300.00	10.08	1.727	50,000
IA -STRU12	SMB_IA_6		POINT	496,726.338	4,975,060.161	213.79	21.34	300.00	10.08	1.727	50,000
IA	VAC01	SMB Ash Vacuum Conveyance System	POINT	496,696.000	4,975,067.000	214.10	19.81	310.93	19.40	0.3048	3,000

IA = Insignificant Activity

Table 2. 2021 Modeling point source emission rates

Permit ID	Modeling source ID	Description	PM ₁₀ (g/s)
STRU3	SV023	BF08 Stack	0.0427
STRU6	SV039	Fluidized Bed Reactor #1	0.214
STRU7	SV040	Fluidized Bed Reactor #2	0.214
STRU8	SV041	Fluidized Bed Reactor #3	0.214
STRU9	SV046	Auxiliary Boiler #1	0.0487
STRU10	SV047	Auxiliary Boiler #2	0.0487
STRU13	SV050	Carbon Truck Unloading Vent	2.36E-05
STRU19	SV033	BF01 Stack (Plenum Room Vent)	0.00227
STRU20	SV034	BF01 Stack (Plenum Room Vent)	0.00227
STRU21	SV035	BF01 Stack (Plenum Room Vent)	0.00227
STRU22	SV036	BF01 Stack (Plenum Room Vent)	0.00227
STRU29	SV037	BF01 Stack (Plenum Room Vent)	0.00227
STRU30	SV038	BF01 Stack (Plenum Room Vent)	0.00227
STRU35	SV045	Alkaline Stabilization Loading	0.132 *
STRU70	NEWFBR	Fluidized Bed Reactor #4	0.214
EXVAC	EXVAC	Replacement SMB Ash Housekeeping Vacuum	1.02E-03
IA – STRU12	SMB_IA_1	Internally Venting Subp. 3(F) Insignificant Activities, assumed to exhaust from heat fans above the FBRs, IA EP1 in Title V reissuance calculations Assigned STRU12 by MPCA.	0.000156
IA – STRU12	SMB_IA_2		0.000156
IA – STRU12	SMB_IA_3		0.000156
IA – STRU12	SMB_IA_4		0.000156
IA – STRU12	SMB_IA_5		0.000156
IA – STRU12	SMB_IA_6		0.000156
IA	VAC01	SMB Ash Vacuum Conveyance System	0.00168

* EQUI9, exhausting to STRU35, has operation restricted. EQUI9 will not operate at the same time as all four Fluidized Bed Reactors, EQUIs 3, 4, 5, and 133.

Table 3. 2021 Modeling volume source parameters

Modeling source ID	Description	UTM: Zone 15 (NAD83)		Base elevation (m)	Height (m)	SigmaY (m)	SigmaZ (m)	Length (m)
		Easting (m)	Northing (m)					
408BINS	Ash and lime handling at Building 408, insignificant activity, EP2	496,468.672	4,974,712.567	213.91	10	7.277	9.642	
AlkSt_IA	Alkaline stabilization surge bins, insignificant activity, EP3	496,724.419	4,974,993.778	213.72	15.24	3.823	9.64	
Roads	Paved roads throughout the facility, modeled as more than 300 volume sources	Varies	Varies	Varies	3.498	8.372	3.254	18

Table 4. 2021 Modeling volume source emission rates

Modeling source ID	Description	PM ₁₀
		(g/s)
408BINS	Ash and lime handling, insignificant activity, EP2	0.0609
AlkSt_IA	Alkaline stabilization surge bins, internally venting, EP3	0.013
Roads	Paved roads throughout the facility, modeled as more than 300 volume sources	0.021

Appendix C: Inherent Process Equipment

EQUI 132: Ash Handling – vents inside	
Components	Internally Venting Equipment
9-Incinerator Baghouses and 6-Waste Heat Boiler Transporters (Will be removed during the FBR 4 construction)	SU10 and SU11 Bin Vents
2 Main (SU10 and SU 11) Transporters – relief venting	SU10 and SU11 Bin Vents
2 Main (SU10 and SU 11) Transporters	Silos 1-8 – Bin Vents
Silo 1 and 3 Transporters	Silo 2 – Bin Vents
Silo 5 and 7 Transporters	Silo 4,6 – Bin Vents
2- Ash Delivery Trucks	Silos 1, 2, 3, 4 or 6 – Bin Vents
Silos 1-8 Transporters	SU01 or SU02 Bin Vents
SU01 and SU02 to optional water mixing and to truck loadout	Vents to inside loadout area
Silos 1, 2, 3, 4, or 6 Transporters	SB11 and/or SB12 Bin Vents
Minor Vacuum in SMB (This vacuum will get replaced at some point during construction with the SMB ash housekeeping vacuum that will vent outside.)	outside

EQUI 131: LKD Handling – Vents Inside	
Components	Venting Equipment
2 – LKD Delivery Trucks	Silos 5 or 8 Bin Vents
Silo 5 and 8 Transporters	SB13 and SB14

EQUI 129: Sand Silo	
Components	Venting Equipment
Sand Silo	Bin Vent

Limestone -	
Components	Venting Equipment
Limestone Silo (Will be removed during the FBR 4 construction)	Bin Vent

Appendix D. Metal Ash Content

The following table contains the metal ash content that was used in the HAPs calculations for Ash Handling (EQUIs 13, 14, 15, and 36), Ash Vacuum (EQUI 50), Ash Handling – vents inside (EQUI 132), and Alkalinity Stabilization Cells (EQUIs 6, 7, 8, and 9).

The table below give the maximum HAPs metal content that can be used in calculating potential to emit for units listed above, they are not limits; however, a change of metal content to a higher HAP content, shall require an evaluation to determine if there has been a change in the part 63 HAPs minor source classification.

Metal Ash Content

Antimony	4.2	ppmw dry	95% UCL of 2017 - 2019 Samples
Arsenic	21.4	ppmw dry	95% UCL of 2017 - 2019 Samples
Beryllium	0.7	ppmw dry	95% UCL of 2017 - 2019 Samples
Cadmium	11.6	ppmw dry	5% UCL of 2017 - 2019 Samples
Chromium	228.0	ppmw dry	95% UCL of 2017 - 2019 Samples
Cobalt	14.7	ppmw dry	95% UCL of 2017 - 2019 Samples
Lead	442.1	ppmw dry	95% UCL of 2017 - 2019 Samples
Manganese	8903.0	ppmw dry	95% UCL of 2017 - 2019 Samples
Mercury	3.2	ppmw dry	95% UCL of 2017 - 2019 Samples
Nickel	145.3	ppmw dry	95% UCL of 2017 - 2019 Samples

**Appendix E. 40 CFR Part 62, Subpart LLL—Federal Plan Requirements for Sewage Sludge Incineration Units
Constructed on or Before October 14, 2010**

Applicability

§62.15855 Am I subject to this subpart?

- (a) You are subject to this subpart if your SSI unit meets all three criteria described in paragraphs (a)(1) through (3) of this section.
- (1) You own or operate an SSI unit(s) that commenced construction on or before October 14, 2010.
 - (2) You own or operate an SSI unit(s) that meet the definition of an SSI unit as defined in §62.16045.
 - (3) You own or operate an SSI unit(s) not exempt under §62.15860.
- (b) If you own or operator an SSI unit(s) and make changes that meet the definition of modification after September 21, 2011, the SSI unit becomes subject to 40 CFR part 60, subpart LLLL, and the federal plan no longer applies to that unit.
- (c) If you own or operate an SSI unit(s) and make physical or operational changes to the SSI unit(s) for which construction commenced on or before September 21, 2011 primarily to comply with the federal plan, 40 CFR part 60, subpart LLLL, does not apply to the unit(s). Such changes do not qualify as modifications under 40 CFR part 60, subpart LLLL.

§62.15860 What SSI units are exempt from the federal plan?

This subpart exempts combustion units that incinerate sewage sludge and are not located at a wastewater treatment facility designed to treat domestic sewage sludge. These units may be subject to another subpart of this part (*e.g.*, subpart III of this part). If you own or operate such a combustion unit, you must notify the Administrator of an exemption claim under this section.

§62.15865 How do I determine if my SSI unit is covered by an approved and effective state or tribal plan?

This part contains a list of all states and tribal areas with approved Clean Air Act (CAA) section 111(d)/129 plans in effect. However, this part is only updated once a year. Thus, if this part does not indicate that your state or tribal area has an approved and effective plan, you should contact your state environmental agency's air director or your EPA regional office to determine if approval occurred since publication of the most recent version of this part. A state may also meet its CAA section 111(d)/129 obligations by submitting an acceptable written request for delegation of the federal plan that meets the requirements of this section. This is the only other option for a state to meet its 111(d)/129 obligations.

- (a) An acceptable federal plan delegation request must include the following:
- (1) A demonstration of adequate resources and legal authority to administer and enforce the federal plan.
 - (2) The items under §60.5015(a)(1), (2), and (7) of this chapter.
 - (3) Certification that the hearing on the state delegation request, similar to the hearing for a state plan submittal, was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.

(4) A commitment to enter into a Memorandum of Agreement with the Regional Administrator who sets forth the terms, conditions and effective date of the delegation and that serves as the mechanism for the transfer of authority. Additional guidance and information is given in the EPA's "Delegations Manual, Item 7-139, Implementation and Enforcement of 111(d)(2) and 111(d)(2)/129(b)(3) federal plans."

(b) A state with an already approved SSI CAA section 111(d)/129 state plan is not precluded from receiving EPA approval of a delegation request for the federal plan, providing the requirements of paragraph (a) of this section are met, and at the time of the delegation request, the state also requests withdrawal of the EPA's previous state plan approval.

(c) A state's CAA section 111(d)/129 obligations are separate from its obligations under title V of the CAA.

§62.15870 If my SSI unit is not listed on the federal plan inventory, am I exempt from this subpart?

Not necessarily. Sources subject to this subpart include, but are not limited to, the inventory of sources listed in Docket ID Number EPA-HQ-OAR-2012-0319 for the federal plan. Review the applicability of §62.15855 to determine if you are subject to this subpart.

Compliance Schedules

§62.15875 What is my final compliance date?

Except as provided in paragraph (b) of this section, you must submit a final control plan and achieve final compliance specified by the date in paragraph (a) of this section:

(a) March 21, 2016, as specified in Table 1 of this subpart.

(b) March 21, 2017, for East Bank Wastewater Treatment Plant, 6501 Florida Avenue, New Orleans, Louisiana 70117, and for the Bayshore Regional Wastewater Treatment Plant, 100 Oak Street, Union Beach, New Jersey 07735.

§62.15880 [Reserved]

§62.15885 What must I include in the notifications of achievement of compliance?

Your notification of achievement of compliance must include the three items specified in paragraphs (a) through (c) of this section:

(a) Notification that the final control plan has been submitted and final compliance has been achieved;

(b) Any items required to be submitted with the final control plan and final compliance; and

(c) Signature of the owner or operator of the SSI unit.

§62.15890 When must I submit the notifications of achievement of compliance?

Notifications for achieving compliance must be postmarked no later than 10 business days after the compliance date.

§62.15895 What if I do not meet the compliance date?

If you fail to submit a final control plan and achieve final compliance, you must submit a notification to the Administrator postmarked within 10 business days after the compliance date in Table 1 to this subpart. You must inform the Administrator that you did not achieve compliance, and you must continue to submit reports

each subsequent calendar month until a final control plan is submitted and final compliance is met. An SSI unit that operates out of compliance after the final compliance date would be in violation of the federal plan and subject to enforcement action.

§62.15900 How do I comply with the requirement for submittal of a control plan?

For your control plan, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.

(a) Submit the final control plan to your EPA regional office and permitting authority or delegated authority that includes the four items described in paragraphs (a)(1) through (4) of this section:

- (1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limits and standards and other requirements of this subpart;
- (2) The type(s) of waste to be burned, if waste other than sewage sludge is burned in the unit;
- (3) The maximum design sewage sludge burning capacity; and
- (4) If applicable, the petition for site-specific operating limits under §62.15965.

(b) Maintain an onsite copy of the final control plan.

§62.15905 How do I achieve final compliance?

For achieving final compliance, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected SSI unit is brought online, all necessary process changes and air pollution control devices would operate as designed.

§62.15910 What must I do if I close my SSI unit and then restart it?

- (a) If you close your SSI unit but will restart it prior to the final compliance, you must submit a final control plan and achieve final compliance as specified in §62.15875.
- (b) If you close your SSI unit but will restart it after the final compliance date, you must complete emission control retrofits and meet the emission limits, emission standards, and operating limits on the date your unit restarts operation.

§62.15915 What must I do if I plan to permanently close my SSI unit and not restart it?

If you plan to close your SSI unit rather than comply with the federal plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.

Operator Training and Qualification

§62.15920 What are the operator training and qualification requirements?

- (a) An SSI unit cannot be operated unless a fully trained and qualified SSI unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified SSI unit operator may operate the SSI unit directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified SSI unit operators are temporarily not accessible, you must follow the procedures in §62.15945.
- (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 10 subjects listed in paragraphs (c)(1)(i) through (x) 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, sewage sludge feeding 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 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; and
- (x) Pollution prevention.

(2) An examination designed and administered by the state-approved program or instructor administering the subjects in paragraph (c)(1) of this section.

(3) Written material covering the training course topics that may serve as reference material following completion of the course.

§62.15925 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) The final compliance date;
- (b) Six months after your SSI unit startup; and
- (c) Six months after an employee assumes responsibility for operating the SSI unit or assumes responsibility for supervising the operation of the SSI unit.

§62.15930 How do I obtain my operator qualification?

- (a) You must obtain operator qualification by completing a training course that satisfies the criteria under §62.15920(b).
- (b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under §62.15920(c)(2).

§62.15935 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, sewage sludge feeding and ash handling;
- (c) Inspection and maintenance;
- (d) Prevention of malfunctions or conditions that may lead to malfunction; and
- (e) Discussion of operating problems encountered by attendees.

§62.15940 How do I renew my lapsed operator qualification?

You must renew a lapsed operator qualification before you begin operation of an SSI unit 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 §62.15935; and
- (b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in §62.15920.

§62.15945 What if all the qualified operators are temporarily not accessible?

If a qualified operator is not at the facility and cannot be at the facility within 1 hour, you must meet the criteria specified in either paragraph (a) or (b) of this section, depending on the length of time that a qualified operator is not accessible:

- (a) When a qualified operator is not accessible for more than 8 hours, the SSI unit may be operated for less than 2 weeks by other plant personnel who are familiar with the operation of the SSI unit and who have completed a review of the information specified in §62.15950 within the past 12 months. However, you must record the period when a qualified operator was not accessible and include this deviation in the annual report as specified under §62.16030(c).
- (b) When a qualified operator is 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 SSI unit. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under paragraph (b)(1) of this section:
 - (i) If the Administrator notifies you that your request to continue operation of the SSI unit is disapproved, the SSI unit may continue operation for 30 days and then must cease operation; and

(ii) Operation of the unit may resume if a qualified operator is accessible as required under §62.15920(a). You must notify the Administrator within 5 days of having resumed operations and of having a qualified operator accessible.

§62.15950 What site-specific documentation is required and how often must it be reviewed by qualified operators and plant personnel?

(a) You must maintain at the facility the documentation of the operator training procedures specified under §62.15920(c)(1) and make the documentation readily accessible to all SSI unit operators.

(b) You must establish a program for reviewing the information listed in §62.15920(c)(1) with each qualified incinerator operator and other plant personnel who may operate the unit according to the provisions of §62.15945(a), according to the following schedule:

(1) The initial review of the information listed in §62.15920(c)(1) must be conducted by November 30, 2016, or prior to an employee's assumption of responsibilities for operation of the SSI unit, whichever date is later; and

(2) Subsequent annual reviews of the information listed in §62.15920(c)(1) must be conducted no later than 12 months following the previous review.

Emission Limits, Emission Standards and Operating Limits and Requirements

§62.15955 What emission limits and standards must I meet and by when?

You must meet the emission limits and standards specified in Table 2 or 3 to this subpart by the final compliance date specified in §62.15875. The emission limits and standards apply at all times the unit is operating and during periods of malfunction. The emission limits and standards apply to emissions from a bypass stack or vent while sewage sludge is in the combustion chamber (*i.e.*, until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time).

§62.15960 What operating limits and requirements must I meet and by when?

You must meet, as applicable, the operating limits and requirements specified in paragraphs (a) through (d) and (h) of this section, according to the schedule specified in paragraph (e) of this section. The operating parameters for which you will establish operating limits for a wet scrubber, fabric filter, electrostatic precipitator or activated carbon injection are listed in Table 4 to this subpart. You must comply with the operating requirements in paragraph (f) of this section and the requirements in paragraph (g) of this section for meeting any new operating limits, re-established in §62.16005. The operating limits apply at all times that sewage sludge is in the combustion chamber (*i.e.*, until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time):

(a) You must meet a site-specific operating limit for minimum operating temperature of the combustion chamber (or afterburner combustion chamber) that you establish in §62.15985;

(b) If you use a wet scrubber, electrostatic precipitator, activated carbon injection or afterburner to comply with an emission limit, you must meet the site-specific operating limits that you establish in §62.15985 for each operating parameter associated with each air pollution control device;

(c) If you use a fabric filter to comply with the emission limits, you must install the bag leak detection system specified in §§62.15995(b) and 62.16020(b)(3)(i) and operate the bag leak detection system such that the alarm does not sound more than 5-percent of the operating time during a 6-month period. You must calculate the alarm time as specified in §62.16005(a)(2)(i);

(d) You must meet the operating requirements in your site-specific fugitive emission monitoring plan, submitted as specified in §62.15995(d) to ensure that your ash handling system will meet the emission standard for fugitive emissions from ash handling;

(e) You must meet the operating limits and requirements specified in paragraphs (a) through (d) of this section by the final compliance date specified in §62.15875;

(f) You must monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, as specified in paragraphs (f)(1) and (2) of this section:

(1) Continuously monitor the sewage sludge feed rate and calculate a daily average for all hours of operation during each 24-hour period. Keep a record of the daily average feed rate, as specified in §62.16025(f)(3)(ii); and

(2) Take at least one grab sample per day of the sewage sludge fed to the sewage sludge incinerator. If you take more than one grab sample in a day, calculate the daily average for the grab samples. Keep a record of the daily average moisture content, as specified in §62.16025(f)(3)(ii).

(g) For the operating limits and requirements specified in paragraphs (a) through (d) and (h) of this section, you must meet any new operating limits and requirements, re-established according to §62.16005(d)); and

(h) If you use an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator or activated carbon injection to comply with the emission limits in Table 2 or 3 to this subpart, you must meet any site-specific operating limits or requirements that you establish as required in §62.15965.

§62.15965 How do I establish operating limits if I do not use a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner, or if I limit emissions in some other manner, to comply with the emission limits?

If you use an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner, or limit emissions in some other manner (*e.g.*, materials balance) to comply with the emission limits in §62.15955, you must meet the requirements in paragraphs (a) and (b) of this section:

(a) Meet the applicable operating limits and requirements in §60.4850 of this chapter, and establish applicable operating limits according to §62.15985; and

(b) Petition the Administrator for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and to be monitored continuously thereafter.

(1) You are responsible for submitting any supporting information in a timely manner to enable the Administrator to consider the application prior to the performance test. You must not conduct the initial performance test until after the petition has been approved by the Administrator, and you must comply with the operating limits as written, pending approval by the Administrator. Neither submittal

of an application, nor the Administrator's failure to approve or disapprove the application relieves you of the responsibility to comply with any provision of this subpart;

(2) Your petition must include the five items listed in paragraphs (b)(2)(i) through (v) of this section:

- (i) Identification of the specific parameters you propose to monitor;
- (ii) 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;
- (iii) A discussion of how you will establish the upper and/or lower values for these parameters that will establish the operating limits on these parameters, including a discussion of the averaging periods associated with those parameters for determining compliance;
- (iv) 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
- (v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

§62.15970 Do the emission limits, emission standards, and operating limits apply during periods of startup, shutdown, and malfunction?

The emission limits and standards apply at all times and during periods of malfunction. The operating limits apply at all times that sewage sludge is in the combustion chamber (*i.e.*, until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time). For determining compliance with the CO concentration limit using CO CEMS, the correction to 7-percent oxygen does not apply during periods of startup or shutdown. Use the measured CO concentration without correcting for oxygen concentration in averaging with other CO concentrations (corrected to 7-percent O₂) to determine the 24-hour average value.

§62.15975 [Reserved]

Initial Compliance Requirements

§62.15980 How and when do I demonstrate initial compliance with the emission limits and standards?

To demonstrate initial compliance with the emission limits and standards in Table 2 or 3 to this subpart, use the procedures specified in paragraph (a) of this section. In lieu of using the procedures specified in paragraph (a) of this section, you have the option to demonstrate initial compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, lead and fugitive emissions from ash handling. You must meet the requirements of paragraphs (a) and (b) of this section, as applicable, and paragraphs (c) through (e) of this section, according to the performance testing, monitoring, and calibration requirements in §62.16015(a) and (b).

- (a) Demonstrate initial compliance using the performance test required in §60.8 of this chapter. You must demonstrate that your SSI unit meets the emission limits and standards specified in Table 2 or 3 to this

subpart for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, lead and fugitive emissions from ash handling using the performance test. The initial performance test must be conducted using the test methods, averaging methods, and minimum sampling volumes or durations specified in Table 2 or 3 to this subpart and according to the testing, monitoring, and calibration requirements specified in §62.16015(a).

(1) Except as provided in paragraph (e) of this section, you must demonstrate that your SSI unit meets the emission limits and standards specified in Table 2 or 3 to this subpart by the final compliance date (see Table 1 to this subpart).

(2) You may use the results from a performance test conducted within the 2 previous years that was conducted under the same conditions and demonstrated compliance with the emission limits and standards in Table 2 or 3 to this subpart, provided no process changes have been made since you conducted that performance test. However, you must continue to meet the operating limits established during the most recent performance test that demonstrated compliance with the emission limits and standards in Table 2 or 3 to this subpart. The performance test must have used the test methods specified in Table 2 or 3 to this subpart.

(b) Demonstrate initial compliance using a continuous emissions monitoring system or continuous automated sampling system. The option to use a continuous emissions monitoring system for hydrogen chloride, dioxins/furans, cadmium, or lead takes effect on the date a final performance specification applicable to hydrogen chloride, dioxins/furans, cadmium or lead is published in the FEDERAL REGISTER. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the FEDERAL REGISTER. Collect data as specified in §62.16015(b)(6) and use the following procedures:

(1) To demonstrate initial compliance with the emission limits specified in Table 2 or 3 to this subpart for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium and lead, you may substitute the use of a continuous monitoring system in lieu of conducting the initial performance test required in paragraph (a) of this section, as follows:

(i) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (b)(1) of this section in lieu of conducting the initial performance test for that pollutant in paragraph (a) of this section. For determining compliance with the carbon monoxide concentration limit using carbon monoxide CEMS, the correction to 7-percent oxygen does not apply during periods of startup or shutdown. Use the measured carbon monoxide concentration without correcting for oxygen concentration in averaging with other carbon monoxide concentrations (corrected to 7-percent oxygen) to determine the 24-hour average value.

(ii) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the annual mercury or dioxin/furan performance test in paragraph (a) of this section.

(2) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in Table 2 or 3 to this subpart, as described in paragraph (b)(1) of this section, you must

use the continuous emissions monitoring system and follow the requirements specified in §62.16015(b). You must measure emissions according to §60.13 of this chapter to calculate 1-hour arithmetic averages, corrected to 7-percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19-19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A-7.

(3) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in Table 2 or 3 to this subpart, as described in paragraph (b)(1) of this section, you must:

(i) Use the continuous automated sampling system specified in §60.58b(p) and (q) of this chapter, and measure and calculate average emissions corrected to 7-percent oxygen (or carbon dioxide) according to §60.58b(p) and your monitoring plan.

(A) Use the procedures specified in §60.58b(p) of this chapter to calculate 24-hour block averages to determine compliance with the mercury emission limit in Table 2 or 3 to this subpart.

(B) Use the procedures specified in §60.58b(p) of this chapter to calculate 2-week block averages to determine compliance with the dioxin/furan (total mass basis or toxic equivalency basis) emission limit in Table 2 or 3 to this subpart.

(ii) Comply with the provisions in §60.58b(q) of this chapter to develop a monitoring plan. For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 of this chapter and Procedure 5 of appendix F of part 60 of this chapter.

(4) Except as provided in paragraph (e) of this section, you must complete your initial performance evaluations required under your monitoring plan for any continuous emissions monitoring systems and continuous automated sampling systems by the final compliance date (see Table 1 to this subpart). Your performance evaluation must be conducted using the procedures and acceptance criteria specified in §62.15995(a)(3).

(c) To demonstrate initial compliance with the dioxins/furans toxic equivalency emission limit in Table 2 or 3 to this subpart, determine dioxins/furans toxic equivalency as follows:

(1) Measure the concentration of each dioxin/furan tetra- through octachlorinated-isomer emitted using EPA Method 23 at 40 CFR part 60, appendix A-7.

(2) Multiply the concentration of each dioxin/furan (tetra- through octa-chlorinated) isomer by its corresponding toxic equivalency factor specified in Table 5 to this subpart.

(3) Sum the products calculated in accordance with paragraph (c)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(d) Submit an initial compliance report, as specified in §62.16030(b).

(e) If you demonstrate initial compliance using the performance test specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in §62.16030(f). You must conduct the initial performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to

the initial performance test deadline and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.

§62.15985 How do I establish my operating limits?

(a) You must establish the site-specific operating limits specified in paragraphs (b) through (h) of this section or established in §62.15965, as applicable, during your initial performance tests required in §62.15980. You must meet the requirements in §62.16005(d) to confirm these operating limits or re-establish new operating limits using operating data recorded during any performance tests or performance evaluations required in §62.16000. You must follow the data measurement and recording frequencies and data averaging times specified in Table 4 to this subpart or as established in §62.15965, and you must follow the testing, monitoring and calibration requirements specified in §§62.16015 and 62.16020 or established in §62.15965. You are not required to establish operating limits for the operating parameters listed in Table 4 to this subpart for a control device if you use a continuous monitoring system to demonstrate compliance with the emission limits in Table 2 or 3 to this subpart for the applicable pollutants, as follows:

- (1) For a scrubber designed to control emissions of hydrogen chloride or sulfur dioxide, you are not required to establish an operating limit and monitor scrubber liquid flow rate or scrubber liquid pH if you use the continuous monitoring system specified in §§60.4865(b) and 60.4885(b) of this chapter to demonstrate compliance with the emission limit for hydrogen chloride or sulfur dioxide.
- (2) For a scrubber designed to control emissions of particulate matter, cadmium and lead, you are not required to establish an operating limit and monitor pressure drop across the scrubber or scrubber liquid flow rate if you use the continuous monitoring system specified in §§60.4865(b) and 60.4885(b) of this chapter to demonstrate compliance with the emission limit for particulate matter, cadmium and lead.
- (3) For an electrostatic precipitator designed to control emissions of particulate matter, cadmium and lead, you are not required to establish an operating limit and monitor secondary voltage of the collection plates, secondary amperage of the collection plates or effluent water flow rate at the outlet of the electrostatic precipitator if you use the continuous monitoring system specified in §§60.4865(b) and 60.4885(b) of this chapter to demonstrate compliance with the emission limit for particulate matter, lead and cadmium.
- (4) For an activated carbon injection system designed to control emissions of mercury, you are not required to establish an operating limit and monitor sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in §§60.4865(b) and 60.4885(b) of this chapter to demonstrate compliance with the emission limit for mercury.
- (5) For an activated carbon injection system designed to control emissions of dioxins/furans, you are not required to establish an operating limit and monitor sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in §§60.4865(b) and 60.4885(b) of this chapter to demonstrate compliance with the emission limit for dioxins/furans (total mass basis or toxic equivalency basis).

(b) Minimum pressure drop across each wet scrubber used to meet the particulate matter, lead and cadmium emission limits in Table 2 or 3 to this subpart, equal to the lowest 4-hour average pressure drop

across each such wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits.

(c) Minimum scrubber liquid flow rate (measured at the inlet to each wet scrubber), equal to the lowest 4-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.

(d) Minimum scrubber liquid pH for each wet scrubber used to meet the sulfur dioxide or hydrogen chloride emission limits in Table 2 or 3 to this subpart, equal to the lowest 1-hour average scrubber liquid pH measured during the most recent performance test demonstrating compliance with the sulfur dioxide and hydrogen chloride emission limits.

(e) Minimum combustion chamber operating temperature (or minimum afterburner temperature), equal to the lowest 4-hour average combustion chamber operating temperature (or afterburner temperature) measured during the most recent performance test demonstrating compliance with all applicable emission limits.

(f) Minimum power input to the electrostatic precipitator collection plates, equal to the lowest 4-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits. Power input must be calculated as the product of the secondary voltage and secondary amperage to the electrostatic precipitator collection plates. Both the secondary voltage and secondary amperage must be recorded during the performance test.

(g) Minimum effluent water flow rate at the outlet of the electrostatic precipitator, equal to the lowest 4-hour average effluent water flow rate at the outlet of the electrostatic precipitator measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits.

(h) For activated carbon injection, establish the site-specific operating limits specified in paragraphs (h)(1) through (3) of this section.

(1) Minimum mercury sorbent injection rate, equal to the lowest 4-hour average mercury sorbent injection rate measured during the most recent performance test demonstrating compliance with the mercury emission limit.

(2) Minimum dioxin/furan sorbent injection rate, equal to the lowest 4-hour average dioxin/furan sorbent injection rate measured during the most recent performance test demonstrating compliance with the dioxin/furan (total mass basis or toxic equivalency basis) emission limit.

(3) Minimum carrier gas flow rate or minimum carrier gas pressure drop, as follows:

(i) Minimum carrier gas flow rate, equal to the lowest 4-hour average carrier gas flow rate measured during the most recent performance test demonstrating compliance with the applicable emission limit.

(ii) Minimum carrier gas pressure drop, equal to the lowest 4-hour average carrier gas flow rate measured during the most recent performance test demonstrating compliance with the applicable emission limit.

§62.15990 By what date must I conduct the initial air pollution control device inspection and make any necessary repairs?

- (a) You must conduct an air pollution control device inspection according to §62.16015(c) by the final compliance date as specified in §62.15875. For air pollution control devices installed after the final compliance date, you must conduct the air pollution control device inspection within 60 days after installation of the control device.
- (b) Within 10 operating days following the air pollution control device inspection under paragraph (a) of this section, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the SSI unit must be completed.

§62.15995 How do I develop a site-specific monitoring plan for my continuous monitoring, bag leak detection, and ash handling systems, and by what date must I conduct an initial performance evaluation?

You must develop and submit to the Administrator for approval a site-specific monitoring plan for each continuous monitoring system required under this subpart, according to the requirements in paragraphs (a) through (c) of this section. This requirement also applies to you if you petition the Administrator for alternative monitoring parameters under §60.13(i) of this chapter and paragraph (e) of this section. If you use a continuous automated sampling system to comply with the mercury or dioxin/furan (total mass basis or toxic equivalency basis) emission limits, you must develop your monitoring plan as specified in §60.58b(q) of this chapter, and you are not required to meet the requirements in paragraphs (a) and (b) of this section. You must also submit a site-specific monitoring plan for your ash handling system, as specified in paragraph (d) of this section. You must submit and update your monitoring plans as specified in paragraphs (f) through (h) of this section.

- (a) For each continuous monitoring system, your monitoring plan must address the elements and requirements specified in paragraphs (a)(1) through (8) of this section. You must operate and maintain the continuous monitoring system in continuous operation according to the site-specific monitoring plan.
 - (1) 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).
 - (2) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer and the data collection and reduction systems.
 - (3) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
 - (i) For continuous emissions monitoring systems, your performance evaluation and acceptance criteria must include, but is not limited to, the following:
 - (A) The applicable requirements for continuous emissions monitoring systems specified in §60.13 of this chapter.
 - (B) The applicable performance specifications (*e.g.*, relative accuracy tests) in appendix B of part 60 of this chapter.
 - (C) The applicable procedures (*e.g.*, quarterly accuracy determinations and daily calibration drift tests) in appendix F of part 60 of this chapter.

(D) A discussion of how the occurrence and duration of out-of-control periods will affect the suitability of CEMS data, where out-of-control has the meaning given in paragraph (a)(7)(i) of this section.

(ii) For continuous parameter monitoring systems, your performance evaluation and acceptance criteria must include, but is not limited to, the following:

(A) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (a)(3)(ii)(A)(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 of no greater than 2-percent of the expected process flow rate.
- (3) Minimize the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
- (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.

(B) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (a)(3)(ii)(B)(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.*, particulate matter 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 least once each process operating day to ensure pressure measurements are not obstructed (*e.g.*, check for pressure tap pluggage daily).
- (5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.
- (6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in your monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(C) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in paragraphs (a)(3)(ii)(C)(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.
- (4) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the operating limit pH level) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than quarterly.

(D) If you have an operating limit that requires the use of a temperature measurement device, you must meet the requirements in paragraphs (a)(3)(ii)(D)(1) through (4) of this section.

- (1) Install the temperature sensor and other necessary equipment in a position that provides a representative temperature.
- (2) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1.0-percent of the temperature value, whichever is larger, for a noncryogenic temperature range.
- (3) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 2.5-percent of the temperature value, whichever is larger, for a cryogenic temperature range.
- (4) Conduct a temperature measurement device performance evaluation at the time of each performance test but no less frequently than annually.

(E) 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 (a)(3)(ii)(E)(1) and (2) of this section.

- (1) Install sensors to measure (secondary) voltage and current to the electrostatic precipitator collection plates.
- (2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(F) 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 (a)(3)(ii)(F)(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.

(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.

(4) Ongoing operation and maintenance procedures in accordance with the general requirements of §60.11(d) of this chapter.

(5) Ongoing data quality assurance procedures in accordance with the general requirements of §60.13 of this chapter.

(6) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §60.7(b), (c) introductory text, (c)(1), (c)(4), (d), (e), (f), and (g) of this chapter.

(7) Provisions for periods when the continuous monitoring system is out of control, as follows:

(i) A continuous monitoring system is out of control if the conditions of paragraph (a)(7)(i)(A) or (B) of this section are met.

(A) 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.

(B) 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.

(ii) When the continuous monitoring system is out of control as specified in paragraph (a)(7)(i) of this section, you must take the necessary corrective action and must repeat all necessary tests that indicate that the system is out of control. You must take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour you conduct a performance check (*e.g.*, calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits.

(8) Schedule for conducting initial and periodic performance evaluations of your continuous monitoring systems.

(b) If a bag leak detection system is used, your monitoring plan must include a description of the following items:

(1) Installation of the bag leak detection system in accordance with paragraphs (b)(1)(i) and (ii) of this section.

(i) Install the 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.

(ii) 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.

(2) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established. Use a bag leak detection system equipped with a system that will sound an alarm

when the system detects an increase in relative particulate matter emissions over a preset level. The alarm must be located where it is observed readily and any alert is detected and recognized easily by plant operating personnel.

(3) Evaluations of the performance of the bag leak detection system, performed in accordance with your monitoring plan and consistent with the guidance provided in OAQPS Fabric Filter Bag Leak Detection Guidance, EPA-454/R-98-015, September 1997. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy from the U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>. You may inspect a copy at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(4) Operation of the bag leak detection system, including quality assurance procedures.

(5) Maintenance of the bag leak detection system, including a routine maintenance schedule and spare parts inventory list.

(6) Recordkeeping (including record retention) of the bag leak detection system data. Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor.

(c) You must conduct an initial performance evaluation of each continuous monitoring system and bag leak detection system, as applicable, in accordance with your monitoring plan and to §60.13(c) of this chapter. For the purpose of this subpart, the provisions of §60.13(c) also apply to the bag leak detection system. You must conduct the initial performance evaluation of each continuous monitoring system within 60 days of installation of the monitoring system

(d) You must submit a monitoring plan specifying the ash handling system operating procedures that you will follow to ensure that you meet the fugitive emissions limit specified in Table 2 or 3 to this subpart.

(e) You may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the standards of this subpart, subject to the provisions of paragraphs (e)(1) through (6) of this section.

(1) The Administrator will not approve averaging periods other than those specified in this section, unless you document, using data or information, that the longer averaging period will ensure that emissions do not exceed levels achieved over the duration of three performance test runs.

(2) If the application to use an alternate monitoring requirement is approved, you must continue to use the original monitoring requirement until approval is received to use another monitoring requirement.

(3) You must submit the application for approval of alternate monitoring requirements no later than the notification of performance test. The application must contain the information specified in paragraphs (e)(3)(i) through (iii) of this section:

(i) Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach.

(ii) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach and technique, the averaging period for the limit, and how the limit is to be calculated.

(iii) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard.

(4) The Administrator will notify you of the approval or denial of the application within 90 calendar days after receipt of the original request, or within 60 calendar days of the receipt of any supplementary information, whichever is later. The Administrator will not approve an alternate monitoring application unless it would provide equivalent or better assurance of compliance with the relevant emission standard. Before disapproving any alternate monitoring application, the Administrator will provide the following:

(i) Notice of the information and findings upon which the intended disapproval is based.

(ii) Notice of opportunity for you to present additional supporting information before final action is taken on the application. This notice will specify how much additional time is allowed for you to provide additional supporting information.

(5) You are responsible for submitting any supporting information in a timely manner to enable the Administrator to consider the application prior to the performance test. Neither submittal of an application, nor the Administrator's failure to approve or disapprove the application relieves you of the responsibility to comply with any provision of this subpart.

(6) The Administrator may decide at any time, on a case-by-case basis, that additional or alternative operating limits, or alternative approaches to establishing operating limits, are necessary to demonstrate compliance with the emission standards of this subpart.

(f) You must submit your monitoring plans required in paragraphs (a) and (b) of this section at least 60 days before your initial performance evaluation of your continuous monitoring system(s).

(g) You must submit your monitoring plan for your ash handling system, as required in paragraph (d) of this section, at least 60 days before your initial compliance test date.

(h) You must update and resubmit your monitoring plan if there are any changes or potential changes in your monitoring procedures or if there is a process change, as defined in §62.16045.

Continuous Compliance Requirements

§62.16000 How and when do I demonstrate continuous compliance with the emission limits and standards?

To demonstrate continuous compliance with the emission limits and standards specified in Table 2 or 3 to this subpart, use the procedures specified in paragraph (a) of this section. In lieu of using the procedures specified in paragraph (a) of this section, you have the option to demonstrate initial compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, lead and fugitive emissions from ash handling. You must meet the requirements of paragraphs (a) and (b) of this section, as applicable, and paragraphs (c) through (e) of this section, according to the performance

testing, monitoring, and calibration requirements in §62.16015(a) and (b). You may also petition the Administrator for alternative monitoring parameters as specified in paragraph (f) of this section.

(a) Demonstrate continuous compliance using a performance test. Except as provided in paragraphs (a)(3) and (e) of this section, following the date that the initial performance test for each pollutant in Table 2 or 3 to this subpart is completed, you must conduct a performance test for each such pollutant on an annual basis (between 11 and 13 calendar months following the previous performance test). The performance test must be conducted using the test methods, averaging methods, and minimum sampling volumes or durations specified in Table 2 or 3 to this subpart and according to the testing, monitoring and calibration requirements specified in §62.16015(a).

(1) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. 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 §62.16045.

(3) Except as specified in paragraphs (a)(1) and (2) of this section, you can conduct performance tests less often for a given pollutant, as specified in paragraphs (a)(3)(i) through (iii) of this section.

(i) You can conduct performance tests less often if your performance tests for the pollutant for at least 2 consecutive years show that your emissions are at or below 75-percent of the emission limit specified in Table 2 or 3 to this subpart, and there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. 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 during the third year and no more than 37 months after the previous performance test.

(ii) If your SSI unit continues to meet the emission limit for the pollutant, you may choose to conduct performance tests for the pollutant every third year if your emissions are at or below 75-percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance test must be conducted no more than 37 months after the previous performance test.

(iii) If a performance test shows emissions exceeded 75-percent of the emission limit for a pollutant, you must conduct annual performance tests for that pollutant until all performance tests over 2 consecutive years show compliance.

(b) Demonstrate continuous compliance using a continuous emissions monitoring system or continuous automated sampling system. The option to use a continuous emissions monitoring system for hydrogen chloride, dioxins/furans, cadmium or lead takes effect on the date a final performance specification applicable to hydrogen chloride, dioxins/furans, cadmium or lead is published in the FEDERAL REGISTER. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the FEDERAL REGISTER. Collect data as specified in §62.16015(b)(6) and use the following procedures:

(1) To demonstrate continuous compliance with the emission limits for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass basis or toxic equivalency basis), mercury,

nitrogen oxides, sulfur dioxide, cadmium and lead, you may substitute the use of a continuous monitoring system in lieu of conducting the annual performance test required in paragraph (a) of this section, as follows:

(i) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (b)(1) of this section in lieu of conducting the annual performance test for that pollutant in paragraph (a) of this section. For determining compliance with the carbon monoxide concentration limit using carbon monoxide CEMS, the correction to 7-percent oxygen does not apply during periods of startup or shutdown. Use the measured carbon monoxide concentration without correcting for oxygen concentration in averaging with other carbon monoxide concentrations (corrected to 7-percent oxygen) to determine the 24-hour average value.

(ii) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the annual mercury or dioxin/furan performance test in paragraph (a) of this section.

(2) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in paragraph (b)(1) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in §62.16015(b). You must measure emissions according to §60.13 of this chapter to calculate 1-hour arithmetic averages, corrected to 7-percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19-19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A-7.

(3) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in paragraph (b)(1) of this section, you must:

(i) Use the continuous automated sampling system specified in §60.58b(p) and (q) of this chapter, and measure and calculate average emissions corrected to 7-percent oxygen (or carbon dioxide) according to §60.58b(p) and your monitoring plan.

(A) Use the procedures specified in §60.58b(p) of this chapter to calculate 24-hour averages to determine compliance with the mercury emission limit in Table 2 or 3 to this subpart.

(B) Use the procedures specified in §60.58b(p) of this chapter to calculate 2-week averages to determine compliance with the dioxin/furan (total mass basis or toxic equivalency basis) emission limits in Table 2 or 3 to this subpart.

(ii) Update your monitoring plan as specified in §60.4880(e) of this chapter. For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 of this chapter and Procedure 5 of appendix F of part 60 of this chapter.

(4) Except as provided in paragraph (e) of this section, you must complete your periodic performance evaluations required in your monitoring plan for any continuous emissions monitoring systems and continuous automated sampling systems, according to the schedule specified in your monitoring plan. If you were previously determining compliance by conducting an annual performance test (or according to the less frequent testing for a pollutant as provided in paragraph (a)(3) of this section),

you must complete the initial performance evaluation required under your monitoring plan in §62.15995 for the continuous monitoring system prior to using the continuous emissions monitoring system to demonstrate compliance or continuous automated sampling system. Your performance evaluation must be conducted using the procedures and acceptance criteria specified in §62.15995(a)(3).

(c) To demonstrate compliance with the dioxins/furans toxic equivalency emission limit in paragraph (a) or (b) of this section, you must determine dioxins/furans toxic equivalency as follows:

(1) Measure the concentration of each dioxin/furan tetra- through octachlorinated-isomer emitted using Method 23 at 40 CFR part 60, appendix A-7.

(2) For each dioxin/furan (tetra- through octachlorinated) isomer measured in accordance with paragraph (c)(1) of this section, multiply the isomer concentration by its corresponding toxic equivalency factor specified in Table 5 to this subpart.

(3) Sum the products calculated in accordance with paragraph (c)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(d) You must submit an annual compliance report as specified in §62.16030(c). You must submit a deviation report as specified in §62.16030(d) for each instance that you did not meet each emission limit in Tables 2 and 3 to this subpart.

(e) If you demonstrate continuous compliance using a performance test, as specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in §62.16030(f). You must conduct the performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to the performance test deadline, and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.

(f) After any initial requests in §62.15995 for alternative monitoring requirements for initial compliance, you may subsequently petition the Administrator for alternative monitoring parameters as specified in §§60.13(i) of this chapter and 62.15995(e).

§62.16005 How do I demonstrate continuous compliance with my operating limits?

You must continuously monitor your operating parameters as specified in paragraph (a) of this section and meet the requirements of paragraphs (b) and (c) of this section, according to the monitoring and calibration requirements in §62.16020. You must confirm and re-establish your operating limits as specified in paragraph (d) of this section.

(a) You must continuously monitor the operating parameters specified in paragraphs (a)(1) and (2) of this section using the continuous monitoring equipment and according to the procedures specified in §62.16020 or established in §62.15965. To determine compliance, you must use the data averaging period specified in Table 4 to this subpart (except for alarm time of the baghouse leak detection system) unless a different averaging period is established under §62.15965.

- (1) You must demonstrate that the SSI unit meets the operating limits established according to §§62.15965 and 62.15985 and paragraph (d) of this section for each applicable operating parameter.
- (2) You must demonstrate that the SSI unit meets the operating limit for bag leak detection systems as follows:
 - (i) For a bag leak detection system, you must calculate the alarm time as follows:
 - (A) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted.
 - (B) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour.
 - (C) If you take longer than 1 hour to initiate corrective action, each alarm time (*i.e.*, time that the alarm sounds) is counted as the actual amount of time taken by you to initiate corrective action.
 - (ii) Your maximum alarm time is equal to 5-percent of the operating time during a 6-month period, as specified in §62.15960(c).
- (b) Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. You must submit the deviation report specified in §62.16030(d) for each instance that you did not meet one of your operating limits established under this subpart.
- (c) You must submit the annual compliance report specified in §62.16030(c) to demonstrate continuous compliance.
- (d) You must confirm your operating limits according to paragraph (d)(1) of this section or re-establish operating limits according to paragraph (d)(2) of this section. Your operating limits must be established so as to assure ongoing compliance with the emission limits. These requirements also apply to your operating requirements in your fugitive emissions monitoring plan specified in §62.15960(d).
 - (1) Your operating limits must be based on operating data recorded during any performance test required in §62.16000(a) or any performance evaluation required in §62.16000(b)(4).
 - (2) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward.

§62.16010 By what date must I conduct annual air pollution control device inspections and make any necessary repairs?

- (a) You must conduct an annual inspection of each air pollution control device used to comply with the emission limits, according to §62.16015(c), no later than 12 months following the previous annual air pollution control device inspection.
- (b) Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the affected SSI unit must be completed.

Performance Testing, Monitoring, and Calibration Requirements

§62.16015 What are the performance testing, monitoring, and calibration requirements for compliance with the emission limits and standards?

You must meet, as applicable, the performance testing requirements specified in paragraph (a) of this section, the monitoring requirements specified in paragraph (b) of this section, the air pollution control device inspections requirements specified in paragraph (c) of this section, and the bypass stack provisions specified in paragraph (d) of this section.

(a) *Performance testing requirements.*

- (1) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations, as specified in §60.8(c) of this chapter. Emissions in excess of the emission limits or standards during periods of startup, shutdown, and malfunction are considered deviations from the applicable emission limits or standards.
- (2) You must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by:
 - (i) Maintaining a log of the quantity of sewage sludge burned during the performance test by continuously monitoring and recording the average hourly rate that sewage sludge is fed to the incinerator.
 - (ii) Maintaining a log of the moisture content of the sewage sludge burned during the performance test by taking grab samples of the sewage sludge fed to the incinerator for each 8 hour period that testing is conducted.
- (3) All performance tests must be conducted using the test methods, minimum sampling volume, observation period, and averaging method specified in Table 2 or 3 to this subpart.
- (4) Method 1 at 40 CFR part 60, appendix A, must be used to select the sampling location and number of traverse points.
- (5) Method 3A or 3B at 40 CFR part 60, appendix A-2, must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B at 40 CFR part 60, appendix A-2, must be used simultaneously with each method.
- (6) All pollutant concentrations must be adjusted to 7-percent oxygen using Equation 1 of this section:

$$C_{adj} = C_{meas} (20.9 - 7) / (20.9 - \%O_2) \quad (\text{Eq. 1})$$

Where:

C_{adj} = Pollutant concentration adjusted to 7 percent oxygen.

C_{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.

$\%O_2$ = Oxygen concentration measured on a dry basis, percent.

(7) Performance tests must be conducted and data reduced in accordance with the test methods and procedures contained in this subpart unless the Administrator does one of the following.

- (i) Specifies or approves, in specific cases, the use of a method with minor changes in methodology.
- (ii) Approves the use of an equivalent method.
- (iii) Approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance.
- (iv) Waives the requirement for performance tests because you have demonstrated by other means to the Administrator's satisfaction that the affected SSI unit is in compliance with the standard.
- (v) Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph (a)(7) is construed to abrogate the Administrator's authority to require testing under section 114 of the Clean Air Act.

(8) You must provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days' notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, you must notify the Administrator as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator by mutual agreement.

(9) You must provide, or cause to be provided, performance testing facilities as follows:

- (i) Sampling ports adequate for the test methods applicable to the SSI unit, as follows:
 - (A) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures.
 - (B) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- (ii) Safe sampling platform(s).
- (iii) Safe access to sampling platform(s).
- (iv) Utilities for sampling and testing equipment.

(10) Unless otherwise specified in this subpart, each performance test must consist of three separate runs using the applicable test method. Each run must be conducted for the time and under the conditions specified in the applicable standard. Compliance with each emission limit must be determined by calculating the arithmetic mean of the three runs. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond your control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(11) During each test run specified in paragraph (a)(1) of this section, you must operate your sewage sludge incinerator at a minimum of 85-percent of your maximum permitted capacity.

(b) *Continuous monitor requirements.* You must meet the following requirements, as applicable, when using a continuous monitoring system to demonstrate compliance with the emission limits in Table 2 or 3 to this subpart. The option to use a continuous emissions monitoring system for hydrogen chloride, dioxins/furans, cadmium, or lead takes effect on the date a final performance specification applicable to hydrogen chloride, dioxins/furans, cadmium or lead is published in the FEDERAL REGISTER. If you elect to use a continuous emissions monitoring system instead of conducting annual performance testing, you must meet the requirements of paragraphs (b)(1) through (6) of this section. If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must meet the requirements of paragraph (b)(7) of this section. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the FEDERAL REGISTER.

(1) You must notify the Administrator 1 month before starting use of the continuous emissions monitoring system.

(2) You must notify the Administrator 1 month before stopping use of the continuous emissions monitoring system, in which case you must also conduct a performance test within prior to ceasing operation of the system.

(3) You must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the emissions to the atmosphere in accordance with the following:

(i) Section 60.13 of subpart A of part 60 of this chapter.

(ii) The following performance specifications of appendix B of part 60 of this chapter, as applicable:

(A) For particulate matter, Performance Specification 11 of appendix B of part 60 of this chapter.

(B) For hydrogen chloride, Performance Specification 15 of appendix B of part 60 of this chapter.

(C) For carbon monoxide, Performance Specification 4B of appendix B of part 60 of this chapter with spans appropriate to the applicable emission limit.

(D) [Reserved]

(E) For mercury, Performance Specification 12A of appendix B of part 60 of this chapter.

(F) For nitrogen oxides, Performance Specification 2 of appendix B of part 60 of this chapter.

(G) For sulfur dioxide, Performance Specification 2 of appendix B of part 60 of this chapter.

(iii) For continuous emissions monitoring systems, the quality assurance procedures (*e.g.*, quarterly accuracy determinations and daily calibration drift tests) of appendix F of part 60 of this chapter specified in paragraphs (b)(3)(iii)(A) through (G) of this section. For each pollutant,

the span value of the continuous emissions monitoring system is two times the applicable emission limit, expressed as a concentration.

(A) For particulate matter, Procedure 2 in appendix F of part 60 of this chapter.

(B) For hydrogen chloride, Procedure 1 in appendix F of part 60 of this chapter except that the Relative Accuracy Test Audit requirements of Procedure 1 shall be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of Performance Specification 15 of appendix B of part 60 of this chapter.

(C) For carbon monoxide, Procedure 1 in appendix F of part 60 of this chapter.

(D) [Reserved]

(E) For mercury, Procedures 5 in appendix F of part 60 of this chapter.

(F) For nitrogen oxides, Procedure 1 in appendix F of part 60 of this chapter.

(G) For sulfur dioxide, Procedure 1 in appendix F of part 60 of this chapter.

(iv) If your monitoring system has a malfunction or out-of-control period, you must complete repairs and resume operation of your monitoring system as expeditiously as possible.

(4) During each relative accuracy test run of the continuous emissions monitoring system using the performance specifications in paragraph (b)(3)(ii) of this section, emission data for each regulated pollutant and oxygen (or carbon dioxide as established in paragraph (b)(5) of this section) must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emissions monitoring systems and the test methods specified in paragraph (b)(4)(i) through (viii) of this section. Relative accuracy testing must be at representative operating conditions while the SSI unit is charging sewage sludge.

(i) For particulate matter, Method 5 at 40 CFR part 60, appendix A-3, or Method 26A or 29 at 40 CFR part 60, appendix A-8, shall be used.

(ii) For hydrogen chloride, Method 26 or 26A at 40 CFR part 60, appendix A-8, shall be used, as specified in Tables 2 and 3 to this subpart.

(iii) For carbon monoxide, Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4, shall be used.

(iv) For dioxins/furans, Method 23 at 40 CFR part 60, appendix A-7, shall be used.

(v) For mercury, cadmium and lead, Method 29 at 40 CFR part 60, appendix A-8, shall be used. Alternatively for mercury, either Method 30B at 40 CFR part 60, appendix A-8, or ASTM D6784-02 (Reapproved 2008) (see paragraph (e) of this section).

(vi) For nitrogen oxides, Method 7 or 7E at 40 CFR part 60, appendix A-4, shall be used.

(vii) For sulfur dioxide, Method 6 or 6C at 40 CFR part 60, appendix A-4, or as an alternative ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus] must be used (see paragraph (e) of this section). For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for the inlet of the sulfur dioxide continuous emissions monitoring system should be no greater than 20-

percent of the mean value of the 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 method and the continuous emissions monitoring system, whichever is greater.

(viii) For oxygen (or carbon dioxide as established in paragraph (b)(5) of this section), Method 3A or 3B at 40 CFR part 60, appendix A-2, or as an alternative ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], as applicable, must be used (see paragraph (e) of this section).

(5) You may request that compliance with the emission limits 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 (b)(5)(i) through (iv) of this section. This relationship may be re-established during subsequent performance tests.

(i) The fuel factor equation in Method 3B at 40 CFR part 60, appendix A-2, must be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3A or 3B at 50 CFR part 60, appendix A-2, or as an alternative ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], as applicable, must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor(see paragraph (e) of this section).

(ii) Samples must be taken for at least 30 minutes in each hour.

(iii) Each sample must represent a 1-hour average.

(iv) A minimum of three runs must be performed.

(6) You must operate the continuous monitoring system and collect data with the continuous monitoring system as follows:

(i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (b)(6)(ii) of this section, except for periods of monitoring system malfunctions that occur during periods specified in §62.15995(a)(7)(i), repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Any such periods that you do not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(ii) You must collect continuous emissions monitoring system data in accordance with §60.13(e)(2) of this chapter.

(iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in a deviation report.

(iv) Any data collected during periods when the monitoring system is out of control as specified in §60.4880(a)(7)(i) of this chapter, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out-of-control periods must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction as defined in §62.16045, constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(v) You must use all the data collected during all periods except those periods specified in paragraphs (b)(6)(iii) and (iv) of this section in assessing the operation of the control device and associated control system.

(7) If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must:

(i) Install, calibrate, maintain and operate a continuous automated sampling system according to the site-specific monitoring plan developed in §60.58b(p)(1) through (6), (9), (10), and (q) of this chapter.

(ii) Collect data according to §60.58b(p)(5) of this chapter and paragraph (b)(6) of this section.

(c) *Air pollution control device inspections.* You must conduct air pollution control device inspections that include, at a minimum, the following:

(1) Inspect air pollution control device(s) for proper operation.

(2) Generally observe that the equipment is maintained in good operating condition.

(3) Develop a site-specific monitoring plan according to the requirements in §62.15995. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §60.13(i) of this chapter.

(d) *Bypass stack.* Use of the bypass stack at any time that sewage sludge is being charged to the SSI unit is an emissions standards deviation for all pollutants listed in Table 2 or 3 to this subpart. The use of the bypass stack during a performance test invalidates the performance test.

(e) *Incorporation by reference.* These standards are incorporated by reference into this section with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>. You may also inspect a copy at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(1) American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990 (Phone: 1-800-843-2763; Web site: <https://www.asme.org/>).

(i) ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus].

(ii) [Reserved]

(2) ASTM Int'l, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106 (Phone: 1-877-909-2786; Web site: <http://www.astm.org/>).

(i) ASTM D6784-02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008.

(ii) [Reserved]

(3) U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>.

(i) OAQPS Fabric Filter Bag Leak Detection Guidance, EPA-454/R-98-015, September 1997.

(ii) [Reserved]

§62.16020 What are the monitoring and calibration requirements for compliance with my operating limits?

(a) You must install, operate, calibrate and maintain the continuous parameter monitoring systems according to the requirements in paragraphs (a)(1) and (2) of this section.

(1) Meet the following general requirements for flow, pressure, pH and operating temperature measurement devices:

(i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (a)(1)(ii) of this section, except for periods of monitoring system malfunctions that occur during periods specified defined in §62.15995(a)(7)(i), repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Any such periods that you do not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(ii) You must collect continuous parameter monitoring system data in accordance with §60.13(e)(2) of this chapter.

(iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in your annual deviation report.

(iv) Any data collected during periods when the monitoring system is out of control as specified in §62.15995(a)(7)(i) must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction, as defined in §62.16045, constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(v) You must use all the data collected during all periods except those periods specified in paragraphs (a)(1)(iii) and (iv) of this section in assessing the operation of the control device and associated control system.

(vi) Record the results of each inspection, calibration and validation check.

- (2) Operate and maintain your continuous monitoring system according to your monitoring plan required under §60.4880 of this chapter. Additionally:
- (i) For carrier gas flow rate monitors (for activated carbon injection), during the performance test conducted pursuant to §60.4885 chapter, you must demonstrate that the system is maintained within ± 5 -percent accuracy, according to the procedures in appendix A to part 75 of this chapter.
 - (ii) For carrier gas pressure drop monitors (for activated carbon injection), during the performance test conducted pursuant to §60.4885 of this chapter, you must demonstrate that the system is maintained within ± 5 -percent accuracy.
- (b) You must operate and maintain your bag leak detection system in continuous operation according to your monitoring plan required under §60.4880 of this chapter. Additionally:
- (1) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.
 - (2) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.
 - (3) You must initiate procedures to determine the cause of every alarm within 8 hours of the alarm, and you must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:
 - (i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media or any other condition that may cause an increase in particulate matter emissions.
 - (ii) Sealing off defective bags or filter media.
 - (iii) Replacing defective bags or filter media or otherwise repairing the control device.
 - (iv) Sealing off a defective fabric filter compartment.
 - (v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.
 - (vi) Shutting down the process producing the particulate matter emissions.
 - (c) You must operate and maintain the continuous parameter monitoring systems specified in paragraphs (a) and (b) of this section in continuous operation according to your monitoring plan required under §60.4880 of this chapter.
 - (d) If your SSI unit has a bypass stack, you must 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.

Recordkeeping and Reporting

§62.16025 What records must I keep?

You must maintain the items (as applicable) specified in paragraphs (a) through (n) of this section for a period of at least 5 years. All records must be available on site in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.

- (a) *Date*. Calendar date of each record.

(b) *Final control plan and final compliance.* Copies of the final control plan and any additional notifications, reported under §62.16030.

(c) *Operator training.* Documentation of the operator training procedures and records specified in paragraphs (c)(1) through (4) of this section. You must make available and readily accessible at the facility at all times for all SSI unit operators the documentation specified in paragraph (c)(1) of this section.

(1) Documentation of the following operator training procedures and information:

- (i) Summary of the applicable standards under this subpart.
- (ii) Procedures for receiving, handling and feeding sewage sludge.
- (iii) Incinerator startup, shutdown, and malfunction preventative and corrective procedures.
- (iv) Procedures for maintaining proper combustion air supply levels.
- (v) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart.
- (vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits.
- (vii) Reporting and recordkeeping procedures.
- (viii) Procedures for handling ash.
- (ix) A list of the materials burned during the performance test, if in addition to sewage sludge.
- (x) For each qualified operator and other plant personnel who may operate the unit according to the provisions of §62.15945(a), the phone and/or pager number at which they can be reached during operating hours.

(2) Records showing the names of SSI unit operators and other plant personnel who may operate the unit according to the provisions of §62.15945(a), as follows:

- (i) Records showing the names of SSI unit operators and other plant personnel who have completed review of the information in paragraph (c)(1) of this section as required by §62.15950(b), including the date of the initial review and all subsequent annual reviews.
- (ii) Records showing the names of the SSI unit operators who have completed the operator training requirements under §62.15920, met the criteria for qualification under §62.15930, and maintained or renewed their qualification under §62.15935 or §62.15940. Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications.

(3) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks, as required in §62.15945(a).

(4) Records showing the periods when no qualified operators were accessible for 2 weeks or more along with copies of reports submitted as required in §62.15945(b).

(d) *Air pollution control device inspections.* Records of the results of initial and annual air pollution control device inspections conducted as specified in §§62.15990 and 62.16015(c), including any required

maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator.

(e) *Performance test reports.*

- (1) The results of the initial, annual and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable.
- (2) Retain a copy of the complete performance test report, including calculations.
- (3) Keep a record of the hourly dry sludge feed rate measured during performance test runs as specified in §62.16015(a)(2)(i).
- (4) Keep any necessary records to demonstrate that the performance test was conducted under conditions representative of normal operations, including a record of the moisture content measured as required in §62.16015(a)(2)(ii) for each grab sample taken of the sewage sludge burned during the performance test.

(f) *Continuous monitoring data.* Records of the following data, as applicable:

- (1) For continuous emissions monitoring systems, all 1-hour average concentrations of particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans total mass basis, mercury, nitrogen oxides, sulfur dioxide, cadmium and lead emissions.
- (2) For continuous automated sampling systems, all average concentrations measured for mercury and dioxins/furans total mass basis at the frequencies specified in your monitoring plan.
- (3) For continuous parameter monitoring systems:
 - (i) All 1-hour average values recorded for the following operating parameters, as applicable:
 - (A) Combustion chamber operating temperature (or afterburner temperature).
 - (B) If a wet scrubber is used to comply with the rule, pressure drop across each wet scrubber system and liquid flow rate to each wet scrubber used to comply with the emission limit in Table 2 or 3 to this subpart for particulate matter, cadmium or lead and scrubber liquid flow rate and scrubber liquid pH for each wet scrubber used to comply with an emission limit in Table 2 or 3 to this subpart for sulfur dioxide or hydrogen chloride.
 - (C) If an electrostatic precipitator is used to comply with the rule, secondary voltage of the electrostatic precipitator collection plates and secondary amperage of the electrostatic precipitator collection plates and effluent water flow rate at the outlet of the wet electrostatic precipitator.
 - (D) If activated carbon injection is used to comply with the rule, sorbent flow rate and carrier gas flow rate or pressure drop, as applicable.
 - (ii) All daily average values recorded for the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, monitored and calculated as specified in §62.15960(f).

(iii) If a fabric filter is used to comply with the rule, 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 §62.16005.

(iv) For other control devices for which you must establish operating limits under §62.15965, you must maintain data collected for all operating parameters used to determine compliance with the operating limits, at the frequencies specified in your monitoring plan.

(g) *Other records for continuous monitoring systems.* You must keep the following records, as applicable:

(1) Keep records of any notifications to the Administrator in §60.4915(h)(1) of this chapter of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit.

(2) Keep records of any requests under §62.16015(b)(5) that compliance with the emission limits be determined using carbon dioxide measurements corrected to an equivalent of 7-percent oxygen.

(3) If activated carbon injection is used to comply with the rule, the type of sorbent used and any changes in the type of sorbent used.

(h) *Deviation reports.* Records of any deviation reports submitted under §62.16030(e) and (f).

(i) *Equipment specifications and operation and maintenance requirements.* Equipment specifications and related operation and maintenance requirements received from vendors for the incinerator, emission controls and monitoring equipment.

(j) *Inspections, calibrations and validation checks of monitoring devices.* Records of inspections, calibration and validation checks of any monitoring devices as required under §§62.16015 and 62.16020.

(k) *Monitoring plan and performance evaluations for continuous monitoring systems.* Records of the monitoring plans required under §62.15995, and records of performance evaluations required under §62.16000(b)(5).

(l) *Less frequent testing.* If, consistent with §62.16000(a)(3), you elect to conduct performance tests less frequently than annually, you must keep annual records that document that your emissions in the two previous consecutive years were at or below 75-percent of the applicable emission limit in Table 1 or 2 to this subpart, and document that there were no changes in source operations or air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past 2 years.

(m) *Use of bypass stack.* Records indicating use of the bypass stack, including dates, times and durations as required under §62.16020(d).

(n) If a malfunction occurs, you must keep a record of the information submitted in your annual report in §62.16030(c)(16).

§62.16030 What reports must I submit?

You must submit the reports to the Administrator specified in paragraphs (a) through (i) of this section. See Table 6 to this subpart for a summary of these reports.

(a) *Final control plan and final compliance report.* You must submit the following reports, as applicable:

(1) A final control plan as specified in §§62.15875 and 62.15900.

(2) You must submit your notification of achievement of submitting the final control plan and achieving final compliance no later than 10 business days after the compliance date as specified in §§62.15885 and 62.15890.

(3) If you fail to submit the final control plan and achieve final compliance, you must submit a notification to the Administrator postmarked within 10 business days after the compliance date, as specified in §62.15895.

(4) If you plan to close your SSI unit rather than comply with the federal plan, submit a closure notification as specified in §62.15915.

(b) *Initial compliance report.* You must submit the following information no later than 60 days following the initial performance test.

(1) Company name, physical address and mailing address.

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

(3) Date of report.

(4) The complete test report for the initial performance test results obtained by using the test methods specified in Table 2 or 3 to this subpart.

(5) If an initial performance evaluation of a continuous monitoring system was conducted, the results of that initial performance evaluation.

(6) The values for the site-specific operating limits established pursuant to §§62.15960 and 62.15965 and the calculations and methods, as applicable, used to establish each operating limit.

(7) If you are using a fabric filter to comply with the emission limits, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by §62.15960(b).

(8) The results of the initial air pollution control device inspection required in §62.15990, including a description of repairs.

(9) The site-specific monitoring plan required under §62.15995, at least 60 days before your initial performance evaluation of your continuous monitoring system.

(10) The site-specific monitoring plan for your ash handling system required under §62.15995, at least 60 days before your initial performance test to demonstrate compliance with your fugitive ash emission limit.

(c) *Annual compliance report.* You must submit an annual compliance report that includes the items listed in paragraphs (c)(1) through (16) of this section for the reporting period specified in paragraph (c)(3) of this section. You must submit your first annual compliance report no later than 12 months following the submission of the initial compliance report in paragraph (b) of this section. You must submit subsequent annual compliance reports no more than 12 months following the previous annual compliance report. (You may be required to submit similar or additional compliance information more frequently by the title V operating permit required in §62.16035.)

- (1) Company name, physical address and mailing address.
- (2) Statement by a responsible official, with that official's name, title and signature, certifying the accuracy of the content of the report.
- (3) Date of report and beginning and ending dates of the reporting period.
- (4) If a performance test was conducted during the reporting period, the results of that performance test.
 - (i) If operating limits were established during the performance test, include the value for each operating limit and, as applicable, the method used to establish each operating limit, including calculations.
 - (ii) If activated carbon is used during the performance test, include the type of activated carbon used.
- (5) For each pollutant and operating parameter recorded using a continuous monitoring system, the highest average value and lowest average value recorded during the reporting period, as follows:
 - (i) For continuous emission monitoring systems and continuous automated sampling systems, report the highest and lowest 24-hour average emission value.
 - (ii) For continuous parameter monitoring systems, report the following values:
 - (A) For all operating parameters except scrubber liquid pH, the highest and lowest 12-hour average values.
 - (B) For scrubber liquid pH, the highest and lowest 3-hour average values.
- (6) If there are no deviations during the reporting period from any emission limit, emission standard or operating limit that applies to you, a statement that there were no deviations from the emission limits, emission standard or operating limits.
- (7) Information for bag leak detection systems recorded under §62.16025(f)(3)(iii).
- (8) If a performance evaluation of a continuous monitoring system was conducted, the results of that performance evaluation. If new operating limits were established during the performance evaluation, include your calculations for establishing those operating limits.
- (9) If you elect to conduct performance tests less frequently as allowed in §62.16000(a)(3) and did not conduct a performance test during the reporting period, you must include the dates of the last two performance tests, a comparison of the emission level you achieved in the last two performance tests to the 75-percent emission limit threshold specified in §62.16000(a)(3), and a statement as to whether there have been any process changes and whether the process change resulted in an increase in emissions.
- (10) Documentation of periods when all qualified sewage sludge incineration unit operators were unavailable for more than 8 hours, but less than 2 weeks.
- (11) Results of annual air pollution control device inspections recorded under §62.16025(d) for the reporting period, including a description of repairs.

(12) If there were no periods during the reporting period when your continuous monitoring systems had a malfunction, a statement that there were no periods during which your continuous monitoring systems had a malfunction.

(13) If there were no periods during the reporting period when a continuous monitoring system was out of control, a statement that there were no periods during which your continuous monitoring systems were out of control.

(14) If there were no operator training deviations, a statement that there were no such deviations during the reporting period.

(15) If you did not make revisions to your site-specific monitoring plan during the reporting period, a statement that you did not make any revisions to your site-specific monitoring plan during the reporting period. If you made revisions to your site-specific monitoring plan during the reporting period, a copy of the revised plan.

(16) 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.

(d) *Deviation reports.*

(1) You must submit a deviation report if:

(i) Any recorded operating parameter level, based on the averaging time specified in Table 4 to this subpart, is above the maximum operating limit or below the minimum operating limit established under this subpart.

(ii) The bag leak detection system alarm sounds for more than 5-percent of the operating time for the 6-month reporting period.

(iii) Any recorded 24-hour block average emissions level is above the emission limit, if a continuous monitoring system is used to comply with an emission limit.

(iv) There are visible emissions of combustion ash from an ash conveying system for more than 5-percent of any compliance test hourly observation period.

(v) A performance test was conducted that deviated from any emission limit in Table 2 or 3 to this subpart.

(vi) A continuous monitoring system was out of control.

(vii) You had a malfunction (*e.g.*, continuous monitoring system malfunction) that caused or may have caused any applicable emission limit to be exceeded.

(2) 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).

(3) For each deviation where you are using a continuous monitoring system to comply with an associated emission limit or operating limit, report the items described in paragraphs (d)(3)(i) through (viii) of this section.

(i) Company name, physical address and mailing address.

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

(iii) The calendar dates and times your unit deviated from the emission limits, emission standards or operating limits requirements.

(iv) The averaged and recorded data for those dates.

(v) Duration and cause of each deviation from the following:

(A) Emission limits, emission standards, operating limits and your corrective actions.

(B) Bypass events and your corrective actions.

(vi) Dates, times and causes for monitor downtime incidents.

(vii) A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels.

(viii) If there were periods during which the continuous monitoring system malfunctioned or was out of control, you must include the following information for each deviation from an emission limit or operating limit:

(A) The date and time that each malfunction started and stopped.

(B) The date, time and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks.

(C) 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.

(D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction, during a period when the system was out of control or during another period.

(E) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(F) A 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.

(G) 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 SSI unit at which the continuous monitoring system downtime occurred during that reporting period.

- (H) An identification of each parameter and pollutant that was monitored at the SSI unit.
- (I) A brief description of the SSI unit.
- (J) A brief description of the continuous monitoring system.
- (K) The date of the latest continuous monitoring system certification or audit.
- (L) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.

(4) For each deviation where you are not using a continuous monitoring system to comply with the associated emission limit or operating limit, report the following items:

- (i) Company name, physical address and mailing address.
- (ii) Statement by a responsible official, with that official's name, title and signature, certifying the accuracy of the content of the report.
- (iii) The total operating time of each affected source during the reporting period.
- (iv) The calendar dates and times your unit deviated from the emission limits, emission standards or operating limits requirements.
- (v) The averaged and recorded data for those dates.
- (vi) Duration and cause of each deviation from the following:
 - (A) Emission limits, emission standards, operating limits and your corrective actions.
 - (B) Bypass events and your corrective actions.
- (vii) A copy of any performance test report that showed a deviation from the emission limits or standards.
- (viii) A brief description of any malfunction reported in paragraph (d)(1)(vii) of this section, including a description of actions taken during the malfunction to minimize emissions in accordance with §60.11(d) of this chapter and to correct the malfunction.

(e) Qualified operator deviation.

(1) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (e)(1)(i) and (ii) of this section.

- (i) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (e)(1)(i)(A) through (C) of this section.
 - (A) A statement of what caused the deviation.
 - (B) A description of actions taken to ensure that a qualified operator is accessible.
 - (C) The date when you anticipate that a qualified operator will be available.
- (ii) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (e)(1)(ii)(A) through (C) of this section.
 - (A) A description of actions taken to ensure that a qualified operator is accessible.

(B) The date when you anticipate that a qualified operator will be accessible.

(C) Request for approval from the Administrator to continue operation of the SSI unit.

(2) If your unit was shut down by the Administrator, under the provisions of §62.15945(b)(2)(i), due to a failure to provide an accessible qualified operator, you must notify the Administrator within five days of meeting §62.15945(b)(2)(ii) that you are resuming operation.

(f) *Notification of a force majeure.* If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure:

(1) You must notify the Administrator, in writing as soon as practicable following the date you first knew, or through due diligence, should have known that the event may cause or caused a delay in conducting a performance test beyond the regulatory deadline, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification must occur as soon as practicable.

(2) You must provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which you propose to conduct the performance test.

(g) *Other notifications and reports required.* You must submit other notifications as provided by §60.7 of this chapter and as follows:

(1) You must notify the Administrator 1 month before starting or stopping use of a continuous monitoring system for determining compliance with any emission limit.

(2) You must notify the Administrator at least 30 days prior to any performance test conducted to comply with the provisions of this subpart, to afford the Administrator the opportunity to have an observer present.

(3) As specified in §62.16015(a)(8), you must notify the Administrator at least 7 days prior to the date of a rescheduled performance test for which notification was previously made in paragraph (g)(2) of this section.

(h) *Report submission form.*

(1) Submit initial, annual and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

(2) Submit performance tests and evaluations according to paragraphs (h)(2)(i) and (ii) of this section.

(i) Within 60 days after the date of completing each performance test (see §60.8 of this chapter) required by this subpart, you must submit the results of the performance test according to the method specified by either paragraph (h)(2)(i)(A) or (B) of this section.

(A) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site

(<http://www.epa.gov/ttn/chief/ert/index.html>), at the time of the test, you must submit the results of the performance test to the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange

(CDX) (<https://cdx.epa.gov/>.) Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being transmitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disk, 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 file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph (h)(2)(i)(A).

(B) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance test to the Administrator at the appropriate address listed in §60.4 of this chapter.

(ii) Within 60 days after the date of completing each CEMS performance evaluation (as defined in §63.2 of this chapter), you must submit the results of the performance evaluation according to the method specified by either paragraph (h)(2)(ii)(A) or (B) of this section.

(A) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance evaluation via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If you claim that some of the performance evaluation information being transmitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disk, 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 CDX as described earlier in this paragraph (h)(2)(ii)(A).

(B) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in §60.4 of this chapter.

(3) *Changing report dates.* If the Administrator agrees, you may change the semiannual or annual reporting dates. See §60.19(c) of this chapter for procedures to seek approval to change your reporting date.

§62.16035 Am I required to apply for and obtain a title V operating permit for my existing SSI unit?

Yes, if you are subject to an applicable EPA-approved and effective CAA section 111(d)/129 state or tribal plan or an applicable and effective federal plan, you are required to apply for and obtain a title V operating permit for your existing SSI unit unless you meet the relevant requirements for an exemption specified in §62.15860.

§62.16040 When must I submit a title V permit application for my existing SSI unit?

(a) If your existing SSI unit is not subject to an earlier permit application deadline, a complete title V permit application must be submitted on or before the earlier of the dates specified in paragraphs (a)(1) through (3) of this section. (See sections 129(e), 503(c), 503(d), and 502(a) of the Clean Air Act and 40 CFR 70.5(a)(1)(i) and 71.5(a)(1)(i)).

(1) 12 months after the effective date of any applicable EPA-approved Clean Air Act section 111(d)/129 state or tribal plan.

(2) 12 months after the effective date of any applicable federal plan.

(3) March 21, 2014.

(b) For any existing unit not subject to an earlier permit application deadline, the application deadline of 36 months after the promulgation of 40 CFR part 60, subpart M, applies regardless of whether or when any applicable federal plan is effective, or whether or when any applicable Clean Air Act section 111(d)/129 state or tribal plan is approved by the EPA and becomes effective.

(c) If your existing unit is subject to title V as a result of some triggering requirement(s) other than those specified in paragraphs (a) and (b) of this section (for example, a unit may be a major source or part of a major source), then your unit may be required to apply for a title V permit prior to the deadlines specified in paragraphs (a) and (b). If more than one requirement triggers a source's obligation to apply for a title V permit, the 12-month time frame for filing a title V permit application is triggered by the requirement which first causes the source to be subject to title V. (See section 503(c) of the Clean Air Act and 40 CFR 70.3(a) and (b), 70.5(a)(1)(i), 71.3(a) and (b), and 71.5(a)(1)(i).)

(d) A "complete" title V permit application is one that has been determined or deemed complete by the relevant permitting authority under section 503(d) of the Clean Air Act and 40 CFR 70.5(a)(2) or 71.5(a)(2). You must submit a complete permit application by the relevant application deadline in order to operate after this date in compliance with federal law. (See sections 503(d) and 502(a) of the Clean Air Act and 40 CFR 70.7(b) and 71.7(b).)

Definitions

§62.16045 What definitions must I know?

Terms used but not defined in this subpart are defined in the Clean Air Act and §60.2 of this chapter.

Administrator means:

- (1) For units covered by the federal plan, the Administrator of the EPA or his/her authorized representative (e.g., delegated authority).
- (2) For units covered by an approved state plan, the director of the state air pollution control agency or his/her authorized representative.

Affected source means a sewage sludge incineration unit as defined in §62.16045.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Auxiliary fuel means natural gas, liquefied petroleum gas, fuel oil or diesel fuel.

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.

Bypass stack means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

Calendar year means 365 consecutive days starting on January 1 and ending on December 31.

Continuous automated sampling system means the total equipment and procedures for automated sample collection and sample recovery/analysis to determine a pollutant concentration or emission rate by collecting a single integrated sample(s) or multiple integrated sample(s) of the pollutant (or diluent gas) for subsequent on- or off-site analysis; integrated sample(s) collected are representative of the emissions for the sample time as specified by the applicable requirement.

Continuous emissions monitoring system means a monitoring system for continuously measuring and recording the emissions of a pollutant from an affected facility.

Continuous monitoring system (CMS) means a continuous emissions monitoring system, continuous automated sampling system, continuous parameter monitoring system or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by this subpart. The term refers to the total equipment used to sample and condition (if applicable), to analyze and to provide a permanent record of emissions or process parameters.

Continuous parameter monitoring system means a monitoring system for continuously measuring and recording operating conditions associated with air pollution control device systems (*e.g.*, operating temperature, pressure and power).

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 limit, operating limit, or operator qualification and accessibility requirements.
- (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.

Electrostatic precipitator or wet electrostatic precipitator means an air pollution control device that uses both electrical forces and, if applicable, water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

Existing sewage sludge incineration unit means a sewage sludge incineration unit the construction of which is commenced on or before October 14, 2010.

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.

Fluidized bed incinerator means an enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.

Modification means a change to an existing SSI unit later than September 21, 2011 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 SSI unit (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the SSI unit used to calculate these costs, see the definition of SSI unit.

(2) Any physical change in the SSI unit 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.

Modified sewage sludge incineration unit means an existing SSI unit that undergoes a modification, as defined in this section.

Multiple hearth incinerator means a circular steel furnace that contains a number of solid refractory hearths and a central rotating shaft; rabble arms that are designed to slowly rake the sludge on the hearth are attached to the rotating shaft. Dewatered sludge enters at the top and proceeds downward through the furnace from hearth to hearth, pushed along by the rabble arms.

Operating day means a 24-hour period between 12:00 midnight and the following midnight during which any amount of sewage sludge is combusted at any time in the SSI unit.

Particulate matter means filterable particulate matter emitted from SSI units as measured by Method 5 at 40 CFR part 60, appendix A-3, or Methods 26A or 29 at 40 CFR part 60, appendix A-8.

Power input to the electrostatic precipitator means the product of the test-run average secondary voltage and the test-run average secondary amperage to the electrostatic precipitator collection plates.

Process change means a significant permit revision, but only with respect to those pollutant-specific emission units for which the proposed permit revision is applicable, including but not limited to:

(1) A change in the process employed at the wastewater treatment facility associated with the affected SSI unit (e.g., the addition of tertiary treatment at the facility, which changes the method used for disposing of process solids and processing of the sludge prior to incineration).

(2) A change in the air pollution control devices used to comply with the emission limits for the affected SSI unit (e.g., change in the sorbent used for activated carbon injection).

Sewage sludge means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incineration unit or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Sewage sludge feed rate means the rate at which sewage sludge is fed into the incinerator unit.

Sewage sludge incineration (SSI) unit means an incineration unit combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter. Sewage sludge incineration unit designs include fluidized bed and multiple hearth. AN SSI unit also includes, but is not limited to, the sewage sludge feed system, auxiliary fuel feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The SSI unit includes all ash handling systems connected to the bottom ash handling system. The combustion unit bottom ash system ends at the truck loading station or similar equipment that transfers the ash to final disposal. The SSI unit does not include air pollution control equipment or the stack.

Shutdown means the period of time after all sewage sludge has been combusted in the primary chamber.

Solid waste means any garbage, refuse, sewage sludge from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, mining, agricultural operations and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014).

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 means the period of time between the activation, including the firing of fuels (*e.g.*, natural gas or distillate oil), of the system and the first feed to the unit.

Toxic equivalency means the product of the concentration of an individual dioxin isomer in an environmental mixture and the corresponding estimate of the compound-specific toxicity relative to tetrachlorinated dibenzo-p-dioxin, referred to as the toxic equivalency factor for that compound. Table 5 to this subpart lists the toxic equivalency factors.

Wet scrubber means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquid to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

You means the owner or operator of an affected SSI unit.

Delegation of Authority

§62.16050 What authorities will be retained by the EPA Administrator?

The authorities that will not be delegated to state, local, or tribal agencies are specified in paragraphs (a) through (g) of this section.

- (a) Approval of alternatives to the emission limits and standards in Tables 2 and 3 to this subpart and operating limits established under §62.15965 or §62.15985.
- (b) Approval of major alternatives to test methods.
- (c) Approval of major alternatives to monitoring.
- (d) Approval of major alternatives to recordkeeping and reporting.
- (e) The requirements in §62.15965.
- (f) The requirements in §62.15945(b)(2).
- (g) Performance test and data reduction waivers under §60.8(b) of this chapter.

Table 1 to Subpart LLL of Part 62—Compliance Schedule for Existing Sewage Sludge Incineration Units

Comply with these requirements	By this date
1—Submit final control plan	March 21, 2016, for all units except East Bank Wastewater Treatment Plant, New Orleans, Louisiana, and Bayshore Regional Wastewater Treatment Plant in Union Beach, Monmouth County, NJ.
2—Final compliance	For East Bank Wastewater Treatment Plant, New Orleans, Louisiana, and Bayshore Regional Wastewater Treatment Plant in Union Beach, Monmouth County, NJ, March 21, 2017.

Table 2 to Subpart LLL of Part 62—Emission Limits and Standards for Existing Fluidized Bed Sewage Sludge Incineration Units

For the air pollutant	You must meet this emission limit ¹	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Particulate matter	18 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters sample per run)	Performance test (Method 5 at 40 CFR part 60, appendix A-3; Method 26A or Method 29 at 40 CFR part 60, appendix A-8).
Hydrogen chloride	0.51 parts per million by dry volume	3-run average (Collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 26A at 40 CFR part 60, appendix A-8).
Carbon monoxide	64 parts per million by dry volume	3-run average (collect sample for a minimum duration of one hour per run)	Performance test (Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4).
Dioxins/furans (total mass basis); or	1.2 nanograms per dry standard cubic meter (total mass basis); or	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 23 at 40 CFR part 60, appendix A-7).

For the air pollutant	You must meet this emission limit ¹	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Dioxins/furans (toxic equivalency basis) ²	0.10 nanograms per dry standard cubic meter (toxic equivalency basis)		
Mercury	0.037 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008) ³ , collect a minimum volume of 1 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8)	Performance test (Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; or ASTM D6784-02 (Reapproved 2008). ^{3 5}
Oxides of nitrogen	150 parts per million by dry volume	3-run average (Collect sample for a minimum duration of one hour per run)	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A-4).
Sulfur dioxide	15 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 60 liters per run. For Method 6C, collect sample for a minimum duration of one hour per run)	Performance test (Method 6 or 6C at 40 CFR part 40, appendix A-4; or ANSI/ASME PTC-19.10-1981. ^{3 4}
Cadmium	0.0016 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 40 CFR part 60, appendix A-8). Use GFAAS or ICP/MS for the analytical finish.
Lead	0.0074 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters sample per run)	Performance test (Method 29 at 40 CFR part 60, appendix A-8. Use GFAAS or ICP/MS for the analytical finish.
Fugitive emissions from ash handling	Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) for no more than 5 percent of any compliance test hourly observation period	Three 1-hour observation periods	Visible emission test (Method 22 at 40 CFR part 60, appendix A-7).

¹All emission limits are measured at 7-percent oxygen, dry basis at standard conditions.

²You have the option to comply with either the dioxin/furan emission limit on a total mass basis or the dioxin/furan emission limit on a toxic equivalency basis.

³The Director of the Federal Register approves these incorporations by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may inspect these standards at U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>. You may also inspect a copy at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: {HYPERLINK "http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html"}.
http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html"}.

⁴ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]. American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990 (Phone: 1-800-843-2763; Web site: <https://www.asme.org/>).

⁵ASTM D6784-02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), [approved April 1, 2008]. ASTM International, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106 (Phone: 1-877-909-2786; Web site: <http://www.astm.org/>).

Table 3 to Subpart LLL of Part 62—Emission Limits and Standards for Existing Multiple Hearth Sewage Sludge Incineration Units

For the air pollutant	You must meet this emission limit ¹	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Particulate matter	80 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 0.75 dry standard cubic meters per run)	Performance test (Method 5 at 40 CFR part 60, appendix A-3; Method 26A or Method 29 at 40 CFR part 60, appendix A-8).
Hydrogen chloride	1.2 parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 200 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A-8).
Carbon monoxide	3,800 parts per million by dry volume	3-run average (collect sample for a minimum duration of one hour per run)	Performance test (Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4).
Dioxins/furans (total mass basis)	5.0 nanograms per dry standard cubic meter; or	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 23 at 40 CFR part 60, appendix A-7).
Dioxins/furans (toxic equivalency basis). ²	0.32 nanograms per dry standard cubic meter		
Mercury	0.28 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008), ³ collect a minimum volume of 1 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8)	Performance test (Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; or ASTM D6784-02 (Reapproved 2008). ^{3 5}
Oxides of nitrogen	220 parts per million by dry volume	3-run average (Collect sample for a minimum duration of one hour per run)	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A-4).
Sulfur dioxide	26 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 200 liters per run. For Method 6C, collect sample for a minimum duration of one hour per run)	Performance test (Method 6 or 6C at 40 CFR part 40, appendix A-4; or ANSI/ASME PTC 19.10-1981. ^{3 4}
Cadmium	0.095 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 40 CFR part 60, appendix A-8).

For the air pollutant	You must meet this emission limit ¹	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Lead	0.30 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 40 CFR part 60, appendix A-8).
Fugitive emissions from ash handling	Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) for no more than 5 percent of any compliance test hourly observation period	Three 1-hour observation periods	Visible emission test (Method 22 at 40 CFR part 60, appendix A-7).

¹All emission limits are measured at 7-percent oxygen, dry basis at standard conditions.

²You have the option to comply with either the dioxin/furan emission limit on a total mass basis or the dioxin/furan emission limit on a toxic equivalency basis.

³The Director of the Federal Register approves these incorporations by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may inspect these standards at U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>. You may also inspect a copy at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

⁴ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]. American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990 (Phone: 1-800-843-2763; Web site: <https://www.asme.org/>).

⁵ASTM D6784-02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), [approved April 1, 2008]. ASTM International, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106 (Phone: 1-877-909-2786; Web site: <http://www.astm.org/>).

Table 4 to Subpart LLL of Part 62—Operating Parameters for Existing Sewage Sludge Incineration Units¹

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording ²	Data averaging period for compliance
All sewage sludge incineration units				
Combustion chamber operating temperature (not required if afterburner temperature is monitored)	Minimum combustion chamber operating temperature or afterburner temperature	Continuous	Every 15 minutes	12-hour block.
Fugitive emissions from ash handling	Site-specific operating requirements	Not applicable	Not applicable	Not applicable.
Scrubber				
Pressure drop across each wet scrubber	Minimum pressure drop	Continuous	Every 15 minutes	12-hour block.

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording ²	Data averaging period for compliance
Scrubber liquid flow rate	Minimum flow rate	Continuous	Every 15 minutes	12-hour block.
Scrubber liquid pH	Minimum pH	Continuous	Every 15 minutes	3-hour block.
Fabric Filter				
Alarm time of the bag leak detection system alarm	Maximum alarm time of the bag leak detection system alarm (this operating limit is provided in §60.4850 and is not established on a site-specific basis)			
Electrostatic precipitator				
Secondary voltage of the electrostatic precipitator collection plates	Minimum power input to the electrostatic precipitator collection plates	Continuous	Hourly	12-hour block.
Secondary amperage of the electrostatic precipitator collection plates				
Effluent water flow rate at the outlet of the electrostatic precipitator	Minimum effluent water flow rate at the outlet of the electrostatic precipitator	Hourly	Hourly	12-hour block.
Activated carbon injection				
Mercury sorbent injection rate	Minimum mercury sorbent injection rate	Hourly	Hourly	12-hour block.
Dioxin/furan sorbent injection rate	Minimum dioxin/furan sorbent injection rate.			
Carrier gas flow rate or carrier gas pressure drop	Minimum carrier gas flow rate or minimum carrier gas pressure drop	Continuous	Every 15 minutes	12-hour block.
Afterburner				
Temperature of the afterburner combustion chamber	Minimum temperature of the afterburner combustion chamber	Continuous	Every 15 minutes	12-hour block.

¹ As specified in §62.15985, you may use a continuous emissions monitoring system or continuous automated sampling system in lieu of establishing certain operating limits.

² This recording time refers to the minimum frequency that the continuous monitor or other measuring device initially records data. For all data recorded every 15 minutes, you must calculate hourly arithmetic averages. For all parameters, you use hourly averages to calculate the 12-hour or 3-hour block average specified in this table for demonstrating compliance. You maintain records of 1-hour averages.

Table 5 to Subpart LLL of Part 62—Toxic Equivalency Factors

Dioxin/furan isomer	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	1
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
octachlorinated dibenzo-p-dioxin	0.0003
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.3
1,2,3,7,8-pentachlorinated dibenzofuran	0.03
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	0.0003

Table 6 to Subpart LLL of Part 62—Summary of Reporting Requirements for Existing Sewage Sludge Incineration Units¹

Report	Due date	Contents	Reference
Final control plan and final compliance report	No later than 10 business days after the compliance date	1. Final control plan including air pollution control device descriptions, process changes, type of waste to be burned, and the maximum design sewage sludge burning capacity	§62.16030(a).
		2. Notification of any failure to submit the final control plan and achieve final compliance	
		3. Notification of any closure	
Initial compliance report	No later than 60 days following the initial	1. Company name and address 2. Statement by a responsible official, with	§62.16030(b).

Report	Due date	Contents	Reference
	performance test	that official's name, title, and signature, certifying the accuracy of the content of the report. 3. Date of report. 4. Complete test report for the initial performance test. 5. Results of CMS ² performance evaluation.	
		6. The values for the site-specific operating limits and the calculations and methods used to establish each operating limit	
		7. Documentation of installation of bag leak detection system for fabric filter	
		8. Results of initial air pollution control device inspection, including a description of repairs	
		9. The site-specific monitoring plan required under §62.15995	
		10. The site-specific monitoring plan for your ash handling system required under §62.15995	
Annual compliance report	No later than 12 months following the submission of the initial compliance report; subsequent reports are to be submitted no more than 12 months following the previous report	1. Company name and address 2. Statement and signature by responsible official. 3. Date and beginning and ending dates of report. 4. If a performance test was conducted during the reporting period, the results of the test, including any new operating limits and associated calculations and the type of activated carbon used, if applicable.	§62.16030(c).
		5. For each pollutant and operating parameter recorded using a CMS, the highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable	
		6. If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred	
		7. If a fabric filter is used, the date, time, and duration of alarms	
		8. If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated	

Report	Due date	Contents	Reference
		calculations	
		9. If you met the requirements of §62.16000(a)(3) and did not conduct a performance test, include the dates of the last three performance tests, a comparison to the 50 percent emission limit threshold of the emission level achieved in the last three performance tests, and a statement as to whether there have been any process changes	
		10. Documentation of periods when all qualified SSI unit operators were unavailable for more than 8 hours but less than 2 weeks	
		11. Results of annual pollutions control device inspections, including description of repairs	
		12. If there were no periods during which your CMSs had malfunctions, a statement that there were no periods during which your CMSs had malfunctions	
		13. If there were no periods during which your CMSs were out of control, a statement that there were no periods during which your CMSs were out of control	
		14. If there were no operator training deviations, a statement that there were no such deviations	
		15. Information on monitoring plan revisions, including a copy of any revised monitoring plan	
Deviation report (deviations from emission limits, emission standards, or operating limits, as specified in §62.16030(e)(1))	By August 1 of a calendar year for data collected during the first half of the calendar year; by February 1 of a calendar year for data collected during the second half of the calendar year	<i>If using a CMS:</i> 1. Company name and address. 2. Statement by a responsible official. 3. The calendar dates and times your unit deviated from the emission limits or operating limits. 4. The averaged and recorded data for those dates. 5. Duration and cause of each deviation. 6. Dates, times, and causes for monitor downtime incidents. 7. A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission	§62.16030(d).

Report	Due date	Contents	Reference
		levels.	
		8. For periods of CMS malfunction or when a CMS was out of control, you must include the information specified in §62.16030(d)(3)(viii)	
		<i>If not using a CMS:</i>	
		1. Company name and address	
		2. Statement by a responsible official	
		3. The total operating time of each affected SSI unit	
		4. The calendar dates and times your unit deviated from the emission limits, emission standard, or operating limits	
		5. The averaged and recorded data for those dates	
		6. Duration and cause of each deviation	
		7. A copy of any performance test report that showed a deviation from the emission limits or standards	
		8. A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken	
Notification of qualified operator deviation (if all qualified operators are not accessible for 2 weeks or more)	Within 10 days of deviation	1. Statement of cause of deviation 2. Description of actions taken to ensure that a qualified operator will be available 3. The date when a qualified operator will be accessible	§62.16030(e).
Notification of status of qualified operator deviation	Every 4 weeks following notification of deviation	1. Description of actions taken to ensure that a qualified operator is accessible 2. The date when you anticipate that a qualified operator will be accessible. 3. Request for approval to continue operation.	§62.16030(e).
Notification of resumed operation following shut down (due to qualified operator deviation and as specified in §62.15945(b)(2)(i))	Within five days of obtaining a qualified operator and resuming operation	1. Notification that you have obtained a qualified operator and are resuming operation	§62.16030(e).

Report	Due date	Contents	Reference
Notification of a force majeure	As soon as practicable following the date you first knew, or through due diligence should have known that the event may cause or caused a delay in conducting a performance test beyond the regulatory deadline; the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification must occur as soon as practicable	1. Description of the force majeure event 2. Rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure. 3. Description of the measures taken or to be taken to minimize the delay. 4. Identification of the date by which you propose to conduct the performance test.	\$62.16030(f).
Notification of intent to start or stop use of a CMS	1 month before starting or stopping use of a CMS	1. Intent to start or stop use of a CMS	\$62.16030(g)
Notification of intent to conduct a performance test	At least 30 days prior to the performance test	1. Intent to conduct a performance test to comply with this subpart	
Notification of intent to conduct a rescheduled performance test	At least 7 days prior to the date of a rescheduled performance test	1. Intent to conduct a rescheduled performance test to comply with this subpart	

¹ This table is only a summary, see the referenced sections of the rule for the complete requirements.

² CMS means continuous monitoring system.

Appendix F. 40 CFR Part 60, Subpart LLLL - Standards of Performance for New Sewage Sludge Incineration Units

Introduction

§ 60.4760 What does this subpart do?

This subpart establishes new source performance standards for sewage sludge incineration (SSI) units. To the extent any requirement of this subpart is inconsistent with the requirements of subpart A of this part, the requirements of this subpart will apply.

§ 60.4765 When does this subpart become effective?

This subpart takes effect on *September 21, 2011*. Some of the requirements in this subpart apply to planning a SSI unit and must be completed even before construction is initiated on a SSI unit (*i.e.*, the preconstruction

requirements in §§ 60.4800 and 60.4805). Other requirements such as the emission limits, emission standards, and operating limits apply after the SSI unit begins operation.

Applicability and Delegation of Authority

§ 60.4770 Does this subpart apply to my sewage sludge incineration unit?

Yes, your SSI unit is an affected source if it meets all the criteria specified in paragraphs (a) through (c) of this section.

- (a) Your SSI unit is a SSI unit for which construction commenced after October 14, 2010 or for which modification commenced after September 21, 2011.
- (b) Your SSI unit is a SSI unit as defined in § 60.4930.
- (c) Your SSI unit is not exempt under § 60.4780.

§ 60.4775 What is a new sewage sludge incineration unit?

- (a) A new SSI unit is a SSI unit that meets either of the two criteria specified in paragraph (a)(1) or (a)(2) of this section.
 - (1) Commenced construction after October 14, 2010.
 - (2) Commenced modification after September 21, 2011.
- (b) Physical or operational changes made to your SSI unit to comply with the emission guidelines in subpart MMMM of this part (Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units) do not qualify as a modification under this subpart.

§ 60.4780 What sewage sludge incineration units are exempt from this subpart?

This subpart exempts combustion units that incinerate sewage sludge and are not located at a wastewater treatment facility designed to treat domestic sewage sludge. These units may be subject to another subpart of this part (*e.g.*, subpart CCCC of this part). The owner or operator of such a combustion unit must notify the Administrator of an exemption claim under this section.

§ 60.4785 Who implements and enforces this subpart?

- (a) This subpart can be implemented and enforced by the Administrator, as defined in § 60.2, or a delegated authority such as your state, local, or tribal agency. If the Administrator has delegated authority to your state, local, or tribal agency, then that agency (as well as the Administrator) 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 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 (c)(8) of this section.
 - (1) Approval of alternatives to the emission limits and standards in Tables 1 and 2 to this subpart and operating limits established under § 60.4850.

- (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 § 60.4855.
- (6) The requirements in § 60.4835(b)(2).
- (7) Performance test and data reduction waivers under § 60.8(b).
- (8) Preconstruction siting analysis in §§ 60.4800 and 60.4805.

§ 60.4790 How are these new source performance standards structured?

These new source performance standards contain the nine major components listed in paragraphs (a) through (i) of this section.

- (a) Preconstruction siting analysis.
- (b) Operator training and qualification.
- (c) Emission limits, emission standards, and operating limits.
- (d) Initial compliance requirements.
- (e) Continuous compliance requirements.
- (f) Performance testing, monitoring, and calibration requirements.
- (g) Recordkeeping and reporting.
- (h) Definitions.
- (i) Tables.

§ 60.4795 Do all nine components of these new source performance standards apply at the same time?

No. You must meet the preconstruction siting analysis requirements before you commence construction of the SSI unit. The operator training and qualification, emission limits, emission standards, operating limits, performance testing, and compliance, monitoring, and most recordkeeping and reporting requirements are met after the SSI unit begins operation.

Preconstruction Siting Analysis

§ 60.4800 Who must prepare a siting analysis?

- (a) You must prepare a siting analysis if you plan to commence construction of a SSI unit after October 14, 2010.
- (b) 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 modification of your SSI unit.

§ 60.4805 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, including impacts of the affected SSI unit on ambient air quality, visibility, soils, and vegetation. 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 SSI unit'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 § 60.4915(a)(3) prior to commencing construction.

Operator Training and Qualification

§ 60.4810 What are the operator training and qualification requirements?

- (a) A SSI unit cannot be operated unless a fully trained and qualified SSI unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified SSI unit operator may operate the SSI unit directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified SSI unit operators are temporarily not accessible, you must follow the procedures in § 60.4835.
- (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 (c)(3) of this section.
 - (1) Training on the 10 subjects listed in paragraphs (c)(1)(i) through (c)(1)(x) 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, sewage sludge feeding, 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 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.

(2) An examination designed and administered by the state-approved program.

(3) Written material covering the training course topics that may serve as reference material following completion of the course.

§ 60.4815 When must the operator training course be completed?

The operator training course must be completed by the later of the two dates specified in paragraphs (a) and (b) of this section.

(a) Six months after your SSI unit startup.

(b) The date before an employee assumes responsibility for operating the SSI unit or assumes responsibility for supervising the operation of the SSI unit.

§ 60.4820 How do I obtain my operator qualification?

(a) You must obtain operator qualification by completing a training course that satisfies the criteria under § 60.4810(b).

(b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under § 60.4810(c)(2).

§ 60.4825 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, sewage sludge feeding, and ash handling.

(c) Inspection and maintenance.

(d) Prevention of malfunctions or conditions that may lead to malfunction.

(e) Discussion of operating problems encountered by attendees.

§ 60.4830 How do I renew my lapsed operator qualification?

You must renew a lapsed operator qualification before you begin operation of a SSI unit 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 § 60.4825.

(b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in § 60.4820(a).

§ 60.4835 What if all the qualified operators are temporarily not accessible?

If a qualified operator is not at the facility and cannot be at the facility within 1 hour, you must meet the criteria specified in either paragraph (a) or (b) of this section, depending on the length of time that a qualified operator is not accessible.

(a) When a qualified operator is not accessible for more than 8 hours, the SSI unit may be operated for less than 2 weeks by other plant personnel who are familiar with the operation of the SSI unit and who

have completed a review of the information specified in § 60.4840 within the past 12 months. However, you must record the period when a qualified operator was not accessible and include this deviation in the annual report as specified under § 60.4915(d).

(b) When a qualified operator is not accessible for 2 weeks or more, you must take the two actions that are described in paragraphs (b)(1) and (b)(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.

(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 SSI unit. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under paragraph (b)(1) of this section.

(i) If the Administrator notifies you that your request to continue operation of the SSI unit is disapproved, the SSI unit may continue operation for 30 days, and then must cease operation.

(ii) Operation of the unit may resume if a qualified operator is accessible as required under § 60.4810(a). You must notify the Administrator within 5 days of having resumed operations and of having a qualified operator accessible.

§ 60.4840 What site-specific documentation is required and how often must it be reviewed by qualified operators and plant personnel?

(a) You must maintain at the facility the documentation of the operator training procedures specified under § 60.4910(c)(1) and make the documentation readily accessible to all SSI unit operators.

(b) You must establish a program for reviewing the information listed in § 60.4910(c)(1) with each qualified incinerator operator and other plant personnel who may operate the unit according to the provisions of § 60.4835(a), according to the following schedule:

(1) The initial review of the information listed in § 60.4910(c)(1) 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 SSI unit, whichever date is later.

(2) Subsequent annual reviews of the information listed in § 60.4910(c)(1) must be conducted no later than 12 months following the previous review.

Emission Limits, Emission Standards, and Operating Limits and Requirements

§ 60.4845 What emission limits and standards must I meet and by when?

You must meet the emission limits and standards specified in Table 1 or 2 to this subpart within 60 days after your SSI unit reaches the feed rate at which it will operate or within 180 days after its initial startup, whichever comes first. The emission limits and standards apply at all times the unit is operating, and during periods of malfunction. The emission limits and standards apply to emissions from a bypass stack or vent while sewage

sludge is in the combustion chamber (*i.e.*, until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time).

§ 60.4850 What operating limits and requirements must I meet and by when?

You must meet, as applicable, the operating limits and requirements specified in paragraphs (a) through (d) and (h) of this section, according to the schedule specified in paragraph (e) of this section. The operating parameters for which you will establish operating limits for a wet scrubber, fabric filter, electrostatic precipitator, or activated carbon injection are listed in Table 3 to this subpart. You must comply with the operating requirements in paragraph (f) of this section and the requirements in paragraph (g) of this section for meeting any new operating limits, re-established in § 60.4890. The operating limits apply at all times that sewage sludge is in the combustion chamber (*i.e.*, until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time).

- (a) You must meet a site-specific operating limit for minimum operating temperature of the combustion chamber (or afterburner combustion chamber) that you establish in § 60.4890(a)(2)(i).
- (b) If you use a wet scrubber, electrostatic precipitator, or activated carbon injection to comply with an emission limit, you must meet the site-specific operating limits that you establish in § 60.4870 for each operating parameter associated with each air pollution control device.
- (c) If you use a fabric filter to comply with the emission limits, you must install the bag leak detection system specified in §§ 60.4880(b) and 60.4905(b)(3)(i) and operate the bag leak detection system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must calculate the alarm time as specified in § 60.4870.
- (d) You must meet the operating requirements in your site-specific fugitive emission monitoring plan, submitted as specified in § 60.4880(d) to ensure that your ash handling system will meet the emission standard for fugitive emissions from ash handling.
- (e) You must meet the operating limits and requirements specified in paragraphs (a) through (d) of this section 60 days after your SSI unit reaches the feed rate at which it will operate, or within 180 days after its initial startup, whichever comes first.
- (f) You must monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, as specified in paragraphs (f)(1) and (f)(2) of this section.
 - (1) Continuously monitor the sewage sludge feed rate and calculate a daily average for all hours of operation during each 24-hour period. Keep a record of the daily average feed rate, as specified in § 60.4910(f)(3)(ii).
 - (2) Take at least one grab sample per day of the sewage sludge fed to the sewage sludge incinerator. If you take more than one grab sample in a day, calculate the daily average for the grab samples. Keep a record of the daily average moisture content, as specified in § 60.4910(f)(3)(ii).
- (g) For the operating limits and requirements specified in paragraphs (a) through (d) and (h) of this section, you must meet any new operating limits and requirements, re-established according to § 60.4890(d).
- (h) If you use an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, or activated carbon injection to comply with the emission limits in Table 1 or 2 to this

subpart, you must meet any site-specific operating limits or requirements that you establish as required in § 60.4855.

§ 60.4855 How do I establish operating limits if I do not use a wet scrubber, fabric filter, electrostatic precipitator, or activated carbon injection, or if I limit emissions in some other manner, to comply with the emission limits?

If you use an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, or activated carbon injection, or limit emissions in some other manner (*e.g.*, materials balance) to comply with the emission limits in § 60.4845, you must meet the requirements in paragraphs (a) and (b) of this section.

(a) Meet the applicable operating limits and requirements in § 60.4850, and establish applicable operating limits according to § 60.4870.

(b) Petition the Administrator for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and to be monitored continuously thereafter.

(1) You are responsible for submitting any supporting information in a timely manner to enable the Administrator to consider the application prior to the performance test. You must not conduct the initial performance test until after the petition has been approved by the Administrator, and you must comply with the operating limits as written, pending approval by the Administrator. Neither submittal of an application, nor the Administrator's failure to approve or disapprove the application relieves you of the responsibility to comply with any provision of this subpart.

(2) Your petition must include the five items listed in paragraphs (b)(2)(i) through (b)(2)(v) of this section.

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

(ii) 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.

(iii) A discussion of how you will establish the upper and/or lower values for these parameters that will establish the operating limits on these parameters, including a discussion of the averaging periods associated with those parameters for determining compliance.

(iv) 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.

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

§ 60.4860 Do the emission limits, emission standards, and operating limits apply during periods of startup, shutdown, and malfunction?

The emission limits and standards apply at all times and during periods of malfunction. The operating limits apply at all times that sewage sludge is in the combustion chamber (*i.e.*, until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time).

§ 60.4861 How do I establish an affirmative defense for exceedance of an emission limit or standard during malfunction?

In response to an action to enforce the numerical emission standards set forth in paragraph § 60.4845, you may assert an affirmative defense to a claim for civil penalties for exceedances of emission limits that are caused by malfunction, as defined in § 60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a limit, you must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that the conditions in paragraphs (a)(1) through (a)(9) of this section are met.

(1) The excess emissions meet:

- (i) Were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner, and
- (ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices, and
- (iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for, and
- (iv) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance, and (2) Repairs were made as expeditiously as possible when the applicable emission limits were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs, and

(3) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions, and

(4) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, and

(5) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health, and

(6) All emissions monitoring and control systems were kept in operation if at all possible consistent with safety and good air pollution control practices, and

(7) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, and

(8) At all times, the affected facility was operated in a manner consistent with good practices for minimizing emissions, and

(9) A written root cause analysis has been prepared the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(b) The owner or operator of the SSI unit experiencing an exceedance of its emission limit(s) during a malfunction, shall notify the Administrator by telephone or facsimile (fax) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in § 60.4845 to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

Initial Compliance Requirements

§ 60.4865 How and when do I demonstrate initial compliance with the emission limits and standards?

To demonstrate initial compliance with the emission limits and standards in Table 1 or 2 to this subpart, use the procedures specified in paragraph (a) of this section for particulate matter, hydrogen chloride, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and fugitive emissions from ash handling, and follow the procedures specified in paragraph (b) of this section for carbon monoxide. In lieu of using the procedures specified in paragraph (a) of this section, you also have the option to demonstrate initial compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead. You must meet the requirements of paragraphs (a) or (b) of this section, as applicable, and paragraphs (c) and (d) of this section, according to the performance testing, monitoring, and calibration requirements in § 60.4900(a) and (b). Except as provided in paragraph (e) of this section, within 60 days after your SSI unit reaches the feed rate at which it will operate, or within 180 days after its initial startup, whichever comes first, you must demonstrate that your SSI unit meets the emission limits and standards specified in Table 1 or 2 to this subpart.

(a) Demonstrate initial compliance using the performance test required in § 60.8. You must demonstrate that your SSI unit meets the emission limits and standards specified in Table 1 or 2 to this subpart for particulate matter, hydrogen chloride, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and fugitive emissions from ash handling using the performance test. The initial performance test must be conducted using the test methods, averaging methods, and minimum sampling volumes or durations specified in Table 1 or 2 to this subpart and according to the testing, monitoring, and calibration requirements specified in § 60.4900(a).

(b) Demonstrate initial compliance using a continuous emissions monitoring system or continuous automated sampling system. The option to use a continuous emissions monitoring system for hydrogen chloride, dioxins/furans, cadmium, or lead takes effect on the date a final performance specification applicable to hydrogen chloride, dioxins/furans, cadmium, or lead is published in the Federal Register. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the Federal Register. Collect data as specified in § 60.4900(b)(6) and use the following procedures:

(1) To demonstrate initial compliance with the carbon monoxide emission limit specified in Table 1 or 2 to this subpart, you must use the carbon monoxide continuous emissions monitoring system specified in § 60.4900(b). For determining compliance with the carbon monoxide concentration limit using carbon monoxide CEMS, the correction to 7 percent oxygen does not apply during periods of startup or shutdown. Use the measured carbon monoxide concentration without correcting for oxygen concentration in averaging with other carbon monoxide concentrations (corrected to 7 percent oxygen) to determine the 24-hour average value.

(2) To demonstrate initial compliance with the emission limits specified in Table 1 or 2 to this subpart for particulate matter, hydrogen chloride, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead, you may substitute the use of a continuous monitoring system in lieu of conducting the initial performance test required in paragraph (a) of this section, as follows:

(i) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (b)(2) of this section in lieu of conducting the initial performance test for that pollutant in paragraph (a) of this section.

(ii) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the initial mercury or dioxin/furan performance test in paragraph (a) of this section.

(3) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in Table 1 or 2 to this subpart, as described in paragraph (b)(1) or (b)(2) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in § 60.4900(b). You must measure emissions according to § 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19-19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A-7.

(4) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in Table 1 or 2 to this subpart, as described in paragraph (b)(2) of this section, you must:

(i) Use the continuous automated sampling system specified in § 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to § 60.58b(p) and your monitoring plan.

(A) Use the procedures specified in § 60.58b(p) to calculate 24-hour block averages to determine compliance with the mercury emission limit in Table 1 or 2 to this subpart.

(B) Use the procedures specified in § 60.58b(p) to calculate 2-week block averages to determine compliance with the dioxin/furan (total mass basis or toxic equivalency basis) emission limits in Table 1 or 2 to this subpart.

(ii) Comply with the provisions in § 60.58b(q) to develop a monitoring plan. For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 and Procedure 5 of appendix F of this part.

(5) Except as provided in paragraph (e) of this section, you must complete your initial performance evaluations required under your monitoring plan for any continuous emissions monitoring system and

continuous automated sampling systems according to the provisions of § 60.4880. Your performance evaluation must be conducted using the procedures and acceptance criteria specified in § 60.4880(a)(3).

(c) To demonstrate initial compliance with the dioxins/furans toxic equivalency emission limit in Table 1 or 2 to this subpart, determine dioxins/furans toxic equivalency as follows:

(1) Measure the concentration of each dioxin/furan tetra- through octachlorinated-isomer emitted using Method 23 at 40 CFR part 60, appendix A-7.

(2) Multiply the concentration of each dioxin/furan (tetra- through octa-chlorinated) isomer by its corresponding toxic equivalency factor specified in Table 4 to this subpart.

(3) Sum the products calculated in accordance with paragraph (c)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(d) Submit an initial compliance report, as specified in § 60.4915(c).

(e) If you demonstrate initial compliance using the performance test specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in § 60.4915(g). You must conduct the initial performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to the initial performance test deadline, and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.

§ 60.4870 How do I establish my operating limits?

(a) You must establish the site-specific operating limits specified in paragraphs (b) through (h) of this section or established in § 60.4855, as applicable, during your initial performance tests required in § 60.4865. You must meet the requirements in § 60.4890(d) to confirm these operating limits or re-establish new operating limits using operating data recorded during any performance tests or performance evaluations required in § 60.4885. You must follow the data measurement and recording frequencies and data averaging times specified in Table 3 to this subpart or as established in § 60.4855, and you must follow the testing, monitoring, and calibration requirements specified in §§ 60.4900 and 60.4905 or established in § 60.4855. You are not required to establish operating limits for the operating parameters listed in Table 3 to this subpart for a control device if you use a continuous monitoring system to demonstrate compliance with the emission limits in Table 1 or 2 to this subpart for the applicable pollutants, as follows:

(1) For a scrubber designed to control emissions of hydrogen chloride or sulfur dioxide, you are not required to establish an operating limit and monitor, scrubber liquid flow rate or scrubber liquid pH if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for hydrogen chloride or sulfur dioxide.

(2) For a scrubber designed to control emissions of particulate matter, cadmium, and lead, you are not required to establish an operating limit and monitor pressure drop across the scrubber or scrubber liquid flow rate if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, cadmium, and lead.

(3) For an electrostatic precipitator designed to control emissions of particulate matter, cadmium, and lead, you are not required to establish an operating limit and monitor secondary voltage of the collection plates, secondary amperage of the collection plates, or effluent water flow rate at the outlet of the electrostatic precipitator if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, cadmium, and lead.

(4) For an activated carbon injection system designed to control emissions of mercury, you are not required to establish an operating limit and monitor sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for mercury.

(5) For an activated carbon injection system designed to control emissions of dioxins/furans, you are not required to establish an operating limit and monitor sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for dioxins/furans (total mass basis or toxic equivalency basis).

(b) Minimum pressure drop across each wet scrubber used to meet the particulate matter, lead, and cadmium emission limits in Table 1 or 2 to this subpart, equal to the lowest 4-hour average pressure drop across each such wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter, lead, and cadmium emission limits.

(c) Minimum scrubber liquid flow rate (measured at the inlet to each wet scrubber), equal to the lowest 4-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.

(d) Minimum scrubber liquid pH for each wet scrubber used to meet the sulfur dioxide or hydrogen chloride emission limits in Table 1 or 2 to this subpart, equal to the lowest 1-hour average scrubber liquid pH measured during the most recent performance test demonstrating compliance with the sulfur dioxide and hydrogen chloride emission limits.

(e) Minimum combustion chamber operating temperature (or minimum afterburner temperature), equal to the lowest 4-hour average combustion chamber operating temperature (or afterburner temperature) measured during the most recent performance test demonstrating compliance with all applicable emission limits.

(f) Minimum power input to the electrostatic precipitator collection plates, equal to the lowest 4-hour average power measured during the most recent performance test demonstrating compliance with the particulate matter, lead, and cadmium emission limits. Power input must be calculated as the product of the secondary voltage and secondary amperage to the electrostatic precipitator collection plates. Both the secondary voltage and secondary amperage must be recorded during the performance test.

(g) Minimum effluent water flow rate at the outlet of the electrostatic precipitator, equal to the lowest 4-hour average effluent water flow rate at the outlet of the electrostatic precipitator measured during the most recent performance test demonstrating compliance with the particulate matter, lead, and cadmium emission limits.

(h) For activated carbon injection, establish the site-specific operating limits specified in paragraphs (h)(1) through (h)(3) of this section.

(1) Minimum mercury sorbent injection rate, equal to the lowest 4-hour average mercury sorbent injection rate measured during the most recent performance test demonstrating compliance with the mercury emission limit.

(2) Minimum dioxin/furan sorbent injection rate, equal to the lowest 4-hour average dioxin/furan sorbent injection rate measured during the most recent performance test demonstrating compliance with the dioxin/furan (total mass basis or toxic equivalency basis) emission limit.

(3) Minimum carrier gas flow rate or minimum carrier gas pressure drop, as follows:

(i) Minimum carrier gas flow rate, equal to the lowest 4-hour average carrier gas flow rate measured during the most recent performance test demonstrating compliance with the applicable emission limit.

(ii) Minimum carrier gas pressure drop, equal to the lowest 4-hour average carrier gas flow rate measured during the most recent performance test demonstrating compliance with the applicable emission limit.

§ 60.4875 By what date must I conduct the initial air pollution control device inspection and make any necessary repairs?

(a) You must conduct an air pollution control device inspection according to § 60.4900(c) within 60 days of installing an air pollution control device or within 180 days of startup of the SSI unit using the air pollution control device, whichever comes first.

(b) Within 10 operating days following the air pollution control device inspection under paragraph (a) of this section, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the SSI unit must be completed.

§ 60.4880 How do I develop a site-specific monitoring plan for my continuous monitoring, bag leak detection, and ash handling systems, and by what date must I conduct an initial performance evaluation?

You must develop and submit to the Administrator for approval a site-specific monitoring plan for each continuous monitoring system required under this subpart, according to the requirements in paragraphs (a) through (d) of this section. This requirement also applies to you if you petition the Administrator for alternative monitoring parameters under § 60.13(i) and paragraph (e) of this section. If you use a continuous automated sampling system to comply with the mercury or dioxin/furan (total mass basis or toxic equivalency basis) emission limit, you must develop your monitoring plan as specified in § 60.58b(q), and you are not required to meet the requirements in paragraphs (a) and (b) of this section. You must also submit a site-specific monitoring plan for your ash handling system, as specified in paragraph (d) of this section. You must submit and update your monitoring plans as specified in paragraphs (f) through (h) of this section.

(a) For each continuous monitoring system, your monitoring plan must address the elements and requirements specified in paragraphs (a)(1) through (a)(8) of this section. You must operate and maintain the continuous monitoring system in continuous operation according to the site-specific monitoring plan.

- (1) 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).
- (2) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer and the data collection and reduction systems.
- (3) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
 - (i) For continuous emissions monitoring systems, your performance evaluation and acceptance criteria must include, but is not limited to, the following:
 - (A) The applicable requirements for continuous emissions monitoring systems specified in § 60.13.
 - (B) The applicable performance specifications (*e.g.*, relative accuracy tests) in appendix B of this part.
 - (C) The applicable procedures (*e.g.*, quarterly accuracy determinations and daily calibration drift tests) in appendix F of this part.
 - (D) A discussion of how the occurrence and duration of out-of-control periods will affect the suitability of CEMS data, where out-of-control has the meaning given in section (a)(7)(i) of this section.
 - (ii) For continuous parameter monitoring systems, your performance evaluation and acceptance criteria must include, but is not limited to the following:
 - (A) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (a)(3)(ii)(A)(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 of no greater than 2 percent of the expected process flow rate.
 - (3) Minimize the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
 - (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.
 - (B) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (a)(3)(ii)(B)(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.*, particulate matter 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 least once each process operating day to ensure pressure measurements are not obstructed (*e.g.*, check for pressure tap pluggage daily).
- (5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.
- (6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in your monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(C) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in paragraphs (a)(3)(ii)(C)(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.
- (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.

(D) If you have an operating limit that requires the use of a temperature measurement device, you must meet the requirements in paragraphs (a)(3)(ii)(D)(1) through (4) of this section.

- (1) Install the temperature sensor and other necessary equipment in a position that provides a representative temperature.
- (2) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range.
- (3) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range.

(4) Conduct a temperature measurement device performance evaluation at the time of each performance test but no less frequently than annually.

(E) 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 (a)(3)(ii)(E)(1) and (2) of this section.

(1) Install sensors to measure (secondary) voltage and current to the electrostatic precipitator collection plates.

(2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(F) 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 (a)(3)(ii)(F)(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.

(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.

(4) Ongoing operation and maintenance procedures in accordance with the general requirements of § 60.11(d).

(5) Ongoing data quality assurance procedures in accordance with the general requirements of § 60.13.

(6) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 60.7(b), (c), (c)(1), (c)(4), (d), (e), (f) and (g).

(7) Provisions for periods when the continuous monitoring system is out of control, as follows:

(i) A continuous monitoring system is out of control if the conditions of paragraph (a)(7)(i)(A) or (a)(7)(i)(B) of this section are met.

(A) 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.

(B) 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.

(ii) When the continuous monitoring system is out of control as specified in paragraph (a)(7)(i) of this section, you must take the necessary corrective action and must repeat all necessary tests that indicate that the system is out of control. You must take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour you conduct a performance check (*e.g.*, calibration drift) that indicates an exceedance of the performance requirements established

under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits.

(8) Schedule for conducting initial and periodic performance evaluations.

(b) If a bag leak detection system is used, your monitoring plan must include a description of the following items:

(1) Installation of the bag leak detection system in accordance with paragraphs (b)(1)(i) and (ii) of this section.

(i) Install the 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.

(ii) 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.

(2) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established. Use a bag leak detection system equipped with a system that will sound an alarm when the system detects an increase in relative particulate matter emissions over a preset level. The alarm must be located where it is observed readily and any alert is detected and recognized easily by plant operating personnel.

(3) Evaluations of the performance of the bag leak detection system, performed in accordance with your monitoring plan and consistent with the guidance provided in Fabric Filter Bag Leak Detection Guidance, EPA-454/R-98-015, September 1997 (incorporated by reference, see § 60.17).

(4) Operation of the bag leak detection system, including quality assurance procedures.

(5) Maintenance of the bag leak detection system, including a routine maintenance schedule and spare parts inventory list.

(6) Recordkeeping (including record retention) of the bag leak detection system data. Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor.

(c) You must conduct an initial performance evaluation of each continuous monitoring system and bag leak detection system, as applicable, in accordance with your monitoring plan and § 60.13(c). For the purposes of this subpart, the provisions of § 60.13(c) also apply to the bag leak detection system. You must conduct the initial performance evaluation of each continuous monitoring system within 60 days of installation of the monitoring system.

(d) You must submit a monitoring plan specifying the ash handling system operating procedures that you will follow to ensure that you meet the fugitive emissions limit specified in Table 1 or 2 to this subpart.

(e) You may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the standards of this subpart, subject to the provisions of paragraphs (e)(1) through (e)(6) of this section.

(1) The Administrator will not approve averaging periods other than those specified in this section, unless you document, using data or information, that the longer averaging period will ensure that emissions do not exceed levels achieved over the duration of three performance test runs.

(2) If the application to use an alternate monitoring requirement is approved, you must continue to use the original monitoring requirement until approval is received to use another monitoring requirement.

(3) You must submit the application for approval of alternate monitoring requirements no later than the notification of performance test. The application must contain the information specified in paragraphs (e)(3)(i) through (e)(3)(iii) of this section:

(i) Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach.

(ii) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach and technique, the averaging period for the limit, and how the limit is to be calculated.

(iii) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard.

(4) The Administrator will notify you of the approval or denial of the application within 90 calendar days after receipt of the original request, or within 60 calendar days of the receipt of any supplementary information, whichever is later. The Administrator will not approve an alternate monitoring application unless it would provide equivalent or better assurance of compliance with the relevant emission standard. Before disapproving any alternate monitoring application, the Administrator will provide the following:

(i) Notice of the information and findings upon which the intended disapproval is based.

(ii) Notice of opportunity for you to present additional supporting information before final action is taken on the application. This notice will specify how much additional time is allowed for you to provide additional supporting information.

(5) You are responsible for submitting any supporting information in a timely manner to enable the Administrator to consider the application prior to the performance test. Neither submittal of an application, nor the Administrator's failure to approve or disapprove the application relieves you of the responsibility to comply with any provision of this subpart.

(6) The Administrator may decide at any time, on a case-by-case basis, that additional or alternative operating limits, or alternative approaches to establishing operating limits, are necessary to demonstrate compliance with the emission standards of this subpart.

(f) You must submit your monitoring plans required in paragraphs (a) and (b) of this section at least 60 days before your initial performance evaluation of your continuous monitoring system(s).

(g) You must submit your monitoring plan for your ash handling system, as required in paragraph (d) of this section, at least 60 days before your initial compliance test date.

(h) You must update and resubmit your monitoring plan if there are any changes or potential changes in your monitoring procedures or if there is a process change, as defined in § 60.4930.

Continuous Compliance Requirements

§ 60.4885 How and when do I demonstrate continuous compliance with the emission limits and standards?

To demonstrate continuous compliance with the emission limits and standards specified in Table 1 or 2 to this subpart, use the procedures specified in paragraph (a) of this section for particulate matter, hydrogen chloride, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and fugitive emissions from ash handling, and follow the procedures specified in paragraph (b) of this section for carbon monoxide. In lieu of using the procedures specified in paragraph (a) of this section, you also have the option to demonstrate continuous compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead. You must meet the requirements of paragraphs (a) and (b) of this section, as applicable, and paragraphs (c) through (e) of this section, according to the performance testing, monitoring, and calibration requirements in § 60.4900(a) and (b). You may also petition the Administrator for alternative monitoring parameters as specified in paragraph (f) of this section.

(a) Demonstrate continuous compliance using a performance test. Except as provided in paragraphs (a)(3) and (e) of this section, following the date that the initial performance test for each pollutant in Table 1 or 2 to this subpart except carbon monoxide is completed, you must conduct a performance test for each such pollutant on an annual basis (between 11 and 13 calendar months following the previous performance test). The performance test must be conducted using the test methods, averaging methods, and minimum sampling volumes or durations specified in Table 1 or 2 to this subpart and according to the testing, monitoring, and calibration requirements specified in § 60.4900(a).

(1) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. 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 § 60.4930.

(3) Except as specified in paragraphs (a)(1) and (2) of this section, you can conduct performance tests less often for a given pollutant, as specified in paragraphs (a)(3)(i) through (iii) of this section.

(i) You can conduct performance tests less often if your performance tests for the pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit specified in Table 2 or 3 to this subpart, and there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. 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 during the third year and no more than 37 months after the previous performance test.

(ii) If your SSI unit continues to meet the emission limit for the pollutant, you may choose to conduct performance tests for the pollutant every third year if your emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance test must be conducted no more than 37 months after the previous performance test.

(iii) If a performance test shows emissions exceeded 75 percent of the emission limit for a pollutant, you must conduct annual performance tests for that pollutant until all performance tests over 2 consecutive years show compliance.

(b) Demonstrate continuous compliance using a continuous emissions monitoring system or continuous automated sampling system. The option to use a continuous emissions monitoring system for hydrogen chloride, dioxins/furans, cadmium, or lead takes effect on the date a final performance specification applicable to hydrogen chloride, dioxins/furans, cadmium, or lead is published in the Federal Register. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the Federal Register. Collect data as specified in § 60.4900(b)(6) and use the following procedures:

(1) To demonstrate continuous compliance with the carbon monoxide emission limit, you must use the carbon monoxide continuous emissions monitoring system specified in § 60.4900(b). For determining compliance with the carbon monoxide concentration limit using carbon monoxide CEMS, the correction to 7 percent oxygen does not apply during periods of startup or shutdown. Use the measured carbon monoxide concentration without correcting for oxygen concentration in averaging with other carbon monoxide concentrations (corrected to 7 percent oxygen) to determine the 24-hour average value.

(2) To demonstrate continuous compliance with the emission limits for particulate matter, hydrogen chloride, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead, you may substitute the use of a continuous monitoring system in lieu of conducting the annual performance test required in paragraph (a) of this section, as follows:

(i) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (b)(2) of this section in lieu of conducting the annual performance test for that pollutant in paragraph (a) of this section.

(ii) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the annual mercury or dioxin/furan performance test in paragraph (a) of this section.

(3) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in either paragraph (b)(1) or (b)(2) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in § 60.4900(b). You must measure emissions according to § 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19-19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A-7.

(4) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in paragraph (b)(2) of this section, you must:

(i) Use the continuous automated sampling system specified in § 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to § 60.58b(p) and your monitoring plan.

(A) Use the procedures specified in § 60.58b(p) to calculate 24-hour averages to determine compliance with the mercury emission limit in Table 1 or 2 to this subpart.

(B) Use the procedures specified in § 60.58b(p) to calculate 2-week averages to determine compliance with the dioxin/furan emission limit (total mass basis or toxic equivalency basis) in Table 1 or 2 to this subpart.

(ii) Update your monitoring plan as specified in § 60.4880(e). For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 and Procedure 5 of appendix F of this part.

(5) Except as provided in paragraph (e) of this section, you must complete your periodic performance evaluations required under your monitoring plan for any continuous emissions monitoring system and continuous automated sampling systems, according to the schedule specified in your monitoring plan. If you were previously determining compliance by conducting an annual performance test (or according to the less frequent testing for a pollutant as provided in paragraph (a)(3) of this section), you must complete the initial performance evaluation required in your monitoring plan in § 60.4880 for the continuous monitoring system prior to using the continuous emissions monitoring system to demonstrate compliance or continuous automated sampling system. Your performance evaluation must be conducted using the procedures and acceptance criteria specified in § 60.4880(a)(3).

(c) To demonstrate compliance with the dioxins/furans toxic equivalency emission limit in paragraph (a) or (b) of this section, you must determine dioxins/furans toxic equivalency as follows:

(1) Measure the concentration of each dioxin/furan tetra- through octa-chlorinated isomer emitted using EPA Method 23.

(2) For each dioxin/furan (tetra- through octa-chlorinated) isomer measured in accordance with paragraph (c)(1) of this section, multiply the isomer concentration by its corresponding toxic equivalency factor specified in Table 4 to this subpart.

(3) Sum the products calculated in accordance with paragraph (c)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(d) You must submit the annual compliance report specified in § 60.4915(d). You must submit the deviation report specified in § 60.4915(e) for each instance that you did not meet each emission limit in Table 1 or 2 to this subpart.

(e) If you demonstrate continuous compliance using a performance test, as specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in § 60.4915(g). You must conduct the performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to the performance test deadline, and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.

(f) After any initial requests in § 60.4880 for alternative monitoring requirements for initial compliance, you may subsequently petition the Administrator for alternative monitoring parameters as specified in §§ 60.13(i) and 60.4880(e).

§ 60.4890 How do I demonstrate continuous compliance with my operating limits?

You must continuously monitor your operating parameters as specified in paragraph (a) of this section and meet the requirements of paragraphs (b) and (c) of this section, according to the monitoring and calibration requirements in § 60.4905. You must confirm and re-establish your operating limits as specified in paragraph (d) of this section.

(a) You must continuously monitor the operating parameters specified in paragraphs (a)(1) and (a)(2) of this section using the continuous monitoring equipment and according to the procedures specified in § 60.4905 or established in § 60.4855. To determine compliance, you must use the data averaging period specified in Table 3 to this subpart (except for alarm time of the baghouse leak detection system) unless a different averaging period is established under § 60.4855.

(1) You must demonstrate that the SSI unit meets the operating limits established according to §§ 60.4855 and 60.4870 and paragraph (d) of this section for each applicable operating parameter.

(2) You must demonstrate that the SSI unit meets the operating limit for bag leak detection systems as follows:

(i) For a bag leak detection system, you must calculate the alarm time as follows:

(A) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted.

(B) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour.

(C) If you take longer than 1 hour to initiate corrective action, each alarm time (*i.e.*, time that the alarm sounds) is counted as the actual amount of time taken by you to initiate corrective action.

(ii) Your maximum alarm time is equal to 5 percent of the operating time during a 6-month period, as specified in § 60.4850(c).

(b) Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. You must submit the deviation report specified in § 60.4915(e) for each instance that you did not meet one of your operating limits established under this subpart.

(c) You must submit the annual compliance report specified in § 60.4915(d) to demonstrate continuous compliance.

(d) You must confirm your operating limits according to paragraph (d)(1) of this section or re-establish operating limits according to paragraph (d)(2) of this section. Your operating limits must be established so as to assure ongoing compliance with the emission limits. These requirements also apply to your operating requirements in your fugitive emissions monitoring plan specified in § 60.4850(d).

(1) Your operating limits must be based on operating data recorded during any performance test required in § 60.4885(a) or any performance evaluation required in § 60.4885(b)(5).

(2) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward.

§ 60.4895 By what date must I conduct annual air pollution control device inspections and make any necessary repairs?

(a) You must conduct an annual inspection of each air pollution control device used to comply with the emission limits, according to § 60.4900(c), no later than 12 months following the previous annual air pollution control device inspection.

(b) Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the affected SSI unit must be completed.

Performance Testing, Monitoring, and Calibration Requirements

§ 60.4900 What are the performance testing, monitoring, and calibration requirements for compliance with the emission limits and standards?

You must meet, as applicable, the performance testing requirements specified in paragraph (a) of this section, the monitoring requirements specified in paragraph (b) of this section, the air pollution control device inspections requirements specified in paragraph (c) of this section, and the bypass stack provisions specified in paragraph (d) of this section.

(a) Performance testing requirements.

(1) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations, as specified in § 60.8(c). Emissions in excess of the emission limits or standards during periods of startup, shutdown, and malfunction are considered deviations from the applicable emission limits or standards.

(2) You must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by:

(i) Maintaining a log of the quantity of sewage sludge burned during the performance test by continuously monitoring and recording the average hourly rate that sewage sludge is fed to the incinerator.

(ii) Maintaining a log of the moisture content of the sewage sludge burned during the performance test by taking grab samples of the sewage sludge fed to the incinerator for each 8 hour period that testing is conducted.

(3) All performance tests must be conducted using the test methods, minimum sampling volume, observation period, and averaging methods specified in Table 1 or 2 to this subpart.

(4) Method 1 at 40 CFR part 60, appendix A-1 must be used to select the sampling location and number of traverse points.

(5) Method 3A or 3B at 40 CFR part 60, appendix A-2 must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B at 40 CFR part 60, appendix A-2 must be used simultaneously with each method.

(6) All pollutant concentrations must be adjusted to 7 percent oxygen using Equation 1 of this section:

$$C_{adj} = C_{meas} (20.9 - 7) / (20.9 - \%O_2) \quad (\text{Eq. 1})$$

Where:

C_{adj} = Pollutant concentration adjusted to 7 percent oxygen.

C_{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.

$\%O_2$ = Oxygen concentration measured on a dry basis, percent.

(7) Performance tests must be conducted and data reduced in accordance with the test methods and procedures contained in this subpart unless the Administrator does one of the following.

(i) Specifies or approves, in specific cases, the use of a method with minor changes in methodology.

(ii) Approves the use of an equivalent method.

(iii) Approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

(iv) Waives the requirement for performance tests because you have demonstrated by other means to the Administrator's satisfaction that the affected SSI unit is in compliance with the standard.

(v) Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph is construed to abrogate the Administrator's authority to require testing under section 114 of the Clean Air Act.

(8) You must provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, you must notify the Administrator as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator by mutual agreement.

(9) You must provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods applicable to the SSI unit, as follows:

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

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

- (ii) Safe sampling platform(s).
- (iii) Safe access to sampling platform(s).
- (iv) Utilities for sampling and testing equipment.

(10) Unless otherwise specified in this subpart, each performance test must consist of three separate runs using the applicable test method. Each run must be conducted for the time and under the conditions specified in the applicable standard. Compliance with each emission limit must be determined by calculating the arithmetic mean of the three runs. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond your control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(11) During each test run specified in paragraph (a)(1) of this section, you must operate your sewage sludge incinerator at a minimum of 85 percent of your maximum permitted capacity.

(b) *Continuous monitor requirements.* You must meet the following requirements, as applicable, when using a continuous monitoring system to demonstrate compliance with the emission limits in Table 1 or 2 to this subpart. The option to use a continuous emissions monitoring system for hydrogen chloride, dioxins/furans, cadmium, or lead takes effect on the date a final performance specification applicable to hydrogen chloride, dioxins/furans, cadmium, or lead is published in the Federal Register. If you elect to use a continuous emissions monitoring system instead of conducting annual performance testing, you must meet the requirements of paragraphs (b)(1) through (b)(6) of this section. If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must meet the requirements of paragraph (b)(7) of this section. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the Federal Register.

- (1) You must notify the Administrator one month before starting use of the continuous monitoring system.
- (2) You must notify the Administrator one month before stopping use of the continuous monitoring system, in which case you must also conduct a performance test prior to ceasing operation of the system.
- (3) You must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the emissions to the atmosphere in accordance with the following:

- (i) Section 60.13 of subpart A of this part.
- (ii) The following performance specifications of appendix B of this part, as applicable:
 - (A) For particulate matter, Performance Specification 11 of appendix B of this part.
 - (B) For hydrogen chloride, Performance Specification 15 of appendix B of this part.
 - (C) For carbon monoxide, Performance Specification 4B of appendix B of this part with the modifications shown in Tables 1 and 2 to this subpart.
 - (D) [Reserved]

- (E) For mercury, Performance Specification 12A of appendix B of this part.
 - (F) For nitrogen oxides, Performance Specification 2 of appendix B of this part.
 - (G) For sulfur dioxide, Performance Specification 2 of appendix B of this part.
- (iii) For continuous emissions monitoring systems, the quality assurance procedures (*e.g.*, quarterly accuracy determinations and daily calibration drift tests) of appendix F of this part specified in paragraphs (b)(3)(iii)(A) through (b)(3)(iii)(G) of this section. For each pollutant, the span value of the continuous emissions monitoring system is two times the applicable emission limit, expressed as a concentration.
- (A) For particulate matter, Procedure 2 in appendix F of this part.
 - (B) For hydrogen chloride, Procedure 1 in appendix F of this part except that the Relative Accuracy Test Audit requirements of Procedure 1 shall be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of Performance Specification 15 of appendix B of this part.
 - (C) For carbon monoxide, Procedure 1 in appendix F of this part.
 - (D) [Reserved]
 - (E) For mercury, Procedures 5 in appendix F of this part.
 - (F) For nitrogen oxides, Procedure 1 in appendix F of this part.
 - (G) For sulfur dioxide, Procedure 1 in appendix F of this part.
- (iv) If your monitoring system has a malfunction or out-of-control period, you must complete repairs and resume operation of your monitoring system as expeditiously as possible.
- (4) During each relative accuracy test run of the continuous emissions monitoring system using the performance specifications in paragraph (b)(3)(ii) of this section, emission data for each regulated pollutant and oxygen (or carbon dioxide as established in paragraph (b)(5) of this section) must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emissions monitoring systems and the test methods specified in paragraphs (b)(4)(i) through (b)(4)(viii) of this section. Relative accuracy testing must be at representative operating conditions while the SSI unit is charging sewage sludge.
- (i) For particulate matter, Method 5 at 40 CFR part 60, appendix A-3 or Method 26A or 29 at 40 CFR part 60, appendix A-8 shall be used.
 - (ii) For hydrogen chloride, Method 26 or 26A at 40 CFR part 60, appendix A-8, shall be used as specified in Tables 2 and 3 to this subpart.
 - (iii) For carbon monoxide, Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4, shall be used.
 - (iv) For dioxins/furans, Method 23 at 40 CFR part 60, appendix A-7, shall be used.
 - (v) For mercury, cadmium, and lead, Method 29 at 40 CFR part 60, appendix A-8 shall be used. Alternatively for mercury, Method 30B at 40 CFR part 60, appendix A-8 or ASTM D6784-02 (Reapproved 2008) (incorporated by reference, see § 60.17), may be used.

(vi) For nitrogen oxides, Method 7 or 7E at 40 CFR part 60, appendix A-4, shall be used.

(vii) For sulfur dioxide, Method 6 or 6C at 40 CFR part 60, appendix A-4, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, see § 60.17) must be used. For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for inlet sulfur dioxide continuous emissions monitoring system should be no greater than 20 percent of the mean value of the 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 method and the continuous emissions monitoring system, whichever is greater.

(viii) For oxygen (or carbon dioxide as established in (b)(5) of this section), Method 3A or 3B at 40 CFR part 60, appendix A-2, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, see § 60.17), as applicable, must be used.

(5) You may request that compliance with the emission limits 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 (b)(5)(i) through (b)(5)(iv) of this section. This relationship may be re-established during subsequent performance tests.

(i) The fuel factor equation in Method 3B at 40 CFR part 60, appendix A-2 must be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3A or 3B at 50 CFR part 60, appendix A-2, 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.

(iv) A minimum of three runs must be performed.

(6) You must operate the continuous monitoring system and collect data with the continuous monitoring system as follows:

(i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (b)(6)(ii) of this section, except for periods of monitoring system malfunctions that occur during periods specified in § 60.4880(a)(7)(i), repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Any such periods that you do not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(ii) You must collect continuous emissions monitoring system data in accordance with § 60.13(e)(2).

(iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control

activities conducted during monitoring system malfunctions must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in a deviation report.

(iv) Any data collected during periods when the monitoring system is out of control as specified in § 60.4880(a)(7)(i), repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out-of-control periods must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(v) You must use all the data collected during all periods except those periods specified in paragraphs (b)(6)(iii) and (b)(6)(iv) of this section in assessing the operation of the control device and associated control system.

(7) If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must:

(i) Install, calibrate, maintain, and operate a continuous automated sampling system according to the site-specific monitoring plan developed in § 60.58b(p)(1) through (p)(6), (p)(9), (p)(10), and (q).

(ii) Collect data according to § 60.58b(p)(5) and paragraph (b)(6) of this section.

(c) *Air pollution control device inspections.* You must conduct air pollution control device inspections that include, at a minimum, the following:

(1) Inspect air pollution control device(s) for proper operation.

(2) Generally observe that the equipment is maintained in good operating condition.

(3) Develop a site-specific monitoring plan according to the requirements in § 60.4880. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 60.13(i).

(d) *Bypass stack.* Use of the bypass stack at any time that sewage sludge is being charged to the SSI unit is an emissions standards deviation for all pollutants listed in Table 1 or 2 to this subpart. The use of the bypass stack during a performance test invalidates the performance test.

§ 60.4905 What are the monitoring and calibration requirements for compliance with my operating limits?

(a) You must install, operate, calibrate, and maintain the continuous parameter monitoring systems according to the requirements in paragraphs (a)(1) and (2) of this section.

(1) Meet the following general requirements for flow, pressure, pH, and operating temperature measurement devices:

(i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (a)(1)(ii) of this section, except for periods of monitoring system malfunctions that occur during periods specified in § 60.4880(a)(7)(i), repairs associated with monitoring system malfunctions, and required

monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). Any such periods that you do not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(ii) You must collect continuous parameter monitoring system data in accordance with § 60.13(e)(2).

(iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in your annual deviation report.

(iv) Any data collected during periods when the monitoring system is out of control as specified in § 60.4880(a)(7)(i), repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out-of-control periods must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction, as defined in § 60.4930, constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(v) You must use all the data collected during all periods except those periods specified in paragraphs (a)(1)(iii) and (a)(1)(iv) of this section in assessing the operation of the control device and associated control system.

(vi) Record the results of each inspection, calibration, and validation check.

(2) Operate and maintain your continuous monitoring system according to your monitoring plan required under § 60.4880. Additionally:

(i) For carrier gas flow rate monitors (for activated carbon injection), during the performance test conducted pursuant to § 60.4885, you must demonstrate that the system is maintained within ± 5 percent accuracy, according to the procedures in appendix A to part 75 of this chapter.

(ii) For carrier gas pressure drop monitors (for activated carbon injection), during the performance test conducted pursuant to § 60.4885, you must demonstrate that the system is maintained within ± 5 percent accuracy.

(b) You must operate and maintain your bag leak detection system in continuous operation according to your monitoring plan required under § 60.4880. Additionally:

(1) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.

(2) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

(3) You must initiate procedures to determine the cause of every alarm within 8 hours of the alarm, and you must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

- (i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate matter emissions.
- (ii) Sealing off defective bags or filter media.
- (iii) Replacing defective bags or filter media or otherwise repairing the control device.
- (iv) Sealing off a defective fabric filter compartment.
- (v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.
- (vi) Shutting down the process producing the particulate matter emissions.

(c) You must operate and maintain the continuous parameter monitoring systems specified in paragraphs (a) and (b) of this section in continuous operation according to your monitoring plan required under § 60.4880.

(d) If your SSI unit has a bypass stack, you must 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.

Recordkeeping and Reporting

§ 60.4910 What records must I keep?

You must maintain the items (as applicable) specified in paragraphs (a) through (n) of this section for a period of at least 5 years. All records must be available on site in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.

- (a) *Date*. Calendar date of each record.
- (b) *Siting*. All documentation produced as a result of the siting requirements of §§ 60.4800 and 60.4805.
- (c) *Operator Training*. Documentation of the operator training procedures and records specified in paragraphs (c)(1) through (c)(4) of this section. You must make available and readily accessible at the facility at all times for all SSI unit operators the documentation specified in paragraph (c)(1) of this section.

(1) Documentation of the following operator training procedures and information:

- (i) Summary of the applicable standards under this subpart.
- (ii) Procedures for receiving, handling, and feeding sewage sludge.
- (iii) Incinerator startup, shutdown, and malfunction preventative and corrective procedures.
- (iv) Procedures for maintaining proper combustion air supply levels.

- (v) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart.
- (vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits.
- (vii) Reporting and recordkeeping procedures.
- (viii) Procedures for handling ash.
- (ix) A list of the materials burned during the performance test, if in addition to sewage sludge.
- (x) For each qualified operator and other plant personnel who may operate the unit according to the provisions of § 60.4835(a), the phone and/or pager number at which they can be reached during operating hours.

(2) Records showing the names of SSI unit operators and other plant personnel who may operate the unit according to the provisions of § 60.4835(a), as follows:

- (i) Records showing the names of SSI unit operators and other plant personnel who have completed review of the information in paragraph (c)(1) of this section as required by § 60.4840(b), including the date of the initial review and all subsequent annual reviews.
- (ii) Records showing the names of the SSI operators who have completed the operator training requirements under § 60.4810, met the criteria for qualification under § 60.4820, and maintained or renewed their qualification under § 60.4825 or § 60.4830. Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications.

(3) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks, as required in § 60.4835(a).

(4) Records showing the periods when no qualified operators were accessible for 2 weeks or more along with copies of reports submitted as required in § 60.4835(b).

(d) *Air pollution control device inspections.* Records of the results of initial and annual air pollution control device inspections conducted as specified in §§ 60.4875 and 60.4900(c), including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator.

(e) *Performance test reports.*

- (1) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable.
- (2) Retain a copy of the complete performance test report, including calculations.
- (3) Keep a record of the hourly dry sludge feed rate measured during performance test runs, as specified in § 60.4900(a)(2)(i).
- (4) Keep any necessary records to demonstrate that the performance test was conducted under conditions representative of normal operations, including a record of the moisture content measured as required in § 60.4900(a)(2)(ii) for each grab sample taken of the sewage sludge burned during the performance test.

(f) *Continuous monitoring data.* Records of the following data, as applicable:

- (1) For continuous emissions monitoring systems, all 1-hour average concentrations of particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans total mass basis, mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead emissions.
- (2) For continuous automated sampling systems, all average concentrations measured for mercury and dioxins/furans total mass basis at the frequencies specified in your monitoring plan.
- (3) For continuous parameter monitoring systems:
 - (i) All 1-hour average values recorded for the following operating parameters, as applicable:
 - (A) Combustion chamber operating temperature (or afterburner temperature).
 - (B) If a wet scrubber is used to comply with the rule, pressure drop across each wet scrubber system, liquid flow rate to each wet scrubber used to comply with the emission limit in Table 1 or 2 to this subpart for particulate matter, cadmium, or lead, and scrubber liquid flow rate and scrubber liquid pH for each wet scrubber used to comply with an emission limit in Table 1 or 2 to this subpart for sulfur dioxide or hydrogen chloride.
 - (C) If an electrostatic precipitator is used to comply with the rule, secondary voltage and secondary amperage of the electrostatic precipitator collection plates, and effluent water flow rate at the outlet of the wet electrostatic precipitator.
 - (D) If activated carbon injection is used to comply with the rule, sorbent flow rate and carrier gas flow rate or pressure drop, as applicable.
 - (ii) All daily average values recorded for the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, monitored and calculated as specified in § 60.4850(f).
 - (iii) If a fabric filter is used to comply with the rule, 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 § 60.4890.
 - (iv) For other control devices for which you must establish operating limits under § 60.4855, you must maintain data collected for all operating parameters used to determine compliance with the operating limits, at the frequencies specified in your monitoring plan.

(g) *Other records for continuous monitoring systems.* You must keep the following records, as applicable:

- (1) Keep records of any notifications to the Administrator in § 60.4915(h)(1) of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit.
- (2) Keep records of any requests under § 60.4900(b)(5) that compliance with the emission limits be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen.
- (3) If activated carbon injection is used to comply with the rule, the type of sorbent used and any changes in the type of sorbent used.

- (h) *Deviation Reports*. Records of any deviation reports submitted under § 60.4915(e) and (f).
- (i) *Equipment specifications and operation and maintenance requirements*. Equipment specifications and related operation and maintenance requirements received from vendors for the incinerator, emission controls, and monitoring equipment.
- (j) *Inspections, calibrations, and validation checks of monitoring devices*. Records of inspections, calibrations, and validations checks of any monitoring devices as required under §§ 60.4900 and 60.4905.
- (k) *Monitoring plan and performance evaluations for continuous monitoring systems*. Records of the monitoring plans required under § 60.4880, and records of performance evaluations required under § 60.4885(b)(5).
- (l) *Less frequent testing*. If, consistent with 60.4885(a)(3), you elect to conduct performance tests less frequently than annually, you must keep annual records that document that your emissions in the 2 previous consecutive years were at or below 75 percent of the applicable emission limit in Table 1 or 2 to this subpart, and document that there were no changes in source operations or air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past 2 years.
- (m) *Use of bypass stack*. Records indicating use of the bypass stack, including dates, times, and durations as required under § 60.4905(d).
- (n) If a malfunction occurs, you must keep a record of the information submitted in your annual report in § 60.4915(d)(16).

§ 60.4915 What reports must I submit?

You must submit the reports specified in paragraphs (a) through (j) of this section. See Table 5 to this subpart for a summary of these reports.

- (a) *Notification of construction*. You must submit a notification prior to commencing construction that includes the four items listed in paragraphs (a)(1) through (a)(4) of this section:
- (1) A statement of intent to construct.
 - (2) The anticipated date of commencement of construction.
 - (3) All documentation produced as a result of the siting requirements of § 60.4805.
 - (4) Anticipated date of initial startup.
- (b) *Notification of initial startup*. You must submit the information specified in paragraphs (b)(1) through (b)(5) of this section prior to initial startup:
- (1) The maximum design dry sludge burning capacity.
 - (2) The anticipated and permitted maximum dry sludge feed rate.
 - (3) If applicable, the petition for site-specific operating limits specified in § 60.4855.
 - (4) The anticipated date of initial startup.
 - (5) The site-specific monitoring plan required under § 60.4880, at least 60 days before your initial performance evaluation of your continuous monitoring system.

(6) The site-specific monitoring plan for your ash handling system required under § 60.4880, at least 60 days before your initial performance test to demonstrate compliance with your fugitive ash emission limit.

(c) *Initial compliance report.* You must submit the following information no later than 60 days following the initial performance test.

(1) Company name, physical address, and mailing address.

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

(3) Date of report.

(4) The complete test report for the initial performance test results obtained by using the test methods specified in Table 1 or 2 to this subpart.

(5) If an initial performance evaluation of a continuous monitoring system was conducted, the results of that initial performance evaluation.

(6) The values for the site-specific operating limits established pursuant to §§ 60.4850 and 60.4855 and the calculations and methods, as applicable, used to establish each operating limit.

(7) If you are using a fabric filter to comply with the emission limits, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by § 60.4850(b).

(8) The results of the initial air pollution control device inspection required in § 60.4875, including a description of repairs.

(d) *Annual compliance report.* You must submit an annual compliance report that includes the items listed in paragraphs (d)(1) through (d)(16) of this section for the reporting period specified in paragraph (d)(3) of this section. You must submit your first annual compliance report no later than 12 months following the submission of the initial compliance report in paragraph (c) of this section. You must submit subsequent annual compliance reports no more than 12 months following the previous annual compliance report. (You may be required to submit these reports (or additional compliance information) more frequently by the title V operating permit required in § 60.4920.)

(1) Company name, physical address, and mailing address.

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

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

(4) If a performance test was conducted during the reporting period, the results of that performance test.

(i) If operating limits were established during the performance test, include the value for each operating limit and, as applicable, the method used to establish each operating limit, including calculations.

- (ii) If activated carbon is used during the performance test, include the type of activated carbon used.
- (5) For each pollutant and operating parameter recorded using a continuous monitoring system, the highest average value and lowest average value recorded during the reporting period, as follows:
 - (i) For continuous emission monitoring systems and continuous automated sampling systems, report the highest and lowest 24-hour average emission value.
 - (ii) For continuous parameter monitoring systems, report the following values:
 - (A) For all operating parameters except scrubber liquid pH, the highest and lowest 12-hour average values.
 - (B) For scrubber liquid pH, the highest and lowest 3-hour average values.
- (6) If there are no deviations during the reporting period from any emission limit, emission standard, or operating limit that applies to you, a statement that there were no deviations from the emission limits, emission standard, or operating limits.
- (7) Information for bag leak detection systems recorded under § 60.4910(f)(3)(iii).
- (8) If a performance evaluation of a continuous monitoring system was conducted, the results of that performance evaluation. If new operating limits were established during the performance evaluation, include your calculations for establishing those operating limits.
- (9) If you elect to conduct performance tests less frequently as allowed in § 60.4885(a)(3) and did not conduct a performance test during the reporting period, you must include the dates of the last two performance tests, a comparison of the emission level you achieved in the last two performance tests to the 75 percent emission limit threshold specified in § 60.4885(a)(3), and a statement as to whether there have been any process changes and whether the process change resulted in an increase in emissions.
- (10) Documentation of periods when all qualified SSI unit operators were unavailable for more than 8 hours, but less than 2 weeks.
- (11) Results of annual air pollution control device inspections recorded under § 60.4910(d) for the reporting period, including a description of repairs.
- (12) If there were no periods during the reporting period when your continuous monitoring systems had a malfunction, a statement that there were no periods during which your continuous monitoring systems had a malfunction.
- (13) If there were no periods during the reporting period when a continuous monitoring system was out of control, a statement that there were no periods during which your continuous monitoring system was out of control.
- (14) If there were no operator training deviations, a statement that there were no such deviations during the reporting period.
- (15) If you did not make revisions to your site-specific monitoring plan during the reporting period, a statement that you did not make any revisions to your site-specific monitoring plan during the

reporting period. If you made revisions to your site-specific monitoring plan during the reporting period, a copy of the revised plan.

(16) 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.

(e) *Deviation reports.*

(1) You must submit a deviation report if:

- (i) Any recorded operating parameter level, based on the averaging time specified in Table 3 to this subpart, is above the maximum operating limit or below the minimum operating limit established under this subpart.
- (ii) The bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period.
- (iii) Any recorded 24-hour block average emissions level is above the emission limit, if a continuous monitoring system is used to comply with an emission limit.
- (iv) There are visible emissions of combustion ash from an ash conveying system for more than 5 percent of the hourly observation period.
- (v) A performance test was conducted that deviated from any emission limit in Table 1 or 2 to this subpart.
- (vi) A continuous monitoring system was out of control.
- (vii) You had a malfunction (*e.g.*, continuous monitoring system malfunction) that caused or may have caused any applicable emission limit to be exceeded.

(2) 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).

(3) For each deviation where you are using a continuous monitoring system to comply with an associated emission limit or operating limit, report the items described in paragraphs (e)(3)(i) through (e)(3)(viii) of this section.

- (i) Company name, physical address, and mailing address.
- (ii) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
- (iii) The calendar dates and times your unit deviated from the emission limits, emission standards, or operating limits requirements.
- (iv) The averaged and recorded data for those dates.
- (v) Duration and cause of each deviation from the following:

- (A) Emission limits, emission standards, operating limits, and your corrective actions.
- (B) Bypass events and your corrective actions.
- (vi) Dates, times, and causes for monitor downtime incidents.
- (vii) A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels.
- (viii) If there were periods during which the continuous monitoring system malfunctioned or was out of control, you must include the following information for each deviation from an emission limit or operating limit:
 - (A) The date and time that each malfunction started and stopped.
 - (B) The date, time, and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks.
 - (C) 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.
 - (D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction, during a period when the system was out of control, or during another period.
 - (E) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.
 - (F) A 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.
 - (G) 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 SSI unit at which the continuous monitoring system downtime occurred during that reporting period.
 - (H) An identification of each parameter and pollutant that was monitored at the SSI unit.
 - (I) A brief description of the SSI unit.
 - (J) A brief description of the continuous monitoring system.
 - (K) The date of the latest continuous monitoring system certification or audit.
 - (L) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.
- (4) For each deviation where you are not using a continuous monitoring system to comply with the associated emission limit or operating limit, report the following items:
 - (i) Company name, physical address, and mailing address.

- (ii) Statement by a responsible official with that official's name, title, and signature, certifying the accuracy of the content of the report.
- (iii) The total operating time of each affected SSI during the reporting period.
- (iv) The calendar dates and times your unit deviated from the emission limits, emission standards, or operating limits requirements.
- (v) The averaged and recorded data for those dates.
- (vi) Duration and cause of each deviation from the following:
 - (A) Emission limits, emission standard, and operating limits, and your corrective actions.
 - (B) Bypass events and your corrective actions.
- (vii) A copy of any performance test report that showed a deviation from the emission limits or standard.
- (viii) A brief description of any malfunction reported in paragraph (e)(1)(vii) of this section, including a description of actions taken during the malfunction to minimize emissions in accordance with 60.11(d) and to correct the malfunction.

(f) *Qualified operator deviation.*

- (1) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (f)(1)(i) and (f)(1)(ii) of this section.
 - (i) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (f)(1)(i)(A) through (f)(1)(i)(C) of this section.
 - (A) A statement of what caused the deviation.
 - (B) A description of actions taken to ensure that a qualified operator is accessible.
 - (C) The date when you anticipate that a qualified operator will be available.
 - (ii) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (f)(1)(ii)(A) through (f)(1)(ii)(C) of this section.
 - (A) A description of actions taken to ensure that a qualified operator is accessible.
 - (B) The date when you anticipate that a qualified operator will be accessible.
 - (C) Request for approval from the Administrator to continue operation of the SSI unit.
- (2) If your unit was shut down by the Administrator, under the provisions of § 60.4835(b)(2)(i), due to a failure to provide an accessible qualified operator, you must notify the Administrator within 5 days of meeting § 60.4835(b)(2)(ii) that you are resuming operation.

(g) *Notification of a force majeure.* If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure:

- (1) You must notify the Administrator, in writing as soon as practicable following the date you first knew, or through due diligence should have known that the event may cause or caused a delay in conducting a performance test beyond the regulatory deadline, but the notification must occur before

the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification must occur as soon as practicable.

(2) You must provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which you propose to conduct the performance test.

(h) *Other notifications and reports required.* You must submit other notifications as provided by § 60.7 and as follows:

(1) You must notify the Administrator 1 month before starting or stopping use of a continuous monitoring system for determining compliance with any emission limit.

(2) You must notify the Administrator at least 30 days prior to any performance test conducted to comply with the provisions of this subpart, to afford the Administrator the opportunity to have an observer present.

(3) As specified in § 60.4900(a)(8), you must notify the Administrator at least 7 days prior to the date of a rescheduled performance test for which notification was previously made in paragraph (h)(2) of this section.

(i) *Report submission form.*

(1) Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

(2) As of January 1, 2012 and within 60 days after the date of completing each performance test, as defined in § 63.2, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (*i.e.*, reference method) data and performance test (*i.e.*, compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (*see* http://www.epa.gov/ttn/chief/ert/ert__tool.html/) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(j) *Changing report dates.* If the Administrator agrees, you may change the semi-annual or annual reporting dates. See § 60.19(c) for procedures to seek approval to change your reporting date.

Title V Operating Permits

§ 60.4920 Am I required to apply for and obtain a title V operating permit for my unit?

Yes, if you are subject to this subpart, you are required to apply for and obtain a Title V operating permit unless you meet the relevant requirements for an exemption specified in § 60.4780.

§ 60.4925 When must I submit a title V permit application for my new SSI unit?

(a) If your new SSI unit subject to this subpart is not subject to an earlier permit application deadline, a complete Title V permit application must be submitted on or before one of the dates specified in paragraph (a)(1) or (a)(2) of this section. (*See* section 503(c) of the Clean Air Act and 40 CFR 70.5(a)(1)(i) and 40 CFR 71.5(a)(1)(i)).

(1) For a SSI unit that commenced operation as a new SSI unit as of March 21, 2011, then a complete title V permit application must be submitted not later than March 21, 2012.

(2) For a SSI unit that does not commence operation as a new SSI unit until after March 21, 2011, then a complete title V permit application must be submitted not later than 12 months after the date the unit commences operation as a new source.

(b) If your new SSI unit subject to this subpart is subject to title V as a result of some triggering requirement(s) other than this subpart (for example, a unit subject to this subpart may be a major source or part of a major source), then your unit may be required to apply for a title V permit prior to the deadlines specified in paragraph (a) of this section. If more than one requirement triggers a source's obligation to apply for a title V permit, the 12-month timeframe for filing a title V permit application is triggered by the requirement that first causes the source to be subject to title V. (See section 503(c) of the Clean Air Act and 40 CFR 70.3(a) and (b), 40 CFR 70.5(a)(1)(i), 40 CFR 71.3(a) and (b), and 40 CFR 71.5(a)(1)(i).)

(c) A "complete" title V permit application is one that has been determined or deemed complete by the relevant permitting authority under section 503(d) of the Clean Air Act and 40 CFR 70.5(a)(2) or 40 CFR 71.5(a)(2). You must submit a complete permit application by the relevant application deadline in order to operate after this date in compliance with Federal law. (See sections 503(d) and 502(a) of the Clean Air Act and 40 CFR 70.7(b) and 40 CFR 71.7(b).)

Definitions

§ 60.4930 What definitions must I know?

Terms used but not defined in this subpart are defined in the Clean Air Act and § 60.2.

Affected source means a sewage sludge incineration unit as defined in § 60.4930.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Auxiliary fuel means natural gas, liquefied petroleum gas, fuel oil, or diesel fuel.

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.

Bypass stack means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

Calendar year means 365 consecutive days starting on January 1 and ending on December 31.

Continuous automated sampling system means the total equipment and procedures for automated sample collection and sample recovery/analysis to determine a pollutant concentration or emission rate by collecting a single integrated sample(s) or multiple integrated sample(s) of the pollutant (or diluent gas) for

subsequent on- or off-site analysis; integrated sample(s) collected are representative of the emissions for the sample time as specified by the applicable requirement.

Continuous emissions monitoring system means a monitoring system for continuously measuring and recording the emissions of a pollutant from an affected facility.

Continuous monitoring system (CMS) means a continuous emissions monitoring system, continuous automated sampling system, continuous parameter monitoring system, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by this subpart. The term refers to the total equipment used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

Continuous parameter monitoring system means a monitoring system for continuously measuring and recording operating conditions associated with air pollution control device systems (e.g., operating temperature, pressure, and power).

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 limit, operating limit, or operator qualification and accessibility requirements.
- (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 octachlorinated dibenzo-p-dioxins and dibenzofurans.

Electrostatic precipitator or wet electrostatic precipitator means an air pollution control device that uses both electrical forces and, if applicable, water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

Existing sewage sludge incineration unit means a sewage sludge incineration unit the construction of which is commenced on or before October 14, 2010.

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.

Fluidized bed incinerator means an enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.

Modification means a change to an existing SSI unit later than September 21, 2011 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 SSI unit (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the SSI unit used to calculate these costs, see the definition of SSI unit.

(2) Any physical change in the SSI unit 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.

Modified sewage sludge incineration (SSI) unit means an existing SSI unit that undergoes a modification, as defined in this section.

Multiple hearth incinerator means a circular steel furnace that contains a number of solid refractory hearths and a central rotating shaft; rabble arms that are designed to slowly rake the sludge on the hearth are attached to the rotating shaft. Dewatered sludge enters at the top and proceeds downward through the furnace from hearth to hearth, pushed along by the rabble arms.

New sewage sludge incineration unit means a SSI unit the construction of which is commenced after October 14, 2010 which would be applicable to such unit or a modified solid waste incineration unit.

Operating day means a 24-hour period between 12:00 midnight and the following midnight during which any amount of sewage sludge is combusted at any time in the SSI unit.

Particulate matter means filterable particulate matter emitted from SSI units as measured by Method 5 at 40 CFR part 60, appendix A-3 or Methods 26A or 29 at 40 CFR part 60, appendix A-8.

Power input to the electrostatic precipitator means the product of the test-run average secondary voltage and the test-run average secondary amperage to the electrostatic precipitator collection plates.

Process change means a significant permit revision, but only with respect to those pollutant-specific emission units for which the proposed permit revision is applicable, including but not limited to:

- (1) A change in the process employed at the wastewater treatment facility associated with the affected SSI unit (*e.g.*, the addition of tertiary treatment at the facility, which changes the method used for disposing of process solids and processing of the sludge prior to incineration).
- (2) A change in the air pollution control devices used to comply with the emission limits for the affected SSI unit (*e.g.*, change in the sorbent used for activated carbon injection).

Sewage sludge means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incineration unit or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Sewage sludge feed rate means the rate at which sewage sludge is fed into the incinerator unit.

Sewage sludge incineration (SSI) unit means an incineration unit combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter. Sewage sludge incineration unit designs include fluidized bed and multiple hearth. A SSI unit also includes, but is not limited to, the sewage sludge feed system, auxiliary fuel feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The SSI unit includes all ash handling systems connected to the bottom ash handling system. The combustion unit bottom ash system ends at the truck loading station or similar equipment that transfers the ash to final disposal. The SSI unit does not include air pollution control equipment or the stack.

Shutdown means the period of time after all sewage sludge has been combusted in the primary chamber.

Solid waste means any garbage, refuse, sewage sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014).

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 means the period of time between the activation, including the firing of fuels (e.g., natural gas or distillate oil), of the system and the first feed to the unit.

Toxic equivalency means the product of the concentration of an individual dioxin isomer in an environmental mixture and the corresponding estimate of the compound-specific toxicity relative to tetrachlorinated dibenzo-p-dioxin, referred to as the toxic equivalency factor for that compound. Table 4 to this subpart lists the toxic equivalency factors.

Wet scrubber means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquid to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

You means the owner or operator of a SSI unit that meets the criteria in § 60.4770.

Table 1 to Subpart LLLL of Part 60 - Emission Limits and Standards for New Fluidized Bed Sewage Sludge Incineration Units

For the air pollutant	You must meet this emission limit ^a	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Particulate matter	9.6 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 5 at 40 CFR part 60, appendix A-3; Method 26A or Method 29 at 40 CFR part 60, appendix A-8).
Hydrogen chloride	0.24 parts per million by dry volume	3-run average (Collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 26A at 40 CFR part 60, appendix A-8).
Carbon monoxide	27 parts per million by dry volume	24-hour block average (using 1-hour averages of data). For determining compliance with the carbon monoxide concentration limit using carbon monoxide CEMS, the correction to 7 percent oxygen does not apply during periods of startup or shutdown. Use the measured carbon monoxide concentration without correcting for	Continuous emissions monitoring system. (Performance Specification 4B of this part, using a low-range span of 100 ppm and a high-range span of 1000 ppm, and a RA of 0.5 ppm instead of 5 ppm specified in section 13.2. For the cylinder gas audit of

For the air pollutant	You must meet this emission limit ^a	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
		oxygen concentration in averaging with other carbon monoxide concentrations (corrected to 7 percent oxygen) to determine the 24-hour average value	Procedure 1, $\pm 15\%$ or 0.5 whichever is greater).
Dioxins/furans (total mass basis); or Dioxins/furans (toxic equivalency basis) ^b	0.013 nanograms per dry standard cubic meter (total mass basis); or 0.0044 nanograms per dry standard cubic meter (toxic equivalency basis)	3-run average (collect a minimum volume of 3 dry standard cubic meters per run)	Performance test (Method 23 at 40 CFR part 60, appendix A-7).
Mercury	0.0010 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008), ^c collect a minimum volume of 3 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8)	Performance test (Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; or ASTM D6784-02 (Reapproved 2008). ^c
Oxides of nitrogen	30 parts per million by dry volume	3-run average (Collect sample for a minimum duration of one hour per run)	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A-4).
Sulfur dioxide	5.3 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 100 liters per run. For Method 6C, sample for a minimum duration of one hour per run)	Performance test (Method 6 or 6C at 40 CFR part 40, appendix A-4; or ANSI/ASME PTC 19.10-1981. ^c
Cadmium	0.0011 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 40 CFR part 60, appendix A-8). Use GFAAS or ICP/MS for the analytical finish.
Lead	0.00062 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 3 dry standard cubic meters per run)	Performance test (Method 29 at 40 CFR part 60, appendix A-8). Use GFAAS or ICP/MS for the analytical finish.
Fugitive emissions from ash handling	Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) for no more than 5 percent of the hourly observation period	Three 1-hour observation periods	Visible emission test (Method 22 of appendix A-7 of this part).

^a All emission limits are measured at 7 percent oxygen, dry basis at standard conditions.

^b You have the option to comply with either the dioxin/furan emission limit on a total mass basis or the dioxin/furan emission limit on a toxic equivalency basis.

^c Incorporated by reference, see § 60.17.

Table 2 to Subpart LLLL of Part 60 - Emission Limits and Standards for New Multiple Hearth Sewage Sludge Incineration Units

For the air pollutant	You must meet this emission limit ^a	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Particulate matter	60 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 0.75 dry standard cubic meters per run)	Performance test (Method 5 at 40 CFR part 60, appendix A-3; Method 26A or Method 29 at 40 CFR part 60, appendix A-8).
Hydrogen chloride	1.2 parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 200 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A-8).
Carbon monoxide	52 parts per million by dry volume	24-hour block average (using 1-hour averages of data)	Continuous emissions monitoring system. (Performance Specification 4B of this part, using a low-range span of 100 ppm and a high-range span of 1000 ppm, and a relative accuracy of 0.5 ppm instead of 5 ppm specified in section 13.2. For the cylinder gas audit of Procedure 1, $\pm 15\%$ or 0.5 whichever is greater).
Dioxins/furans (total mass basis); or Dioxins/furans (toxic equivalency basis) ^b	0.045 nanograms per dry standard cubic meter (total mass basis); or 0.0022 nanograms per dry standard cubic meter (toxic equivalency basis)	3-run average (collect a minimum volume of 3 dry standard cubic meters per run)	Performance test (Method 23 at 40 CFR part 60, appendix A-7).
Mercury	0.15 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008), ^c collect a minimum volume of 1 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A-8)	Performance test (Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; or ASTM D6784-02 (Reapproved 2008). ^c
Oxides of nitrogen	210 parts per million by dry volume	3-run average (Collect sample for a minimum duration of one hour per run)	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A-4).
Sulfur dioxide	26 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 200 liters per run. For Method 6C, collect sample for a minimum duration of one hour	Performance test (Method 6 or 6C at 40 CFR part 40, appendix A-4; or ANSI/ASME PTC 19.10-1981. ^c

For the air pollutant	You must meet this emission limit ^a	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
		per run)	
Cadmium	0.0024 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 40 CFR part 60, appendix A-8). Use GFAAS or ICP/MS for the analytical finish.
Lead	0.0035 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 40 CFR part 60, appendix A-8). Use GFAAS or ICP/MS for the analytical finish.
Fugitive emissions from ash handling	Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) for no more than 5 percent of the hourly observation period	Three 1-hour observation periods	Visible emission test (Method 22 of appendix A-7 of this part).

^a All emission limits are measured at 7 percent oxygen, dry basis at standard conditions.

^b You have the option to comply with either the dioxin/furan emission limit on a total mass basis or the dioxin/furan emission limit on a toxic equivalency basis.

^c Incorporated by reference, see § 60.17.

Table 3 to Subpart LLLL of Part 60 - Operating Parameters for New Sewage Sludge Incineration Units^a

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording ^b	Data averaging period for compliance
All sewage sludge incineration units				
Combustion chamber operating temperature or afterburner temperature	Minimum combustion chamber operating temperature or afterburner temperature	Continuous	Every 15 minutes	12-hour block.
Fugitive emissions from ash handling	Site-specific operating requirements	Not applicable	Not applicable	Not applicable.
Scrubber				
Pressure drop across each wet scrubber	Minimum pressure drop	Continuous	Every 15 minutes	12-hour block.
Scrubber liquid flow rate	Minimum flow rate	Continuous	Every 15 minutes	12-hour block.
Scrubber liquid pH	Minimum pH	Continuous	Every 15 minutes	3-hour block.

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording ^b	Data averaging period for compliance
Fabric Filter				
Alarm time of the bag leak detection system alarm	Maximum alarm time of the bag leak detection system alarm (this operating limit is provided in § 60.4850 and is not established on a site-specific basis).			
Electrostatic precipitator				
Secondary voltage of the electrostatic precipitator collection plates	Minimum power input to the electrostatic precipitator collection plates	Continuous	Hourly	12-hour block.
Secondary amperage of the electrostatic precipitator collection plates				
Effluent water flow rate at the outlet of the electrostatic precipitator	Minimum effluent water flow rate at the outlet of the electrostatic precipitator	Hourly	Hourly	12-hour block.
Activated carbon injection				
Mercury sorbent injection rate	Minimum mercury sorbent injection rate	Hourly	Hourly	12-hour block.
Dioxin/furan sorbent injection rate	Minimum dioxin/furan sorbent injection rate			
Carrier gas flow rate or carrier gas pressure drop	Minimum carrier gas flow rate or minimum carrier gas pressure drop	Continuous	Every 15 minutes	12-hour block.

^a As specified in § 60.4870, you may use a continuous emissions monitoring system or continuous automated sampling system in lieu of establishing certain operating limits.

^b This recording time refers to the minimum frequency that the continuous monitor or other measuring device initially records data. For all data recorded every 15 minutes, you must calculate hourly arithmetic averages. For all parameters, you use hourly averages to calculate the 12-hour or 3-hour block average specified in this table for demonstrating compliance. You maintain records of 1-hour averages.

Table 4 to Subpart LLLL of Part 60 - Toxic Equivalency Factors

Dioxin/furan isomer	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	1
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1

Dioxin/furan isomer	Toxic equivalency factor
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
octachlorinated dibenzo-p-dioxin	0.0003
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.3
1,2,3,7,8-pentachlorinated dibenzofuran	0.03
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	0.0003

Table 5 to Subpart LLLL of Part 60 - Summary of Reporting Requirements for New Sewage Sludge Incineration Units^a

Report	Due date	Contents	Reference
Notification of construction	Prior to commencing construction	1. Statement of intent to construct 2. Anticipated date of commencement of construction. 3. Documentation for siting requirements. 4. Anticipated date of initial startup.	§ 60.4915(a).
Notification of initial startup	Prior to initial startup	1. Maximum design dry sewage sludge burning capacity 2. Anticipated and permitted maximum feed rate. 3. If applicable, the petition for site-specific operating limits. 4. Anticipated date of initial startup. 5. Site-specific monitoring plan.	§ 60.4915(b).

Report	Due date	Contents	Reference
		6. The site-specific monitoring plan for your ash handling system.	
Initial compliance report	No later than 60 days following the initial performance test	1. Company name and address 2. Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report. 3. Date of report. 4. Complete test report for the initial performance test. 5. Results of CMS ^b performance evaluation. 6. The values for the site-specific operating limits and the calculations and methods, as applicable, used to establish each operating limit. 7. Documentation of installation of bag leak detection system for fabric filter. 8. Results of initial air pollution control device inspection, including a description of repairs.	§ 60.4915(c).
Annual compliance report	No later than 12 months following the submission of the initial compliance report; subsequent reports are to be submitted no more than 12 months following the previous report	1. Company name and address 2. Statement and signature by responsible official. 3. Date and beginning and ending dates of report. 4. If a performance test was conducted during the reporting period, the results of the test, including any new operating limits and associated calculations and the type of activated carbon used, if applicable. 5. For each pollutant and operating parameter recorded using a CMS, the highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable. 6. If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred. 7. If a fabric filter is used, the date, time, and duration of alarms. 8. If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated calculations. 9. If you met the requirements of § 60.4885(a)(3) and did not conduct a performance test, include the dates of the last three performance tests, a comparison to the 50 percent emission limit threshold of the emission level achieved in the last three	§§ 60.4915(d).

Report	Due date	Contents	Reference
		performance tests, and a statement as to whether there have been any process changes. 10. Documentation of periods when all qualified SSI unit operators were unavailable for more than 8 hours but less than 2 weeks. 11. Results of annual pollutions control device inspections, including description of repairs. 12. If there were no periods during which your CMSs had malfunctions, a statement that there were no periods during which your CMSs had malfunctions. 13. If there were no periods during which your CMSs were out of control, a statement that there were no periods during which your CMSs were out of control. 14. If there were no operator training deviations, a statement that there were no such deviations. 15. Information on monitoring plan revisions, including a copy of any revised monitoring plan.	
Deviation report (deviations from emission limits, emission standards, or operating limits, as specified in § 60.4915(e)(1))	By August 1 of a calendar year for data collected during the first half of the calendar year; by February 1 of a calendar year for data collected during the second half of the calendar year	<i>If using a CMS:</i> 1. Company name and address 2. Statement by a responsible official. 3. The calendar dates and times your unit deviated from the emission limits or operating limits. 4. The averaged and recorded data for those dates. 5. Duration and cause of each deviation. 6. Dates, times, and causes for monitor downtime incidents. 7. A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels. 8. For periods of CMS malfunction or when a CMS was out of control, you must include the information specified in § 60.4915(e)(3)(viii). <i>If not using a CMS:</i> 1. Company name and address 2. Statement by a responsible official. 3. The total operating time of each affected SSI. 4. The calendar dates and times your unit deviated from the emission limits, emission standard, or operating limits. 5. The averaged and recorded data for those dates. 6. Duration and cause of each deviation.	§ 60.4915(e).

Report	Due date	Contents	Reference
		7. A copy of any performance test report that showed a deviation from the emission limits or standards. 8. A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken.	
Notification of qualified operator deviation (if all qualified operators are not accessible for 2 weeks or more)	Within 10 days of deviation	1. Statement of cause of deviation 2. Description of actions taken to ensure that a qualified operator will be available 3. The date when a qualified operator will be accessible.	§ 60.4915(f).
Notification of status of qualified operator deviation	Every 4 weeks following notification of deviation	1. Description of actions taken to ensure that a qualified operator is accessible 2. The date when you anticipate that a qualified operator will be accessible. 3. Request for approval to continue operation.	§ 60.4915(f).
Notification of resumed operation following shutdown (due to qualified operator deviation and as specified in § 60.4835(b)(2)(i))	Within 5 days of obtaining a qualified operator and resuming operation	1. Notification that you have obtained a qualified operator and are resuming operation	§ 60.4915(f).
Notification of a force majeure	As soon as practicable following the date you first knew, or through due diligence should have known that the event may cause or caused a delay in conducting a performance test beyond the regulatory deadline; the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification must occur as soon as practicable	1. Description of the force majeure event 2. Rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure. 3. Description of the measures taken or to be taken to minimize the delay. 4. Identification of the date by which you propose to conduct the performance test.	§ 60.4915(g).
Notification of intent to start or stop use of a CMS	1 month before starting or stopping use of a CMS	1. Intent to start or stop use of a CMS	§ 60.4915(h).
Notification of intent to conduct a performance test	At least 30 days prior to the performance test	1. Intent to conduct a performance test to comply with this subpart	
Notification of intent to conduct a rescheduled performance test	At least 7 days prior to the date of a rescheduled performance test	1. Intent to conduct a rescheduled performance test to comply with this subpart	

^a This table is only a summary, see the referenced sections of the rule for the complete requirements.

^b CMS means continuous monitoring system.

Appendix G. 40 CFR Part 60, Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

§ 60.4200 Am I subject to this subpart?

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

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

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

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

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

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

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

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

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

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

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

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

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

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.

§ 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.

§ 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.

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_x 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_x 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_x 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 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.

§ 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_x 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_x 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.

§ 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.

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.

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.

§ 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.

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.

§ 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_x 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_x 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) [reserved]

(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.

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).

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

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

(a) Each performance test must be conducted according to the requirements in § 60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in § 60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

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

Where:

C_i = concentration of NO_x or PM at the control device inlet,

C_o = concentration of NO_x or PM at the control device outlet, and

R = percent reduction of NO_x or PM emissions.

(2) You must normalize the NO_x or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (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_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

5.9 = 20.9 percent O_2 –15 percent O_2 , the defined O_2 correction value, percent.

$\% \text{O}_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the 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 O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is 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, $ds\text{m}^3/\text{J}$ ($dscf/10^6 \text{ Btu}$).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, $ds\text{m}^3/\text{J}$ ($dscf/10^6 \text{ Btu}$).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

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

Where:

X_{CO_2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 –15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_x and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

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

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

$\%CO_2$ = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 7 of this section:

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

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_x concentration in ppm.

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 25 degrees Celsius.

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

T = Time of test run, in hours.

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

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

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

Where:

ER = Emission rate in grams per KW-hour.

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

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

T = Time of test run, in hours.

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

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) [reserved]

(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). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 60.4.

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

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_x 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_x 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).

§ 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.

§ 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.

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.

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 _x	HC	NO _x	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)

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 _x	HC	NO _x	CO	PM
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

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

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

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

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

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

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

¹Manufacturers 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.

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 _x	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)

Maximum engine power	Model year(s)	NMHC + NO _x	CO	PM
	2011 + ¹	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 + ¹	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 + ²	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 + ³	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 + ³	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009 +	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008 +	6.4 (4.8)		0.20 (0.15)

¹ 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.

² 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.

³ In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60 - Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in § 60.4210(f) and the recordkeeping requirements in § 60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013

Engine power	Starting model year
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60 - Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in § 60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode No.	Engine speed ¹	Torque (percent) ²	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

¹ Engine speed: ±2 percent of point.

² 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 _x 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 _x , O ₂ , 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

Each	Complying with the requirement to	You must	Using	According to the following requirements
				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 Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure O ₂ at the inlet and outlet of the control device;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for NO _x concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO _x concentration.
		iv. Measure NO _x at the inlet and outlet of the control device.	(3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by	(d) NO _x concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Each	Complying with the requirement to	You must	Using	According to the following requirements
			reference, see § 60.17)	
	b. Limit the concentration of NO _x 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 _x , O ₂ , 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 Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurement for NO _x concentration.
		iii. If necessary, measure moisture content of the stationary internal	(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40	(c) Measurements to determine moisture content must be made at the same time as the measurement

Each	Complying with the requirement to	You must	Using	According to the following requirements
		combustion engine exhaust at the sampling port location; and	CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	for NO _x concentration.
		iv. Measure NO _x at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	(3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(d) NO _x concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O ₂ at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O ₂ 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 40 CFR part 60, appendix A-3	(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 40 CFR part 60, appendix A-3	(d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Each	Complying with the requirement to	You must	Using	According to the following requirements
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O ₂ 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 40 CFR part 60, appendix A-3	(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 40 CFR part 60, appendix A-3	(d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

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 § 60.4219.

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§ 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 § 60.7 only applies as specified in § 60.4214(a).
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to stationary CI ICE with a displacement of (≥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 § 60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§ 60.14	Modification	Yes	
§ 60.15	Reconstruction	Yes	
§ 60.16	Priority list	Yes	
§ 60.17	Incorporations by reference	Yes	
§ 60.18	General control device requirements	No	
§ 60.19	General notification and reporting requirements	Yes	

Appendix H. MCES Metro Plant - SSI Site Specific Monitoring Plan (SSMP) 2021¹ Including Ash Handling Monitoring Plan²

40 CFR 62.15995 requires performance evaluations of continuous parameter monitoring systems for sewage sludge incinerators and pollution control devices. The MCES Metro plant operates under a Title V permit and follows an O&M plan maintained on site for Title V permit compliance purposes. The requirements for 40 CFR 62.15995 are met by methods described in the table below. MCES measurement instruments are placed so that interferences such as vibration, pulsing, corrosion, etc. are minimized and the resultant measurement is representative of the desired data parameter.¹

<i>MCES Metro Plant Site Specific Monitoring Requirements for each MCES Continuous Monitoring System</i>	<i>MCES Metro Plant Staff Requirements and Documentation for Site Specific Monitoring Plan Compliance</i>
<i>Incineration</i>	
Check incinerator bed thermocouples at the time of stack test (within one month of FBR runtime prior to stack test) and no less than ANNUALLY ² .	Electricians document calibration details on calibration forms maintained by Process Engineering.
<i>Carbon Injection System</i>	
Calibrate/ check scales at the time of stack test (within one month of FBR runtime prior to stack test) and no less than ANNUALLY ² .	Electricians document calibration details on calibration forms maintained by Process Engineering.
Calibrate/zero carrier flow differential pressure gauge ANNUALLY ² .	Electricians document calibration details on calibration forms maintained by Process Engineering.
<i>Wet Scrubber</i>	
Check wet scrubber flow meters at the time of stack test (within one month of FBR runtime prior to stack test) and no less than ANNUALLY ² .	Electricians document calibration details on calibration forms maintained by Process Engineering.
Check pH reading DAILY against portable probe or pH paper.	Completed by verifier (noted on verifier form). If more than 0.3 units difference electrician's complete calibration.
Check and calibrate wet scrubber absorber pump outlet pH probes MONTHLY.	Electricians document calibration details on calibration forms maintained by Process Engineering.
Check Ring jet water flow rate DAILY relative to venturi differential pressure transmitter. Verify ring jet water flow rate is in normal 100 - 300 gpm range for normal feed conditions and 18-25" normal ring jet differential pressure.	Completed by verifier (noted on verifier form). If ring jet flow is not in expected range, inspect ring jet pressure taps for blockage and/or electricians calibrate ring jet differential pressure transmitter.
Check & calibrate ring jet pressure transmitters at the time of stack test (within one month of FBR runtime prior to stack test) and no less than ANNUALLY ² .	Electricians document calibration details on calibration forms maintained by Process Engineering.
Check ring jet differential pressure transmitter against manometer MONTHLY.	Process Engineering Group staff completes and documents this check for Title V Air Permit. Check using U-Tube manometer for accuracy within 0.5", if not in the expected range evaluate further with Operations and Maintenance staff for calibration.
<i>Wet Electrostatic Precipitator</i>	
Check WESP inlet flow meters at the time of stack test (within one month of FBR runtime prior to stack test) and no less than ANNUALLY ² .	Electricians document calibration details on calibration forms maintained by Process Engineering.
Inspect flushing nozzles, T/R rectifier tanks and control panel ANNUALLY ² .	Electricians document inspection details in WAM.
Check WESP zero kV secondary voltage at the time of stack test (within one month of FBR runtime prior to stack test) and ANNUALLY ² .	SSBU Process Engineering Group staff completes and documents this check for Title V Air Permit.

Baghouse Leak Monitoring System	
Bag leak monitor system dust level monitor sensors have been located in accordance with manufacturer's recommendations for accurate leak monitoring. Dust level sensors were installed at the time of initial building construction.	Installation recommendations are shown in the Operations and Maintenance Manual (O&M) for the Triboguard II. The Triboguard II O&M has been documented by both Technical Services and the Process Engineering groups.
Bag leak detection system Triboguard Dust Level Monitor sensitivity settings are reviewed no less than ANNUALLY ² . The evaluation is completed in accordance with EPA OAQPS Fabric Filter Bag Leak Detection Guidance EPA-454/R-98-015.	The Process Engineering group staff completes and documents the evaluation. Any changes necessary are documented.
Alarms are shown in WonderWare on the Air Permit screen. The bag leak detection system is set to alarm when all three modules in each bag house modules are reading 100% dust level (300% total).	The Process Computer Group (PCG) sets alarms included in the WonderWare system. The data historian system captures all data and stores it indefinitely.
Inspect differential pressure transmitters (022PT) & dust level monitors at the baghouse DAILY.	Completed by verifier (noted on verifier form) and documents this check.
Inspect pulse air system for cleaning bags, including valves, nozzles, and tubing DAILY.	Completed by verifier (noted on verifier form) and documents this check.
Compare dust level monitor levels to spent scrubber water TSS ANNUALLY ² .	Research & Development collects and analyzes samples of scrubber water discharge. Process Engineering review and document evaluation.
Zero check TriboGuard Dust Level Monitors ANNUALLY ²	Electricians document calibration details on calibration forms maintained by Process Engineering.

Ash Handling System:

Each shift (twice DAILY) check that ash transporter cycles are consistent with typical schedule and confirm all transporters are in service. These are internally venting ash handling systems.	Completed by verifier (noted on verifier form) and documents this check.
Each shift (twice DAILY) check ash piping on all floors in 408 building for ash leaks. Cameras are available in control room that show some locations where leaks have occurred. These are internally venting ash handling systems.	Completed by verifier (noted on verifier form) and documents this check.
Daily check BF 08 differential pressure is -1 to -4, poppets are pulsing to clean bags, RV 12 is operating, SC 65 is operating, and check FN 313 suction pressure is -10 to -15.	Completed by verifier (noted on verifier form) and documents this check.
COMG4 Ash Handling TREA 33 (BF08) and TREA 36 (BF01) Fabric Filter Visible Emissions: The Permittee shall check the associated stack for any visible emissions once each day of operation during daylight hours. Recordkeeping of Visible Emissions (VE): The Permittee shall keep records on the time and date of VE inspection, whether or not any VEs were observed. Recordkeeping of Corrective Actions: The Permittee shall record the corrective actions taken, as soon as possible as based on the operation and maintenance plan to eliminate any visible emissions.	From existing plan. This system currently vents the ash transporter and a vacuum system. NOTE: We have asked for TREA 33 to be updated to dP in new permit and TREA 36 to remain VE. Will need to update after permit re-issuance.
COMG11, EQUI 9/TREA 4/TREA 8/ STRU35 Alkaline Stabilization Loading Area Pressure Drop: greater than or equal to 1.0 inches of water column and less than or equal to 10.0 inches of water column while any process equipment controlled by the fabric filter is Operating. Operating procedures The Permittee shall operate and maintain the fabric filter at all times that any process equipment controlled by the fabric filter is operating. The Permittee shall maintain each piece of control equipment according to manufacturer's specification, shall conduct inspections, and maintain fabric filter, and maintain documentation of those actions. Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications. The Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed. - the recorded pressure drop is outside the required operating range;	From existing plan, we have asked to continue use of dP in new permit. Record dP by hand?

or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. The Permittee shall maintain each piece of control equipment according to manufacturer's specification, shall conduct inspections, and maintain fabric filter, and maintain documentation of those actions. Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications. The Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	

1. Requirements 62.15995(a)(1), 62.15995(a)(2), 62.15995(a)(3)(ii)(A)(1), 62.15995(a)(3)(ii)(A)(3), 62.15995(a)(3)(ii)(B)(1), 62.15995(a)(3)(ii)(B)(2), 62.15995(a)(3)(ii)(C)(1), 62.15995(a)(3)(ii)(C)(2), 62.15995(a)(3)(ii)(D)(1), 62.15995(a)(3)(ii)(E)(1), 62.15995(a)(3)(ii)(F)(1) covered by this sentence.
2. ANNUAL Inspections: MCES's current process is to interpret annually as once per calendar year.
3. Additional files to prove meet 62.15995(a)(3)(ii)(A)(2), 62.15995(a)(3)(ii)(B)(3), 62.15995(a)(3)(ii)(D)(2), 62.15995(a)(3)(ii)(D)(3), 62.15995(b)(1)(ii), 62.15995(c) in Metro O&M Plan and/or project files for equipment installation.
4. Original SSMP sent to EPA 9/1/2015, and updated with annual report when changes made.
5. Original AHMP sent to EPA 12/30/2014 as a separate report. Combined with SSMP new in 2021.
6. General O7M, recordkeeping and QA/QC documentation found on Met Net, BI, Historian and the N drive 62.15995(a)(3)(ii)(D)(3), 62.15995(a)(5), 62.15995(a)(6)y, 62.15995(b)(6).

Appendix I. Fugitive Control Plan

I. Fugitive Emission Sources

The sources are listed in Section 4 of this permit.

II. Control Measures

1. Primary Settling Tanks – East; Fugitive Source FUGI 2

A project to cover the effluent weirs and scrub the contained air was completed in 2005. No additional control measures are planned.

2. Aeration Tanks West and East; Fugitive Sources FUGI 1 and FUGI 4

All aeration tanks were completely converted from coarse to fine bubble aeration in 1998, significantly minimizing volatile emissions. No additional control measures are planned.

3. Truck and front-end loader traffic activities and alkaline stabilized material, Fugitive Source FUGI 7.

A. Primary Control Measures

- i) Three times a year use a pickup type street sweeper to sweep paved streets, service roads and active storage areas in the Metro Plant except when covered with snow.
- ii) Spray water on paved streets, storage areas, or piles of stored materials should they become dusty. Water application is not required when the air temperature is below 32°F (generally November 1 through April 1).

B. Contingent Control Measures. If the Commissioner determines that conditions are such that the Minnesota ambient air standard for particulate matter might be exceeded, then the following contingent control measures shall be implemented:

- i) Between April and October, use a pickup type street sweeper to monthly sweep the paved streets, service roads and active storage areas in the Metro Plant except when covered with snow.
- ii) Spray water as per II.3.A.ii.

C. Alkaline Material Storage. If biosolids incineration capabilities are limited and increased alkaline material load out is required, then such material may be temporarily stored on site on an asphalt pad. Every effort will be made to keep the size of the storage piles to a minimum with complete removal of material at the earliest possible date. While storing alkaline material on site the following control measures shall be implemented.

- i) Use a pickup type street sweeper to weekly sweep the paved streets, service roads and active storage areas in the Metro Plant except when covered with snow or ice.
- ii) Spray water as per II.3.A.ii.
- iii) When paved surfaces are covered with snow or ice will use snow removal equipment to clean material from affected surfaces.

III. Record Keeping

Maintain records of dates street swept and dates water sprayed for fugitive dust control.

Appendix J. General Public Preclusion Plan

ATTACHMENT J METROPOLITAN WASTEWATER TREATMENT PLANT GENERAL PUBLIC PRECLUSION PLAN

Introduction

In evaluating compliance with the National Ambient Air Quality Standards (NAAQS), ambient air is considered to be areas in which the general public has access. On December 2, 2019, EPA issued a memo stating that areas controlled by the facility where measures effectively preclude general public access are not considered ambient air. This General Public Preclusion Plan documents the measures to be taken by MCES at the Metropolitan Wastewater Treatment Plant (Metro Plant) to preclude the general public from entering the property. The Metropolitan Wastewater Treatment Plant provides a critical environmental function to the Twin Cities region and restricts access accordingly. Only employees, authorized visitors, and authorized trucks for receiving or outgoing shipments are allowed on site.

Facility Setting

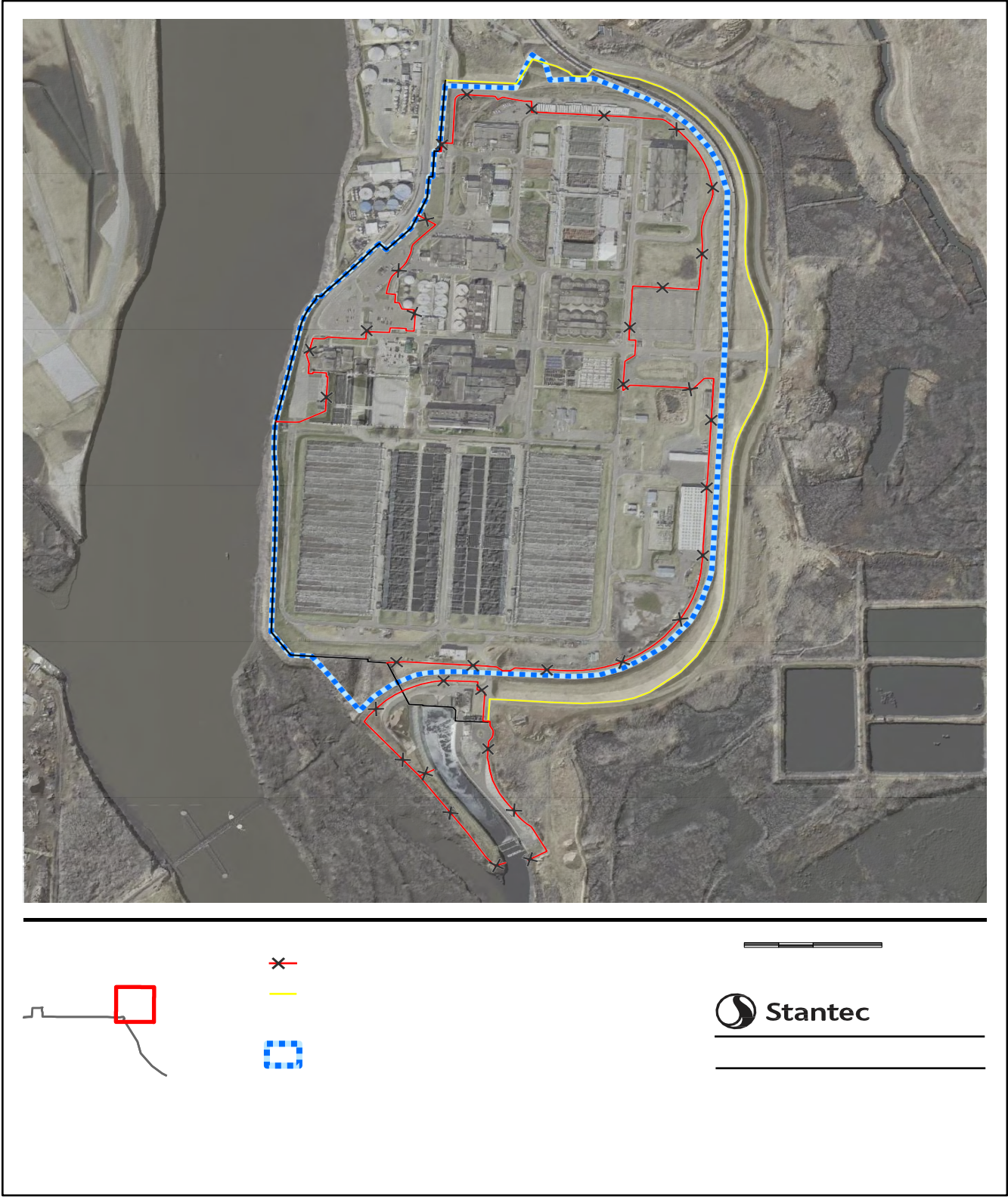
The Metro Plant is located in St. Paul, in an area zoned industrial, located to the south of downtown. The facility is bounded by the Mississippi River on the southwest, Childs Road along the northwest, and railroad tracks, that run from a railyard to a dock, on the east side of the facility. The ambient air boundary for the Metro Plant generally includes the area within the railroad and the flood wall.

Figure 1 shows the entire existing ambient boundary, along with existing fencing or flood wall. The flood wall's purpose is to protect the facility from Mississippi River flooding events, but it also provides a barrier to public access that is equivalent to fencing. Some areas within the ambient boundary are outside the continuous Metro Plant fencing.

General Public Preclusion Plan

The General Public Preclusion Plan includes multiple deterrents to preclude the general public from accessing the facility. These include:

- **Fencing or Flood Wall:** MCES will maintain fencing or flood walls surrounding the facility.
- **Vehicle Gates:** MCES will maintain vehicle gates to control vehicle access to the facility. Only authorized vehicles can access the on-site facility roads.
- **Remote Monitoring Devices:** Areas between the ambient boundary and continuous fencing, following the rail line on the north, east, and south sides of the plant, will be monitored by security guard with security cameras.
- **Public Preclusion Breaches:** MCES will identify any trespassers who are discovered within the ambient boundary. MCES will also review the security measures any time that a trespasser is identified within the ambient boundary.



Appendix K. 40 CFR Part 60, Subpart A—General Provisions

§ 60.1 Applicability.

(a) Except as provided in subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(b) Any new or revised standard of performance promulgated pursuant to section 111(b) of the Act shall apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of such new or revised standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(c) In addition to complying with the provisions of this part, the owner or operator of an affected facility may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to Title V of the Clean Air Act (Act) as amended November 15, 1990 (42 U.S.C. 7661). For more information about obtaining an operating permit see part 70 of this chapter.

(d) ***Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.***

(1) This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia (“site”).

(2) Except for compliance with 40 CFR 60.49b(u), the site shall have the option of either complying directly with the requirements of this part, or reducing the site-wide emissions caps in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the site-wide emissions caps in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this part.

(3) Notwithstanding the provisions of paragraph (d)(2) of this section, for any provisions of this part except for Subpart Kb, the owner/operator of the site shall comply with the applicable provisions of this part if the Administrator determines that compliance with the provisions of this part is necessary for achieving the objectives of the regulation and the Administrator notifies the site in accordance with the provisions of the permit issued pursuant to 40 CFR 52.2454.

§ 60.2 Definitions.

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

Act means the Clean Air Act (42 U.S.C. 7401 *et seq.*)

Administrator means the Administrator of the Environmental Protection Agency or his authorized representative.

Affected facility means, with reference to a stationary source, any apparatus to which a standard is applicable.

Alternative method means any method of sampling and analyzing for an air pollutant which is not a reference or equivalent method but which has been demonstrated to the Administrator's satisfaction to, in specific cases, produce results adequate for his determination of compliance.

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

Capital expenditure means an expenditure for a physical or operational change to an existing facility which exceeds the product of the applicable "annual asset guideline repair allowance percentage" specified in the latest edition of Internal Revenue Service (IRS) Publication 534 and the existing facility's basis, as defined by section 1012 of the Internal Revenue Code. However, the total expenditure for a physical or operational change to an existing facility must not be reduced by any "excluded additions" as defined in IRS Publication 534, as would be done for tax purposes.

Clean coal technology demonstration project means a project using funds appropriated under the heading 'Department of Energy-Clean Coal Technology', up to a total amount of \$2,500,000,000 for commercial demonstrations of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency.

Commenced means, with respect to the definition of *new source* in section 111(a)(2) of the Act, that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Construction means fabrication, erection, or installation of an affected facility.

Continuous monitoring system 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.

Electric utility steam generating unit means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

Equivalent method means any method of sampling and analyzing for an air pollutant which has been demonstrated to the Administrator's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specified conditions.

Excess Emissions and Monitoring Systems Performance Report is a report that must be submitted periodically by a source in order to provide data on its compliance with stated emission limits and operating parameters, and on the performance of its monitoring systems.

Existing facility means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type.

Force majeure means, for purposes of § 60.8, an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

Isokinetic sampling means sampling in which the linear velocity of the gas entering the sampling nozzle is equal to that of the undisturbed gas stream at the sample point.

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

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.

Modification means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.

Monitoring device means the total equipment, required under the monitoring of operations sections in applicable subparts, used to measure and record (if applicable) process parameters.

Nitrogen oxides means all oxides of nitrogen except nitrous oxide, as measured by test methods set forth in this part.

One-hour period means any 60-minute period commencing on the hour.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Owner or operator means any person who owns, leases, operates, controls, or supervises an affected facility or a stationary source of which an affected facility is a part.

Part 70 permit means any permit issued, renewed, or revised pursuant to part 70 of this chapter.

Particulate matter means any finely divided solid or liquid material, other than uncombined water, as measured by the reference methods specified under each applicable subpart, or an equivalent or alternative method.

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

Permitting authority means:

- (1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or
- (2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Proportional sampling means sampling at a rate that produces a constant ratio of sampling rate to stack gas flow rate.

Reactivation of a very clean coal-fired electric utility steam generating unit means any physical change or change in the method of operation associated with the commencement of commercial operations by a coal-fired utility unit after a period of discontinued operation where the unit:

- (1) Has not been in operation for the two-year period prior to the enactment of the Clean Air Act Amendments of 1990, and the emissions from such unit continue to be carried in the permitting authority's emissions inventory at the time of enactment;
- (2) Was equipped prior to shut-down with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of no less than 85 percent and a removal efficiency for particulates of no less than 98 percent;
- (3) Is equipped with low-NO_x burners prior to the time of commencement of operations following reactivation; and
- (4) Is otherwise in compliance with the requirements of the Clean Air Act.

Reference method means any method of sampling and analyzing for an air pollutant as specified in the applicable subpart.

Repowering means replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990. Repowering shall also include any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

Run means the net period of time during which an emission sample is collected. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

Shutdown means the cessation of operation of an affected facility for any purpose.

Six-minute period means any one of the 10 equal parts of a one-hour period.

Standard means a standard of performance proposed or promulgated under this part.

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

Startup means the setting in operation of an affected facility for any purpose.

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

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

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

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

Volatile Organic Compound means any organic compound which participates in atmospheric photochemical reactions; or which is measured by a reference method, an equivalent method, an alternative method, or which is determined by procedures specified under any subpart.

§ 60.3 Units and abbreviations.

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

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

A - ampere

g - gram

Hz - hertz

J - joule

K - degree Kelvin

kg - kilogram

m - meter

m³ - cubic meter

mg - milligram - 10⁻³ gram

mm - millimeter - 10⁻³ meter

Mg - megagram - 10⁶ gram

mol - mole

N - newton

ng - nanogram - 10⁻⁹ gram

nm - nanometer - 10⁻⁹ meter

Pa - pascal

s - second

V - volt

W - watt

Ω - ohm

μg - microgram - 10^{-6} gram

(b) Other units of measure:

Btu - British thermal unit

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

cal - calorie

cfm - cubic feet per minute

cu ft - cubic feet

dcf - dry cubic feet

dcm - dry cubic meter

dscf - dry cubic feet at standard conditions

dscm - dry cubic meter at standard conditions

eq - equivalent

$^{\circ}\text{F}$ - degree Fahrenheit

ft - feet

gal - gallon

gr - grain

g-eq - gram equivalent

hr - hour

in - inch

k - 1,000

l - liter

lpm - liter per minute

lb - pound

meq - milliequivalent

min - minute

ml - milliliter

mol. wt. - molecular weight

ppb - parts per billion

ppm - parts per million

psia - pounds per square inch absolute

psig - pounds per square inch gage

°R - degree Rankine

scf - cubic feet at standard conditions

scfh - cubic feet per hour at standard conditions

scm - cubic meter at standard conditions

sec - second

sq ft - square feet

std - at standard conditions

(c) Chemical nomenclature:

CdS - cadmium sulfide

CO - carbon monoxide

CO₂ - carbon dioxide

HCl - hydrochloric acid

Hg - mercury

H₂O - water

H₂S - hydrogen sulfide

H₂SO₄ - sulfuric acid

N₂ - nitrogen

NO - nitric oxide

NO₂ - nitrogen dioxide

NO_x - nitrogen oxides

O₂ - oxygen

SO₂ - sulfur dioxide

SO₃ - sulfur trioxide

SO_x - sulfur oxides

(d) Miscellaneous:

A.S.T.M. - American Society for Testing and Materials

§ 60.4 Address.

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted in duplicate to the appropriate Regional Office of the U.S. Environmental

Protection Agency to the attention of the Director of the Division indicated in the following list of EPA Regional Offices.

Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont) Director, Enforcement and Compliance Assurance Division, U.S. EPA Region I, 5 Post Office Square - Suite 100 (04-2), Boston, MA 02109-3912, Attn: Air Compliance Clerk.

Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Air and Waste Management Division, U.S. Environmental Protection Agency, Federal Office Building, 26 Federal Plaza (Foley Square), New York, NY 10278.

Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, Mail Code 3AP00, 1650 Arch Street, Philadelphia, PA 19103-2029.

Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee), Director, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, 61 Forsyth St. SW., Suite 9T43, Atlanta, Georgia 30303-8960.

Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, IL 60604-3590.

Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas); Director; Enforcement and Compliance Assurance Division; U.S. Environmental Protection Agency, 1201 Elm Street, Suite 500, Mail Code 6ECD, Dallas, Texas 75270-2102.

Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air and Waste Management Division, 11201 Renner Boulevard, Lenexa, Kansas 66219.

Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming) Director, Air and Toxics Technical Enforcement Program, Office of Enforcement, Compliance and Environmental Justice, Mail Code 8ENF-AT, 1595 Wynkoop Street, Denver, CO 80202-1129.

Region IX (Arizona, California, Hawaii and Nevada; the territories of American Samoa and Guam; the Commonwealth of the Northern Mariana Islands; the territories of Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Atoll, Palmyra Atoll, and Wake Islands; and certain U.S. Government activities in the freely associated states of the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau), Director, Air Division, U.S. Environmental Protection Agency, 75 Hawthorne Street, San Francisco, CA 94105.

Region X (Alaska, Oregon, Idaho, Washington), Director, Air and Waste Management Division, U.S. Environmental Protection Agency, 1200 Sixth Avenue, Seattle, WA 98101.

(b) Section 111(c) directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards of performance for new stationary sources located in such State. All information required to be submitted to EPA under paragraph (a) of this section, must also be submitted to the appropriate State Agency of any State to which this authority has been delegated (provided, that each specific delegation may except sources from a certain Federal or State reporting requirement). The appropriate mailing address for those States whose delegation request has been approved is as follows:

(1) [Reserved]

(2) State of Alabama: Alabama Department of Environmental Management, P.O. Box 301463, Montgomery, Alabama 36130-1463.

(3) State of Alaska, Department of Environmental Conservation, Pouch O, Juneau, AK 99811.

(4) Arizona:

Arizona Department of Environmental Quality, 1110 West Washington Street, Phoenix, AZ 85007.

Maricopa County Air Quality Department, 1001 North Central Avenue, Suite 900, Phoenix, AZ 85004.

Pima County Department of Environmental Quality, 33 North Stone Avenue, Suite 700, Tucson, AZ 85701.

Pinal County Air Quality Control District, 31 North Pinal Street, Building F, Florence, AZ 85132.

Note:

For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(5) State of Arkansas: Chief, Division of Air Pollution Control, Arkansas Department of Pollution Control and Ecology, 8001 National Drive, P.O. Box 9583, Little Rock, AR 72209.

(6) California:

Amador County Air Pollution Control District, 12200-B Airport Road, Jackson, CA 95642.

Antelope Valley Air Quality Management District, 43301 Division Street, Suite 206, Lancaster, CA 93535.

Bay Area Air Quality Management District, 939 Ellis Street, San Francisco, CA 94109.

Butte County Air Quality Management District, 2525 Dominic Drive, Suite J, Chico, CA 95928.

Calaveras County Air Pollution Control District, 891 Mountain Ranch Road, San Andreas, CA 95249.

Colusa County Air Pollution Control District, 100 Sunrise Blvd., Suite A-3, Colusa, CA 95932-3246.

El Dorado County Air Quality Management District, 2850 Fairlane Court, Bldg. C, Placerville, CA 95667-4100.

Eastern Kern Air Pollution Control District, 2700 "M" Street, Suite 302, Bakersfield, CA 93301-2370.

Feather River Air Quality Management District, 1007 Live Oak Blvd., Suite B-3, Yuba City, CA 95991.

Glenn County Air Pollution Control District, 720 N. Colusa Street, P.O. Box 351, Willows, CA 95988-0351.

Great Basin Unified Air Pollution Control District, 157 Short Street, Suite 6, Bishop, CA 93514-3537.

Imperial County Air Pollution Control District, 150 South Ninth Street, El Centro, CA 92243-2801.

Lake County Air Quality Management District, 885 Lakeport Blvd., Lakeport, CA 95453-5405.

Lassen County Air Pollution Control District, 707 Nevada Street, Suite 1, Susanville, CA 96130.

Mariposa County Air Pollution Control District, P.O. Box 5, Mariposa, CA 95338.

Mendocino County Air Quality Management District, 306 E. Gobbi Street, Ukiah, CA 95482-5511.

Modoc County Air Pollution Control District, 619 North Main Street, Alturas, CA 96101.

Mojave Desert Air Quality Management District, 14306 Park Avenue, Victorville, CA 92392-2310.

Monterey Bay Unified Air Pollution Control District, 24580 Silver Cloud Court, Monterey, CA 93940.

North Coast Unified Air Quality Management District, 2300 Myrtle Avenue, Eureka, CA 95501-3327.

Northern Sierra Air Quality Management District, 200 Litton Drive, Suite 320, P.O. Box 2509, Grass Valley, CA 95945-2509.

Northern Sonoma County Air Pollution Control District, 150 Matheson Street, Healdsburg, CA 95448-4908.

Placer County Air Pollution Control District, 3091 County Center Drive, Suite 240, Auburn, CA 95603.

Sacramento Metropolitan Air Quality Management District, 777 12th Street, Third Floor, Sacramento, CA 95814-1908.

San Diego County Air Pollution Control District, 10124 Old Grove Road, San Diego, CA 92131-1649.

San Joaquin Valley Air Pollution Control District, 1990 E. Gettysburg, Fresno, CA 93726.

San Luis Obispo County Air Pollution Control District, 3433 Roberto Court, San Luis Obispo, CA 93401-7126.

Santa Barbara County Air Pollution Control District, 260 North San Antonio Road, Suite A, Santa Barbara, CA 93110-1315.

Shasta County Air Quality Management District, 1855 Placer Street, Suite 101, Redding, CA 96001-1759.

Siskiyou County Air Pollution Control District, 525 So. Foothill Drive, Yreka, CA 96097-3036.

South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, CA 91765-4182.

Tehama County Air Pollution Control District, P.O. Box 8069 (1750 Walnut Street), Red Bluff, CA 96080-0038.

Tuolumne County Air Pollution Control District, 22365 Airport, Columbia, CA 95310.

Ventura County Air Pollution Control District, 669 County Square Drive, 2nd Floor, Ventura, CA 93003-5417.

Yolo-Solano Air Quality Management District, 1947 Galileo Court, Suite 103, Davis, CA 95616-4882.

Note:

For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(7) State of Colorado, Department of Public Health and Environment, 4300 Cherry Creek Drive South, Denver, CO 80222-1530.

Note:

For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(8) State of Connecticut, Compliance Analysis and Coordination Unit, Bureau of Air Management, Department of Energy and Environmental Protection, 79 Elm Street, 5th Floor, Hartford, CT 06106-5127.

(9) State of Delaware, Department of Natural Resources & Environmental Control, 89 Kings Highway, P.O. Box 1401, Dover, Delaware 19903.

(10) District of Columbia, Department of Public Health, Air Quality Division, 51 N Street, NE., Washington, DC 20002.

(11) State of Florida: Florida Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road, MS 5500, Tallahassee, Florida 32399-2400.

(12) State of Georgia: Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch, 4244 International Parkway, Suite 120, Atlanta, Georgia 30354.

(13) Hawaii:

Clean Air Branch, Hawaii Department of Health, 919 Ala Moana Blvd., Suite 203, Honolulu, HI 96814.

Note:

For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(14) State of Idaho, Department of Health and Welfare, Statehouse, Boise, ID 83701.

(15) State of Illinois: Illinois Environmental Protection Agency, 1021 North Grand Avenue East, Springfield, Illinois 62794.

(16) State of Indiana: Indiana Department of Environmental Management, Office of Air Quality, 100 North Senate Avenue, Indianapolis, Indiana 46204.

(17) State of Iowa: Iowa Department of Natural Resources, Environmental Protection Division, Air Quality Bureau, 7900 Hickman Road, Suite 1, Urbandale, IA 50322.

(18) State of Kansas: Kansas Department of Health and Environment, Bureau of Air and Radiation, 1000 S.W. Jackson, Suite 310, Topeka, KS 66612-1366.

(19) Commonwealth of Kentucky: Kentucky Department for Environmental Protection, Division for Air Quality, 300 Sower Boulevard, 2nd Floor, Frankfort, Kentucky 40601 or local agency, Louisville Metro Air Pollution Control District, 701 W. Ormsby Ave., Suite 303, Louisville, Kentucky 40203.

(20) State of Louisiana: Louisiana Department of Environmental Quality, P.O. Box 4301, Baton Rouge, Louisiana 70821-4301.

Note:

For a list of delegated standards for Louisiana (excluding Indian country), see paragraph (e)(2) of this section.

(21) State of Maine, Maine Department of Environmental Protection, Bureau of Air Quality, 17 State House Station, Augusta, ME 04333-0017.

(22) State of Maryland, Department of the Environment, 1800 Washington Boulevard, Suite 705, Baltimore, Maryland 21230.

(23) Commonwealth of Massachusetts, Massachusetts Department of Environmental Protection, Division of Air and Climate Programs, One Winter Street, Boston, MA 02108.

(24) State of Michigan: Michigan Department of Natural Resources and Environment, Air Quality Division, P.O. Box 30028, Lansing, Michigan 48909.

(25) State of Minnesota: Minnesota Pollution Control Agency, Division of Air Quality, 520 Lafayette Road North, St. Paul, Minnesota 55155.

(26) State of Mississippi: Hand Deliver or Courier: Mississippi Department of Environmental Quality, Office of Pollution Control, Air Division, 515 East Amite Street, Jackson, Mississippi 39201, Mailing Address: Mississippi Department of Environmental Quality, Office of Pollution Control, Air Division, P.O. Box 2261, Jackson, Mississippi 39225.

(27) State of Missouri: Missouri Department of Natural Resources, Division of Environmental Quality, P.O. Box 176, Jefferson City, MO 65102.

(28) State of Montana, Department of Environmental Quality, 1520 E. 6th Ave., PO Box 200901, Helena, MT 59620-0901.

Note:

For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(29) State of Nebraska, Nebraska Department of Environmental Control, P.O. Box 94877, State House Station, Lincoln, NE 68509.

Lincoln-Lancaster County Health Department, Division of Environmental Health, 2200 St. Marys Avenue, Lincoln, NE 68502

(30) Nevada:

Nevada Division of Environmental Protection, 901 South Stewart Street, Suite 4001, Carson City, NV 89701-5249.

Clark County Department of Air Quality and Environmental Management, 500 S. Grand Central Parkway, 1st Floor, P.O. Box 555210, Las Vegas, NV 89155-5210.

Washoe County Health District, Air Quality Management Division, 1001 E. 9th Street, Building A, Suite 115A, Reno, NV 89520.

Note:

For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(31) State of New Hampshire, New Hampshire Department of Environmental Services, Air Resources Division, 29 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095.

(32) State of New Jersey: New Jersey Department of Environmental Protection, Division of Environmental Quality, Enforcement Element, John Fitch Plaza, CN-027, Trenton, NJ 08625.

(1) The following table lists the specific source and pollutant categories that have been delegated to the states in Region II. The (X) symbol is used to indicate each category that has been delegated.

Subpart	State			
	New Jersey	New York	Puerto Rico	Virgin Islands
D Fossil-Fuel Fired Steam Generators for Which Construction Commenced After August 17, 1971 (Steam Generators and Lignite Fired Steam Generators)	X	X	X	X
Da Electric Utility Steam Generating Units for Which Construction Commenced After September 18, 1978	X		X	
Db Industrial-Commercial-Institutional Steam Generating Units	X	X	X	X
E Incinerators	X	X	X	X
F Portland Cement Plants	X	X	X	X

Permit Issued: January 4, 2024
Permit Expires: January 4, 2029

12300053-101
Page 427 of 707

	Subpart	State			
		New Jersey	New York	Puerto Rico	Virgin Islands
G	Nitric Acid Plants	X	X	X	X
H	Sulfuric Acid Plants	X	X	X	X
I	Asphalt Concrete Plants	X	X	X	X
J	Petroleum Refineries - (All Categories)	X	X	X	X
K	Storage Vessels for Petroleum Liquids Constructed After June 11, 1973, and prior to May 19, 1978	X	X	X	X
Ka	Storage Vessels for Petroleum Liquids Constructed After May 18, 1978	X	X	X	
L	Secondary Lead Smelters	X	X	X	X
M	Secondary Brass and Bronze Ingot Production Plants	X	X	X	X
N	Iron and Steel Plants	X	X	X	X
O	Sewage Treatment Plants	X	X	X	X
P	Primary Copper Smelters	X	X	X	X
Q	Primary Zinc Smelters	X	X	X	X
R	Primary Lead Smelters	X	X	X	X
S	Primary Aluminum Reduction Plants	X	X	X	X
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants	X	X	X	X
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants	X	X	X	X
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants	X	X	X	X
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants	X	X	X	X
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate	X	X	X	X
Y	Coal Preparation Plants	X	X	X	X
Z	Ferroally Production Facilities	X	X	X	X
AA	Steel Plants: Electric Arc Furnaces	X	X	X	X
AAa	Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels in Steel Plants	X	X	X	
BB	Kraft Pulp Mills	X	X	X	
CC	Glass Manufacturing Plants	X	X	X	
DD	Grain Elevators	X	X	X	
EE	Surface Coating of Metal Furniture	X	X	X	

	Subpart	State			
		New Jersey	New York	Puerto Rico	Virgin Islands
GG	Stationary Gas Turbines	X	X	X	
HH	Lime Plants	X	X	X	
KK	Lead Acid Battery Manufacturing Plants	X	X		
LL	Metallic Mineral Processing Plants	X	X	X	
MM	Automobile and Light-Duty Truck Surface Coating Operations	X	X		
NN	Phosphate Rock Plants	X	X		
PP	Ammonium Sulfate Manufacturing Plants	X	X		
QQ	Graphic Art Industry Publication Rotogravure Printing	X	X	X	X
RR	Pressure Sensitive Tape and Label Surface Coating Operations	X	X	X	
SS	Industrial Surface Coating: Large Appliances	X	X	X	
TT	Metal Coil Surface Coating	X	X	X	
UU	Asphalt Processing and Asphalt Roofing Manufacture	X	X	X	
VV	Equipment Leaks of Volatile Organic Compounds in Synthetic Organic Chemical Manufacturing Industry	X		X	
WW	Beverage Can Surface Coating Industry	X	X	X	
XX	Bulk Gasoline Terminals	X	X	X	
FFF	Flexible Vinyl and Urethane Coating and Printing	X	X	X	
GGG	Equipment Leaks of VOC in Petroleum Refineries	X		X	
HHH	Synthetic Fiber Production Facilities	X		X	
JJJ	Petroleum Dry Cleaners	X	X	X	
KKK	Equipment Leaks of VOC from Onshore Natural Gas Processing Plants				
LLL	Onshore Natural Gas Processing Plants; SO ₂ Emissions		X		
OOO	Nonmetallic Mineral Processing Plants		X	X	
PPP	Wool Fiberglass Insulation Manufacturing Plants		X	X	

(33) State of New Mexico: New Mexico Environment Department, P.O. Box 5469, Santa Fe, New Mexico 87502-5469. Note: For a list of delegated standards for New Mexico (excluding Bernalillo County and Indian country), see paragraph (e)(1) of this section.

(34) New York: New York State Department of Environmental Conservation, 50 Wolf Road Albany, New York 12233, attention: Division of Air Resources.

(35) State of North Carolina: North Carolina Department of Environmental Quality, Division of Air Quality, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641 or local agencies, Forsyth County Office of Environmental Assistance and Protection, 201 North Chestnut Street, Winston-Salem, North Carolina 27101-4120; Mecklenburg County Land Use and Environmental Services Agency, Air Quality, 2145 Suttle Avenue, Charlotte, North Carolina 28208; Western North Carolina Regional Air Quality Agency, 125 S. Lexington Ave., Suite 101, Asheville, North Carolina 28801-3661.

(36) State of North Dakota, North Dakota Department of Environmental Quality, 918 East Divide Avenue, Bismarck, ND 58501-1947.

Note:

For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(37) State of Ohio:

(i) Medina, Summit and Portage Counties; Director, Akron Regional Air Quality Management District, 146 South High Street, Room 904, Akron, OH 44308.

(ii) Stark County; Director, Canton City Health Department, Air Pollution Control Division, 420 Market Avenue North, Canton, Ohio 44702-1544.

(iii) Butler, Clermont, Hamilton, and Warren Counties; Director, Hamilton County Department of Environmental Services, 250 William Howard Taft Road, Cincinnati, Ohio 45219-2660.

(iv) Cuyahoga County; Commissioner, Cleveland Department of Public Health, Division of Air Quality, 75 Erieview Plaza 2nd Floor, Cleveland, Ohio 44114.

(v) Clark, Darke, Greene, Miami, Montgomery, and Preble Counties; Director, Regional Air Pollution Control Agency, 117 South Main Street, Dayton, Ohio 45422-1280.

(vi) Lucas County and the City of Rossford (in Wood County); Director, City of Toledo, Division of Environmental Services, 348 South Erie Street, Toledo, OH 43604.

(vii) Adams, Brown, Lawrence, and Scioto Counties; Portsmouth Local Air Agency, 605 Washington Street, Third Floor, Portsmouth, OH 45662.

(viii) Allen, Ashland, Auglaize, Crawford, Defiance, Erie, Fulton, Hancock, Hardin, Henry, Huron, Marion, Mercer, Ottawa, Paulding, Putnam, Richland, Sandusky, Seneca, Van Wert Williams, Wood (Except City of Rossford), and Wyandot Counties; Ohio Environmental Protection Agency, Northwest District Office, Air Pollution Control, 347 North Dunbridge Road, Bowling Green, Ohio 43402.

(ix) Ashtabula, Carroll, Columbiana, Holmes, Lorain, and Wayne Counties; Ohio Environmental Protection Agency, Northeast District Office, Air Pollution Unit, 2110 East Aurora Road, Twinsburg, OH 44087.

(x) Athens, Belmont, Coshocton, Gallia, Guemsey, Harrison, Hocking, Jackson, Jefferson, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Pike, Ross, Tuscarawas, Vinton, and Washington Counties; Ohio Environmental Protection Agency, Southeast District Office, Air Pollution Unit, 2195 Front Street, Logan, OH 43138.

(xi) Champaign, Clinton, Highland, Logan, and Shelby Counties; Ohio Environmental Protection Agency, Southwest District Office, Air Pollution Unit, 401 East Fifth Street, Dayton, Ohio 45402-2911.

- (xii) Delaware, Fairfield, Fayette, Franklin, Knox, Licking, Madison, Morrow, Pickaway, and Union Counties; Ohio Environmental Protection Agency, Central District Office, Air Pollution control, 50 West Town Street, Suite 700, Columbus, Ohio 43215.
- (xiii) Geauga and Lake Counties; Lake County General Health District, Air Pollution Control, 33 Mill Street, Painesville, OH 44077.
- (xiv) Mahoning and Trumbull Counties; Mahoning-Trumbull Air Pollution Control Agency, 345 Oak Hill Avenue, Suite 200, Youngstown, OH 44502.
- (38) State of Oklahoma, Oklahoma State Department of Health, Air Quality Service, P.O. Box 53551, Oklahoma City, OK 73152.
- (i) Oklahoma City and County: Director, Oklahoma City-County Health Department, 921 Northeast 23rd Street, Oklahoma City, OK 73105.
- (ii) Tulsa County: Tulsa City-County Health Department, 4616 East Fifteenth Street, Tulsa, OK 74112.
- (39) State of Oregon.
- (i) Oregon Department of Environmental Quality (ODEQ), 811 SW Sixth Avenue, Portland, OR 97204-1390, <http://www.deq.state.or.us>.
- (ii) Lane Regional Air Pollution Authority (LRAPA), 1010 Main Street, Springfield, Oregon 97477, <http://www.lrapa.org>.
- (40)
- (i) City of Philadelphia, Department of Public Health, Air Management Services, 321 University Avenue, Philadelphia, Pennsylvania 19104.
- (ii) Commonwealth of Pennsylvania, Department of Environmental Protection, Bureau of Air Quality Control, P.O. Box 8468, 400 Market Street, Harrisburg, Pennsylvania 17105.
- (iii) Allegheny County Health Department, Bureau of Environmental Quality, Division of Air Quality, 301 39th Street, Pittsburgh, Pennsylvania 15201.
- (41) State of Rhode Island, Rhode Island Department of Environmental Management, Office of Air Resources, 235 Promenade Street, Providence, RI 02908.
- (42) State of South Carolina: South Carolina Department of Health and Environmental Control, 2600 Bull Street, Columbia, South Carolina 29201.
- (43) State of South Dakota, Air Quality Program, Department of Agriculture and Natural Resources, Joe Foss Building, 523 East Capitol, Pierre, SD 57501-3181.
- (44) State of Tennessee: Tennessee Department of Environment and Conservation, Division of Air Pollution Control, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 15th Floor, Nashville, Tennessee 37243, or local agencies, Knox County Air Quality Management - Department of Public Health, 140 Dameron Avenue, Knoxville, Tennessee 37917; Metro Public Health Department, Pollution Control Division, 2500 Charlotte Ave., Nashville, Tennessee 37209; Chattanooga-Hamilton County Air Pollution Control Bureau, 6125 Preservation Drive, Chattanooga, Tennessee 37416; Shelby County Health Department, Pollution Control Section, 814 Jefferson Avenue, Memphis, Tennessee 38105.

(45) State of Texas, Texas Air Control Board, 6330 Highway 290 East, Austin, TX 78723.

(46) State of Utah, Division of Air Quality, Department of Environmental Quality, P.O. Box 144820, Salt Lake City, UT 84114-4820.

Note:

For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(47) State of Vermont, Agency of Natural Resources, Department of Environmental Conservation, Air Quality and Climate Division, Davis 2, One National Life Drive, Montpelier, VT 05620-3802.

(48) Commonwealth of Virginia, Department of Environmental Quality, 629 East Main Street, Richmond, Virginia 23219.

(49) **State of Washington.**

(i) Washington State Department of Ecology (Ecology), P.O. Box 47600, Olympia, WA 98504-7600, <http://www.ecy.wa.gov/>

(ii) Benton Clean Air Authority (BCAA), 650 George Washington Way, Richland, WA 99352-4289, <http://www.bcaa.net/>

(iii) Northwest Air Pollution Control Authority (NWAPA), 1600 South Second St., Mount Vernon, WA 98273-5202, <http://www.nwair.org/>

(iv) Olympic Regional Clean Air Agency (ORCAA), 909 Sleater-Kinney Road S.E., Suite 1, Lacey, WA 98503-1128, <http://www.orcaa.org/>

(v) Puget Sound Clean Air Agency (PSCAA), 110 Union Street, Suite 500, Seattle, WA 98101-2038, <http://www.pscleanair.org/>

(vi) Spokane County Air Pollution Control Authority (SCAPCA), West 1101 College, Suite 403, Spokane, WA 99201, <http://www.scapca.org/>

(vii) Southwest Clean Air Agency (SWCAA), 1308 NE. 134th St., Vancouver, WA 98685-2747, <http://www.swcleanair.org/>

(viii) Yakima Regional Clean Air Authority (YRCAA), 6 South 2nd Street, Suite 1016, Yakima, WA 98901, <http://co.yakima.wa.us/cleanair/default.htm>

(ix) The following table lists the delegation status of the New Source Performance Standards for the State of Washington. An "X" indicates the subpart has been delegated, subject to all the conditions and limitations set forth in Federal law and the letters granting delegation. Some authorities cannot be delegated and are retained by EPA. Refer to the letters granting delegation for a discussion of these retained authorities. The dates noted at the end of the table indicate the effective dates of Federal rules that have been delegated. Authority for implementing and enforcing any amendments made to these rules after these effective dates are not delegated.

NSPS Subparts Delegated to Washington Air Agencies

Subpart ¹	Washington
	Ecology ² BCAA ³ NWAPA ⁴ ORCAA ⁵ PSCAA ⁶ SCAPCA ⁷ SWCAA ⁸ YRCAA ⁹

Subpart ¹	Washington							
	Ecology ²	BCAA ³	NWAPA ⁴	ORCAA ⁵	PSCAA ⁶	SCAPCA ⁷	SWCAA ⁸	YRCAA ⁹
A General Provisions	X	X	X	X	X	X	X	X
B Adoption and Submittal of State Plans for Designated Facilities								
C Emission Guidelines and Compliance Times								
Cb Large Municipal Waste Combustors that are Constructed on or before September 20, 1994 (Emission Guidelines and Compliance Times)								
Cc Municipal Solid Waste Landfills (Emission Guidelines and Compliance Times)								
Cd Sulfuric Acid Production Units (Emission Guidelines and Compliance Times)								
Ce Hospital/Medical/Infectious Waste Incinerators (Emission Guidelines and Compliance Times)								
D Fossil-Fuel-Fired Steam Generators for which Construction is Commenced after August 17, 1971	X	X	X	X	X	X	X	X
Da Electric Utility Steam Generating Units for which Construction is Commenced after September 18, 1978	X	X	X	X	X	X	X	X
Db Industrial-Commercial-Institutional Steam Generating Units	X	X	X	X	X	X	X	X
Dc Small Industrial-Commercial-Institutional Steam Generating Units	X	X	X	X	X	X	X	X
E Incinerators	X	X	X	X	X	X	X	X
Ea Municipal Waste Combustors for which Construction is Commenced after December 20, 1989 and on or before September 20, 1994	X	X	X	X	X	X	X	X
Eb - Large Municipal Waste Combustors		X		X	X	X		
Ec - Hospital/Medical/Infectious Waste Incinerators	X	X	X	X	X	X		
F Portland Cement Plants	X	X	X	X	X	X	X	X
G Nitric Acid Plants	X	X	X	X	X	X	X	X
H Sulfuric Acid Plants	X	X	X	X	X	X	X	X
I Hot Mix Asphalt Facilities	X	X	X	X	X	X	X	X
J Petroleum Refineries	X	X	X	X	X	X	X	X
K Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced	X	X	X	X	X	X	X	X

Subpart ¹	Washington							
	Ecology ²	BCAA ³	NWAPA ⁴	ORCAA ⁵	PSCAA ⁶	SCAPCA ⁷	SWCAA ⁸	YRCAA ⁹
after June 11, 1973 and prior to May 19, 1978								
Ka Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced after May 18, 1978 and prior to July 23, 1984	X	X	X	X	X	X	X	X
Kb VOC Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984	X	X	X	X	X	X	X	X
L Secondary Lead Smelters	X	X	X	X	X	X	X	X
M Secondary Brass and Bronze Production Plants	X	X	X	X	X	X	X	X
N Primary Emissions from Basic Oxygen Process Furnaces for which Construction is Commenced after June 11, 1973	X	X	X	X	X	X	X	X
Na Secondary Emissions from Basic Oxygen Process Steel-making Facilities for which Construction is Commenced after January 20, 1983	X	X	X	X	X	X	X	X
O Sewage Treatment Plants	X	X	X	X	X	X	X	X
P Primary Copper Smelters	X	X	X	X	X	X	X	X
Q Primary Zinc Smelters	X	X	X	X	X	X	X	X
R Primary Lead Smelters	X	X	X	X	X	X	X	X
S Primary Aluminum Reduction Plants ¹⁰	X							
T Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants	X	X	X	X	X	X	X	X
U Phosphate Fertilizer Industry: Superphosphoric Acid Plants	X	X	X	X	X	X	X	X
V Phosphate Fertilizer Industry: Diammonium Phosphate Plants	X	X	X	X	X	X	X	X
W Phosphate Fertilizer Industry: Triple Superphosphate Plants	X	X	X	X	X	X	X	X
X Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities	X	X	X	X	X	X	X	X
Y Coal Preparation Plants	X	X	X	X	X	X	X	X
Z Ferroalloy Production Facilities	X	X	X	X	X	X	X	X
AA Steel Plants: Electric Arc Furnaces Constructed after October 21, 1974 and on or before August 17, 1983	X	X	X	X	X	X	X	X
AAa Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed after August 7, 1983	X	X	X	X	X	X	X	X

Subpart ¹	Washington							
	Ecology ²	BCAA ³	NWAPA ⁴	ORCAA ⁵	PSCAA ⁶	SCAPCA ⁷	SWCAA ⁸	YRCAA ⁹
BB Kraft Pulp Mills ¹¹	X							
CC Glass Manufacturing Plants	X	X	X	X	X	X	X	X
DD Grain Elevators	X	X	X	X	X	X	X	X
EE Surface Coating of Metal Furniture	X	X	X	X	X	X	X	X
GG Stationary Gas Turbines	X	X	X	X	X	X	X	X
HH Lime Manufacturing Plants	X	X	X	X	X	X	X	X
KK Lead-Acid Battery Manufacturing Plants	X	X	X	X	X	X	X	X
LL Metallic Mineral Processing Plants	X	X	X	X	X	X	X	X
MM Automobile and Light Duty Truck Surface Coating Operations	X	X	X	X	X	X	X	X
NN Phosphate Rock Plants	X	X	X	X	X	X	X	X
PP Ammonium Sulfate Manufacture	X	X	X	X	X	X	X	X
QQ Graphic Arts Industry: Publication Rotogravure Printing	X	X	X	X	X	X	X	X
RR Pressure Sensitive Tape and Label Surface Coating Standards	X	X	X	X	X	X	X	X
SS Industrial Surface Coating: Large Appliances	X	X	X	X	X	X	X	X
TT Metal Coil Surface Coating	X	X	X	X	X	X	X	X
UU Asphalt Processing and Asphalt Roof Manufacture	X	X	X	X	X	X	X	X
VV Equipment Leaks of VOC in Synthetic Organic Chemical Manufacturing Industry	X	X	X	X	X	X	X	X
WW Beverage Can Surface Coating Industry	X	X	X	X	X	X	X	X
XX Bulk Gasoline Terminals	X	X	X	X	X	X	X	X
AAA New Residential Wood Heaters								
BBB Rubber Tire Manufacturing Industry	X	X	X	X	X	X	X	X
DDD VOC Emissions from Polymer Manufacturing Industry	X	X	X	X	X	X	X	X
FFF Flexible Vinyl and Urethane Coating and Printing	X	X	X	X	X	X	X	X
GGG Equipment Leaks of VOC in Petroleum Refineries	X	X	X	X	X	X	X	X
HHH Synthetic Fiber Production Facilities	X	X	X	X	X	X	X	X
III VOC Emissions from Synthetic Organic Chemical Manufacturing Industry Air Oxidation Unit Processes	X	X	X	X	X	X	X	X

Subpart ¹	Washington							
	Ecology ²	BCAA ³	NWAPA ⁴	ORCAA ⁵	PSCAA ⁶	SCAPCA ⁷	SWCAA ⁸	YRCAA ⁹
JJJ Petroleum Dry Cleaners	X	X	X	X	X	X	X	X
KKK Equipment Leaks of VOC from Onshore Natural Gas Processing Plants	X	X	X	X	X	X	X	X
LLL Onshore Natural Gas Processing: SO ₂ Emissions	X	X	X	X	X	X	X	X
NNN VOC Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Operations	X	X	X	X	X	X	X	X
OOO Nonmetallic Mineral Processing Plants			X		X		X	
PPP Wool Fiberglass Insulation Manufacturing Plants	X	X	X	X	X	X	X	X
QQQ VOC Emissions from Petroleum Refinery Wastewater Systems	X	X	X	X	X	X	X	X
RRR VOCs from Synthetic Organic Chemical Manufacturing Industry Reactor Processes	X	X	X	X	X	X	X	X
SSS Magnetic Tape Coating Facilities	X	X	X	X	X	X	X	X
TTT Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	X	X	X	X	X	X	X	X
UUU Calciners and Dryers in Mineral Industries	X	X	X	X	X	X	X	X
VVV Polymeric Coating of Supporting Substrates Facilities	X	X	X	X	X	X	X	X
WWW Municipal Solid Waste Landfills	X	X	X	X	X	X	X	X
AAAA Small Municipal Waste Combustion Units for which Construction is Commenced after August 30, 1999 or for which Modification or Reconstruction is Commenced after June 6, 2001	X	X		X	X	X		X
BBBB Small Municipal Waste Combustion Units Constructed on or before August 30, 1999 (Emission Guidelines and Compliance Times)								
CCCC Commercial and Industrial Solid Waste Incineration Units for which Construction is Commenced after November, 30, 1999 or for which Modification or Reconstruction is Commenced on or after June 1, 2001	X	X		X	X	X		X
DDDD Commercial and Industrial Solid Waste Incineration Units that Commenced Construction on or before November 30, 1999 (Emission Guidelines and Compliance Times)								

¹ Any authority within any subpart of this part that is not delegable, is not delegated. Please refer to Attachment B to the delegation letters for a listing of the NSPS authorities excluded from delegation.

² Washington State Department of Ecology, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

³ Benton Clean Air Authority, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

⁴ Northwest Air Pollution Authority, for all NSPS delegated, as in effect on July 1, 2000.

⁵ Olympic Regional Clean Air Authority, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

⁶ Puget Sound Clean Air Authority, for all NSPS delegated, as in effect on July 1, 2002.

⁷ Spokane County Air Pollution Control Authority, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

⁸ Southwest Clean Air Agency, for all NSPS delegated, as in effect on July 1, 2000.

⁹ Yakima Regional Clean Air Authority, for 40 CFR 60.17(h)(1), (h)(2), (h)(3) and 40 CFR part 60, subpart AAAA, as in effect on June 6, 2001; for 40 CFR part 60, subpart CCCC, as in effect on June 1, 2001; and for all other NSPS delegated, as in effect February 20, 2001.

¹⁰ Subpart S of this part is not delegated to local agencies in Washington because the Washington State Department of Ecology retains sole authority to regulate Primary Aluminum Plants, pursuant to Washington Administrative Code 173-415-010.

¹¹ Subpart BB of this part is not delegated to local agencies in Washington because the Washington State Department of Ecology retains sole authority to regulate Kraft and Sulfite Pulping Mills, pursuant to Washington State Administrative Code 173-405-012 and 173-410-012.

(50) State of West Virginia, Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE., Charleston, West Virginia 25304.

(51) State of Wisconsin: Wisconsin Department of Natural Resources, 101 South Webster St., P.O. Box 7921, Madison, Wisconsin 53707-7921.

(52) State of Wyoming, Department of Environmental Quality, Air Quality Division, Herschler Building, 122 West 25th Street, Cheyenne, WY 82002.

Note:

For a table listing Region VIII's NSPS delegation status, see paragraph (c) of this section.

(53) Territory of Guam: Guam Environmental Protection Agency, P.O. Box 22439 GMF, Barrigada, Guam 96921.

Note:

For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(54) Commonwealth of Puerto Rico: Commonwealth of Puerto Rico Environmental Quality Board, P.O. Box 11488, Santurce, PR 00910, Attention: Air Quality Area Director (see table under § 60.4(b)(FF)(1)).

(55) U.S. Virgin Islands: U.S. Virgin Islands Department of Conservation and Cultural Affairs, P.O. Box 578, Charlotte Amalie, St. Thomas, VI 00801.

(56) American Samoa: American Samoa Environmental Protection Agency, P.O. Box PPA, Pago Pago, American Samoa 96799.

Note:

For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(57) Commonwealth of the Northern Mariana Islands: CNMI Division of Environmental Quality, P.O. Box 501304, Saipan, MP 96950.

Note:

For tables listing the delegation status of agencies in Region IX, see paragraph (d) of this section.

(c) The delegation status table for New Source Performance Standards for Region VIII can be found online at <http://www2.epa.gov/region8/air-program>.

(d) The following tables list the specific part 60 standards that have been delegated unchanged to the air pollution control agencies in Region IX. The (X) symbol is used to indicate each standard that has been delegated. The following provisions of this subpart are not delegated: §§ 60.4(b), 60.8(b), 60.9, 60.11(b), 60.11(e), 60.13(a), 60.13(d)(2), 60.13(g), 60.13(i).

(1) **Arizona.** The following table identifies delegations for Arizona:

Table 3 to Paragraph (d)(1) - Delegation Status for New Source Performance Standards for Arizona

	Subpart	Air pollution control agency			
		Arizona DEQ	Maricopa County	Pima County	Pinal County
A	General Provisions	X	X	X	X
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971	X	X	X	X
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978	X	X	X	X
Db	Industrial-Commercial-Institutional Steam Generating Units	X	X	X	X
Dc	Small Industrial-Commercial-Institutional Steam Generating Units	X	X	X	X
E	Incinerators	X	X	X	X
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994	X	X	X	X
Eb	Large Municipal Waste Combustors Constructed After September 20, 1994	X	X	X	
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced	X	X	X	

	Subpart	Air pollution control agency			
		Arizona DEQ	Maricopa County	Pima County	Pinal County
	After June 20, 1996				
F	Portland Cement Plants	X		X	X
G	Nitric Acid Plants	X	X	X	X
Ga	Nitric Acid Plants For Which Construction, Reconstruction or Modification Commenced After October 14, 2011		X	X	
H	Sulfuric Acid Plant	X	X	X	X
I	Hot Mix Asphalt Facilities	X	X	X	X
J	Petroleum Refineries	X		X	X
Ja	Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007			X	
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978	X	X	X	X
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	X	X	X	X
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	X	X	X	X
L	Secondary Lead Smelters	X		X	X
M	Secondary Brass and Bronze Production Plants	X	X	X	X
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973	X	X	X	X
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983	X	X	X	X
O	Sewage Treatment Plants	X	X	X	X
P	Primary Copper Smelters	X		X	X
Q	Primary Zinc Smelters	X		X	X
R	Primary Lead Smelters	X		X	X
S	Primary Aluminum Reduction Plants	X	X	X	X
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants	X	X	X	X
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants	X	X	X	X

	Subpart	Air pollution control agency			
		Arizona DEQ	Maricopa County	Pima County	Pinal County
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants	X	X	X	X
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants	X	X	X	X
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities	X	X	X	X
Y	Coal Preparation and Processing Plants	X	X	X	X
Z	Ferroalloy Production Facilities	X	X	X	X
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983	X	X	X	X
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983	X	X	X	X
BB	Kraft Pulp Mills	X	X	X	X
BBa	Kraft Pulp Mill Sources for which Construction, Reconstruction or Modification Commenced after May 23, 2013		X	X	
CC	Glass Manufacturing Plants	X	X	X	X
DD	Grain Elevators	X	X	X	X
EE	Surface Coating of Metal Furniture	X	X	X	X
FF	(Reserved)				
GG	Stationary Gas Turbines	X	X	X	X
HH	Lime Manufacturing Plants	X	X	X	X
KK	Lead-Acid Battery Manufacturing Plants	X	X	X	X
LL	Metallic Mineral Processing Plants	X	X	X	X
MM	Automobile and Light Duty Trucks Surface Coating Operations	X	X	X	X
NN	Phosphate Rock Plants	X	X	X	X
PP	Ammonium Sulfate Manufacture	X	X	X	X
QQ	Graphic Arts Industry: Publication Rotogravure Printing	X	X	X	X
RR	Pressure Sensitive Tape and Label Surface Coating Operations	X	X	X	X
SS	Industrial Surface Coating: Large Appliances	X	X	X	X

Permit Issued: January 4, 2024
Permit Expires: January 4, 2029

12300053-101
Page 440 of 707

	Subpart	Air pollution control agency			
		Arizona DEQ	Maricopa County	Pima County	Pinal County
TT	Metal Coil Surface Coating	X	X	X	X
UU	Asphalt Processing and Asphalt Roofing Manufacture	X	X	X	X
VV	Equipment Leaks of VOC in the Synthetic Organic Industry Chemicals Manufacturing	X	X	X	X
VVa	Equipment Leaks of VOC in the Synthetic Organic Industry for Which Construction, Reconstruction, or Chemicals Manufacturing Modification Commenced After November 7, 2006	X	X	X	
WW	Beverage Can Surface Coating Industry	X	X	X	X
XX	Bulk Gasoline Terminals	X	X	X	X
AAA	New Residential Wood Heaters	X	X	X	X
BBB	Rubber Tire Manufacturing Industry	X	X	X	X
CCC	(Reserved)				
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry	X	X	X	X
EEE	(Reserved)				
FFF	Flexible Vinyl and Urethane Coating and Printing	X	X	X	X
GGG	Equipment Leaks of VOC in Petroleum Refineries	X		X	X
GGGa	Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006	X		X	
HHH	Synthetic Fiber Production Facilities	X	X	X	X
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	X	X	X	X
JJJ	Petroleum Dry Cleaners	X	X	X	X
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants	X	X	X	X
LLL	Onshore Natural Gas Processing: SO ₂ Emissions	X	X	X	X
MMM	(Reserved)				
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations	X	X	X	X
OOO	Nonmetallic Mineral Processing Plants	X	X	X	X

	Subpart	Air pollution control agency			
		Arizona DEQ	Maricopa County	Pima County	Pinal County
PPP	Wool Fiberglass Insulation Manufacturing Plants	X	X	X	X
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems	X		X	X
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	X	X	X	
SSS	Magnetic Tape Coating Facilities	X	X	X	X
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	X	X	X	X
UUU	Calciners and Dryers in Mineral Industries	X	X	X	
VVV	Polymeric Coating of Supporting Substrates Facilities	X	X	X	X
WWW	Municipal Solid Waste Landfills	X	X	X	
XXX	Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification After July 17, 2014		X	X	
AAAA	Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001	X	X	X	
CCCC	Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001	X	X	X	
EEEE	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	X	X	X	
GGGG	(Reserved)				
HHHH	(Reserved)				
IIII	Stationary Compression Ignition Internal Combustion Engines	X	X	X	
JJJJ	Stationary Spark Ignition Internal Combustion Engines		X	X	
KKKK	Stationary Combustion Turbines	X	X	X	
LLLL	New Sewage Sludge Incineration Units			X	
MMMM	Emissions Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units	X			
OOOO	Crude Oil and Natural Gas Production, Transmission, and Distribution		X	X	
OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After September 18, 2015		X	X	

	Subpart	Air pollution control agency			
		Arizona DEQ	Maricopa County	Pima County	Pinal County
QQQQ	Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces		X	X	
TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units		X	X	

(2) **California.** The following tables identify delegations for each of the local air pollution control agencies of California.

(i) Delegations for Amador County Air Pollution Control District, Antelope Valley Air Quality Management District, Bay Area Air Quality Management District, and Butte County Air Quality Management District are shown in the following table:

Table 4 to Paragraph (d)(2)(i) - Delegation Status for New Source Performance Standards for Amador County APCD, Antelope Valley AQMD, Bay Area AQMD, and Butte County AQMD

	Subpart	Air pollution control agency			
		Amador County APCD	Antelope Valley AQMD	Bay Area AQMD	Butte County AQMD
A	General Provisions		X		
Ba	Adoption and Submittal of State Plans for Designated Facilities		X		
Cf	Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills		X		
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971		X	X	
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978		X	X	
Db	Industrial-Commercial-Institutional Steam Generating Units		X	X	
Dc	Small Industrial-Commercial-Institutional Steam Generating Units		X	X	
E	Incinerators		X	X	
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994		X	X	
Eb	Large Municipal Waste Combustors Constructed After September 20, 1994		X		
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996		X		
F	Portland Cement Plants		X	X	
G	Nitric Acid Plants		X	X	
Ga	Nitric Acid Plants For Which Construction, Reconstruction or Modification Commenced After October 14, 2011		X		

	Subpart	Air pollution control agency			
		Amador County APCD	Antelope Valley AQMD	Bay Area AQMD	Butte County AQMD
H	Sulfuric Acid Plant		X	X	
I	Hot Mix Asphalt Facilities		X	X	
J	Petroleum Refineries		X	X	
Ja	Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007		X		
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978		X	X	
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984		X	X	
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984		X	X	
L	Secondary Lead Smelters		X	X	
M	Secondary Brass and Bronze Production Plants		X	X	
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973		X	X	
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983		X	X	
O	Sewage Treatment Plants		X	X	
P	Primary Copper Smelters		X	X	
Q	Primary Zinc Smelters		X	X	
R	Primary Lead Smelters		X	X	
S	Primary Aluminum Reduction Plants		X	X	
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants		X		
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants		X	X	
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants		X	X	
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants		X	X	
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities		X	X	
Y	Coal Preparation and Processing Plants		X	X	
Z	Ferroalloy Production Facilities		X	X	

	Subpart	Air pollution control agency			
		Amador County APCD	Antelope Valley AQMD	Bay Area AQMD	Butte County AQMD
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983		X	X	
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983		X	X	
BB	Kraft Pulp Mills		X	X	
BBa	Kraft Pulp Mill Sources for which Construction, Reconstruction or Modification Commenced after May 23, 2013		X		
CC	Glass Manufacturing Plants		X	X	
DD	Grain Elevators		X	X	
EE	Surface Coating of Metal Furniture		X	X	
FF	(Reserved)				
GG	Stationary Gas Turbines		X	X	
HH	Lime Manufacturing Plants		X	X	
KK	Lead-Acid Battery Manufacturing Plants		X	X	
LL	Metallic Mineral Processing Plants		X	X	
MM	Automobile and Light Duty Trucks Surface Coating Operations		X	X	
NN	Phosphate Rock Plants		X	X	
PP	Ammonium Sulfate Manufacture		X	X	
QQ	Graphic Arts Industry: Publication Rotogravure Printing		X	X	
RR	Pressure Sensitive Tape and Label Surface Coating Operations		X	X	
SS	Industrial Surface Coating: Large Appliances		X	X	
TT	Metal Coil Surface Coating		X	X	
UU	Asphalt Processing and Asphalt Roofing Manufacture		X	X	
VV	Equipment Leaks of VOC in the Synthetic Organic Industry Chemicals Manufacturing		X	X	
VVa	Equipment Leaks of VOC in the Synthetic Organic Industry for Which Construction, Reconstruction, or Chemicals Manufacturing Modification Commenced After November 7, 2006		X		
WW	Beverage Can Surface Coating Industry		X	X	
XX	Bulk Gasoline Terminals				

	Subpart	Air pollution control agency			
		Amador County APCD	Antelope Valley AQMD	Bay Area AQMD	Butte County AQMD
AAA	New Residential Wood Heaters		X	X	
BBB	Rubber Tire Manufacturing Industry		X	X	
CCC	(Reserved)				
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry		X	X	
EEE	(Reserved)				
FFF	Flexible Vinyl and Urethane Coating and Printing		X	X	
GGG	Equipment Leaks of VOC in Petroleum Refineries		X	X	
GGGa	Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006		X		
HHH	Synthetic Fiber Production Facilities		X	X	
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes		X		
JJJ	Petroleum Dry Cleaners		X	X	
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants		X	X	
LLL	Onshore Natural Gas Processing: SO ₂ Emissions		X		
MMM	(Reserved)				
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations		X	X	
OOO	Nonmetallic Mineral Processing Plants		X	X	
PPP	Wool Fiberglass Insulation Manufacturing Plants		X	X	
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems		X		
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes		X		
SSS	Magnetic Tape Coating Facilities		X	X	
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines		X	X	
UUU	Calciners and Dryers in Mineral Industries		X	X	
VVV	Polymeric Coating of Supporting Substrates Facilities		X	X	
WWW	Municipal Solid Waste Landfills		X		
XXX	Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or		X		

	Subpart	Air pollution control agency			
		Amador County APCD	Antelope Valley AQMD	Bay Area AQMD	Butte County AQMD
	Modification After July 17, 2014				
AAAA	Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001		X		
CCCC	Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001		X		
DDDD	Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units		X		
EEEE	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		X		
GGGG	(Reserved)				
HHHH	(Reserved)				
IIII	Stationary Compression Ignition Internal Combustion Engines		X		
JJJJ	Stationary Spark Ignition Internal Combustion Engines		X		
KKKK	Stationary Combustion Turbines		X		
LLLL	New Sewage Sludge Incineration Units		X		
MMMM	Emissions Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units		X		
OOOO	Crude Oil and Natural Gas Production, Transmission, and Distribution		X		
OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After September 18, 2015		X		
TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units		X		
UUUUa	Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units		X		

(ii) [Reserved]

(iii) Delegations for Glenn County Air Pollution Control District, Great Basin Unified Air Pollution Control District, Imperial County Air Pollution Control District, and Kern County Air Pollution Control District are shown in the following table:

Delegation Status for New Source Performance Standards for Glenn County APCD, Great Basin Unified APCD, Imperial County APCD, and Kern County APCD

	Subpart	Air pollution control agency			
		Glenn County APCD	Great Basin Unified APCD	Imperial County APCD	Kern County APCD
A	General Provisions		X		X
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971		X		X
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978		X		X
Db	Industrial-Commercial-Institutional Steam Generating Units		X		X
Dc	Small Industrial Steam Generating Units		X		X
E	Incinerators		X		X
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994		X		
Eb	Municipal Waste Combustors Constructed After September 20, 1994				
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996				
F	Portland Cement Plants		X		X
G	Nitric Acid Plants		X		X
H	Sulfuric Acid Plants		X		
I	Hot Mix Asphalt Facilities		X		X
J	Petroleum Refineries		X		X
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978		X		X
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984		X		X
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984		X		X
L	Secondary Lead Smelters		X		X
M	Secondary Brass and Bronze Production Plants		X		X
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973		X		X
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983		X		X

	Subpart	Air pollution control agency			
		Glenn County APCD	Great Basin Unified APCD	Imperial County APCD	Kern County APCD
O	Sewage Treatment Plants		X		X
P	Primary Copper Smelters		X		X
Q	Primary Zinc Smelters		X		X
R	Primary Lead Smelters		X		X
S	Primary Aluminum Reduction Plants		X		X
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants		X		X
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants		X		X
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants		X		X
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants		X		X
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities		X		X
Y	Coal Preparation Plants		X		X
Z	Ferroalloy Production Facilities		X		X
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983		X		X
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983		X		X
BB	Kraft pulp Mills		X		X
CC	Glass Manufacturing Plants		X		X
DD	Grain Elevators		X		X
EE	Surface Coating of Metal Furniture		X		X
FF	(Reserved)				
GG	Stationary Gas Turbines		X		X
HH	Lime Manufacturing Plants		X		X
KK	Lead-Acid Battery Manufacturing Plants		X		X
LL	Metallic Mineral Processing Plants		X		X
MM	Automobile and Light Duty Trucks Surface Coating Operations		X		X
NN	Phosphate Rock Plants		X		X

	Subpart	Air pollution control agency			
		Glenn County APCD	Great Basin Unified APCD	Imperial County APCD	Kern County APCD
PP	Ammonium Sulfate Manufacture		X		X
QQ	Graphic Arts Industry: Publication Rotogravure Printing		X		X
RR	Pressure Sensitive Tape and Label Surface Coating Operations		X		X
SS	Industrial Surface Coating: Large Appliances		X		X
TT	Metal Coil Surface Coating		X		X
UU	Asphalt Processing and Asphalt Roofing Manufacture		X		X
VV	Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry		X		X
WW	Beverage Can Surface Coating Industry		X		X
XX	Bulk Gasoline Terminals				
AAA	New Residential Wool Heaters		X		X
BBB	Rubber Tire Manufacturing Industry		X		X
CCC	(Reserved)				
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry		X		X
EEE	(Reserved)				
FFF	Flexible Vinyl and Urethane Coating and Printing		X		X
GGG	Equipment Leaks of VOC in Petroleum Refineries		X		X
HHH	Synthetic Fiber Production Facilities		X		X
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes		X		X
JJJ	Petroleum Dry Cleaners		X		X
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants		X		X
LLL	Onshore Natural Gas Processing: SO2 Emissions				X
MMM	(Reserved)				
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations		X		X
OOO	Nonmetallic Mineral Processing Plants		X		X
PPP	Wool Fiberglass Insulation Manufacturing Plants		X		X

	Subpart	Air pollution control agency			
		Glenn County APCD	Great Basin Unified APCD	Imperial County APCD	Kern County APCD
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems		X		X
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes				X
SSS	Magnetic Tape Coating Facilities		X		X
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines		X	X	
UUU	Calciners and Dryers in Mineral Industries		X		X
VVV	Polymeric Coating of Supporting Substrates Facilities		X		X
WWW	Municipal Solid Waste Landfills				X

(iv) Delegations for Lake County Air Quality Management District, Lassen County Air Pollution Control District, Mariposa County Air Pollution Control District, and Mendocino County Air Pollution Control District are shown in the following table:

Delegation Status for New Source Performance Standards for Lake County Air Quality Management District, Lassen County Air Pollution Control District, Mariposa County Air Pollution Control District, and Mendocino County Air Pollution Control District

	Subpart	Air pollution control agency			
		Lake County AQMD	Lassen County APCD	Mariposa County AQMD	Mendocino County AQMD
A	General Provisions	X			X
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971	X			X
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978	X			X
Db	Industrial-Commercial-Institutional Steam Generating Units	X			
Dc	Small Industrial Steam Generating Units	X			X
E	Incinerators	X			X
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994	X			X
Eb	Municipal Waste Combustors Constructed After September 20, 1994				
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996				

	Subpart	Air pollution control agency			
		Lake County AQMD	Lassen County APCD	Mariposa County AQMD	Mendocino County AQMD
F	Portland Cement Plants	X			X
G	Nitric Acid Plants	X			X
H	Sulfuric Acid Plants	X			X
I	Hot Mix Asphalt Facilities	X			X
J	Petroleum Refineries	X			X
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978	X			X
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	X			X
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	X			X
L	Secondary Lead Smelters	X			X
M	Secondary Brass and Bronze Production Plants	X			X
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973	X			X
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983	X			X
O	Sewage Treatment Plants	X			X
P	Primary Copper Smelters	X			X
Q	Primary Zinc Smelters	X			X
R	Primary Lead Smelters	X			X
S	Primary Aluminum Reduction Plants	X			X
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants	X			X
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants	X			X
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants	X			X
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants	X			X
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities	X			X

	Subpart	Air pollution control agency			
		Lake County AQMD	Lassen County APCD	Mariposa County AQMD	Mendocino County AQMD
Y	Coal Preparation Plants	X			X
Z	Ferroalloy Production Facilities	X			X
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983	X			X
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983	X			X
BB	Kraft Pulp Mills	X			X
CC	Glass Manufacturing Plants	X			X
DD	Grain Elevators	X			X
EE	Surface Coating of Metal Furniture	X			X
FF	(Reserved)				
GG	Stationary Gas Turbines	X			X
HH	Lime Manufacturing Plants	X			X
KK	Lead-Acid Battery Manufacturing Plants	X			X
LL	Metallic Mineral Processing Plants	X			X
MM	Automobile and Light Duty Trucks Surface Coating Operations	X			X
NN	Phosphate Rock Plants	X			X
PP	Ammonium Sulfate Manufacture	X			X
QQ	Graphic Arts Industry: Publication Rotogravure Printing	X			X
RR	Pressure Sensitive Tape and Label Surface Coating Operations	X			X
SS	Industrial Surface Coating: Large Appliances	X			X
TT	Metal Coil Surface Coating	X			X
UU	Asphalt Processing and Asphalt Roofing Manufacture	X			X
VV	Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry	X			X
WW	Beverage Can Surface Coating Industry	X			X
XX	Bulk Gasoline Terminals				
AAA	New Residential Wool Heaters	X			X

	Subpart	Air pollution control agency			
		Lake County AQMD	Lassen County APCD	Mariposa County AQMD	Mendocino County AQMD
BBB	Rubber Tire Manufacturing Industry	X			X
CCC	(Reserved)				
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry	X			X
EEE	(Reserved)				
FFF	Flexible Vinyl and Urethane Coating and Printing	X			X
GGG	Equipment Leaks of VOC in Petroleum Refineries	X			X
HHH	Synthetic Fiber Production Facilities	X			X
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	X			X
JJJ	Petroleum Dry Cleaners	X			X
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants	X			X
LLL	Onshore Natural Gas Processing: SO2 Emissions	X			X
MMM	(Reserved)				
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations	X			X
OOO	Nonmetallic Mineral Processing Plants	X			X
PPP	Wool Fiberglass Insulation Manufacturing Plants	X			X
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems	X			X
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	X			
SSS	Magnetic Tape Coating Facilities	X			X
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines				
UUU	Calciners and Dryers in Mineral Industries	X			X
VVV	Polymeric Coating of Supporting Substrates Facilities	X			X
WWW	Municipal Solid Waste Landfills	X			

(v) Delegations for Modoc Air Pollution Control District, Mojave Desert Air Quality Management District, Monterey Bay Unified Air Pollution Control District and North Coast Unified Air Quality Management District are shown in the following table:

Table 7 to Paragraph (d)(2)(v) - Delegation Status for New Source Performance Standards for Modoc County APCD, Mojave Desert AQMD, Monterey Bay Unified APCD, and North Coast Unified AQMD

	Subpart	Air pollution control agency			
		Modoc County APCD	Mojave Desert AQMD	Monterey Bay Unified APCD	North Coast Unified AQMD
A	General Provisions	X	X	X	X
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971	X	X	X	X
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978	X	X	X	X
Db	Industrial-Commercial-Institutional Steam Generating Units	X	X	X	X
Dc	Small Industrial-Commercial-Institutional Steam Generating Units		X	X	
E	Incinerators	X	X	X	X
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994		X		
Eb	Large Municipal Waste Combustors Constructed After September 20, 1994		X		
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996		X		
F	Portland Cement Plants	X	X	X	X
G	Nitric Acid Plants	X	X	X	X
Ga	Nitric Acid Plants For Which Construction, Reconstruction or Modification Commenced After October 14, 2011				
H	Sulfuric Acid Plant	X	X	X	X
I	Hot Mix Asphalt Facilities	X	X	X	X
J	Petroleum Refineries	X	X	X	X
Ja	Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007		X		
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978	X	X	X	X
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	X	X	X	X
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for	X	X	X	X

	Subpart	Air pollution control agency			
		Modoc County APCD	Mojave Desert AQMD	Monterey Bay Unified APCD	North Coast Unified AQMD
	Which Construction, Reconstruction, or Modification Commenced After July 23, 1984				
L	Secondary Lead Smelters	X	X	X	X
M	Secondary Brass and Bronze Production Plants	X	X	X	X
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973	X	X	X	X
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983	X	X	X	X
O	Sewage Treatment Plants	X	X	X	X
P	Primary Copper Smelters	X	X	X	X
Q	Primary Zinc Smelters	X	X	X	X
R	Primary Lead Smelters	X	X	X	X
S	Primary Aluminum Reduction Plants	X	X	X	X
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants	X	X	X	X
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants	X	X	X	X
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants	X	X	X	X
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants	X	X	X	X
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities	X	X	X	X
Y	Coal Preparation and Processing Plants	X	X	X	X
Z	Ferroalloy Production Facilities	X	X	X	X
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983	X	X	X	X
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983	X	X	X	X
BB	Kraft Pulp Mills	X	X	X	X
CC	Glass Manufacturing Plants	X	X	X	X
DD	Grain Elevators	X	X	X	X
EE	Surface Coating of Metal Furniture	X	X	X	X
FF	(Reserved)				

	Subpart	Air pollution control agency			
		Modoc County APCD	Mojave Desert AQMD	Monterey Bay Unified APCD	North Coast Unified AQMD
GG	Stationary Gas Turbines	X	X	X	X
HH	Lime Manufacturing Plants	X	X	X	X
KK	Lead-Acid Battery Manufacturing Plants	X	X	X	X
LL	Metallic Mineral Processing Plants	X	X	X	X
MM	Automobile and Light Duty Trucks Surface Coating Operations	X	X	X	X
NN	Phosphate Rock Plants	X	X	X	X
PP	Ammonium Sulfate Manufacture	X	X	X	X
QQ	Graphic Arts Industry: Publication Rotogravure Printing	X	X	X	X
RR	Pressure Sensitive Tape and Label Surface Coating Operations	X	X	X	X
SS	Industrial Surface Coating: Large Appliances	X	X	X	X
TT	Metal Coil Surface Coating	X	X	X	X
UU	Asphalt Processing and Asphalt Roofing Manufacture	X	X	X	X
VV	Equipment Leaks of VOC in the Synthetic Organic Industry Chemicals Manufacturing	X	X	X	X
VVa	Equipment Leaks of VOC in the Synthetic Organic Industry for Which Construction, Reconstruction, or Chemicals Manufacturing Modification Commenced After November 7, 2006		X		
WW	Beverage Can Surface Coating Industry	X	X	X	X
XX	Bulk Gasoline Terminals				
AAA	New Residential Wood Heaters	X	X	X	X
BBB	Rubber Tire Manufacturing Industry	X	X	X	X
CCC	(Reserved)				
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry	X	X	X	
EEE	(Reserved)				
FFF	Flexible Vinyl and Urethane Coating and Printing	X	X	X	X
GGG	Equipment Leaks of VOC in Petroleum Refineries	X	X	X	X
GGGa	Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006		X		
HHH	Synthetic Fiber Production Facilities	X	X	X	X

	Subpart	Air pollution control agency			
		Modoc County APCD	Mojave Desert AQMD	Monterey Bay Unified APCD	North Coast Unified AQMD
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes		X		
JJJ	Petroleum Dry Cleaners	X	X	X	X
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants	X	X	X	X
LLL	Onshore Natural Gas Processing: SO ₂ Emissions	X	X	X	X
MMM	(Reserved)				
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations	X	X	X	
OOO	Nonmetallic Mineral Processing Plants	X	X	X	X
PPP	Wool Fiberglass Insulation Manufacturing Plants	X	X	X	X
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems	X	X	X	X
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes		X		
SSS	Magnetic Tape Coating Facilities	X	X	X	X
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	X	X	X	X
UUU	Calciners and Dryers in Mineral Industries		X	X	
VVV	Polymeric Coating of Supporting Substrates Facilities		X	X	X
WWW	Municipal Solid Waste Landfills		X	X	
AAAA	Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001		X		
CCCC	Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001		X		
EEEE	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		X		
GGGG	(Reserved)				
HHHH	(Reserved)				
IIII	Stationary Compression Ignition Internal Combustion Engines		X	X	

	Subpart	Air pollution control agency			
		Modoc County APCD	Mojave Desert AQMD	Monterey Bay Unified APCD	North Coast Unified AQMD
JJJJ	Stationary Spark Ignition Internal Combustion Engines		X	X	
KKKK	Stationary Combustion Turbines		X	X	
LLLL	New Sewage Sludge Incineration Units				
OOOO	Crude Oil and Natural Gas Production, Transmission, and Distribution				

(vi) Delegations for Northern Sierra Air Quality Management District, Northern Sonoma County Air Pollution Control District, Placer County Air Pollution Control District, and Sacramento Metropolitan Air Quality Management District are shown in the following table:

Delegation Status for New Source Performance Standards for Northern Sierra Air Quality Management District, Northern Sonoma County Air Pollution Control District, Placer County Air Pollution Control District, and Sacramento Metropolitan Air Quality Management District

	Subpart	Air pollution control agency			
		Northern Sierra AQMD	Northern Sonoma County APCD	Placer County APCD	Sacramento Metropolitan AQMD
A	General Provisions		X		X
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971		X		X
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978		X		X
Db	Industrial-Commercial-Institutional Steam Generating Units				X
Dc	Small Industrial Steam Generating Units				X
E	Incinerators		X		X
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994				X
Eb	Municipal Waste Combustors Constructed After September 20, 1994				X
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996				X
F	Portland Cement Plants		X		X
G	Nitric Acid Plants		X		X
H	Sulfuric Acid Plants		X		X

Air pollution control agency

	Subpart	Northern Sierra AQMD	Northern Sonoma County APCD	Placer County APCD	Sacramento Metropolitan AQMD
I	Hot Mix Asphalt Facilities		X		X
J	Petroleum Refineries		X		X
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978		X		X
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984		X		X
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984				X
L	Secondary Lead Smelters		X		X
M	Secondary Brass and Bronze Production Plants		X		X
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973		X		X
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983				X
O	Sewage Treatment Plants		X		X
P	Primary Copper Smelters		X		X
Q	Primary Zinc Smelters		X		X
R	Primary Lead Smelters		X		X
S	Primary Aluminum Reduction Plants		X		X
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants		X		X
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants		X		X
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants		X		X
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants		X		X
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities		X		X
Y	Coal Preparation Plants		X		X
Z	Ferroalloy Production Facilities		X		X

Air pollution control agency

	Subpart	Northern Sierra AQMD	Northern Sonoma County APCD	Placer County APCD	Sacramento Metropolitan AQMD
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983		X		X
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983				X
BB	Kraft pulp Mills		X		X
CC	Glass Manufacturing Plants		X		X
DD	Grain Elevators		X		X
EE	Surface Coating of Metal Furniture				X
FF	(Reserved)				
GG	Stationary Gas Turbines		X		X
HH	Lime Manufacturing Plants		X		X
KK	Lead-Acid Battery Manufacturing Plants				X
LL	Metallic Mineral Processing Plants				X
MM	Automobile and Light Duty Trucks Surface Coating Operations		X		X
NN	Phosphate Rock Plants				X
PP	Ammonium Sulfate Manufacture		X		X
QQ	Graphic Arts Industry: Publication Rotogravure Printing				X
RR	Pressure Sensitive Tape and Label Surface Coating Operations				X
SS	Industrial Surface Coating: Large Appliances				X
TT	Metal Coil Surface Coating				X
UU	Asphalt Processing and Asphalt Roofing Manufacture				X
VV	Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry				X
WW	Beverage Can Surface Coating Industry				X
XX	Bulk Gasoline Terminals				
AAA	New Residential Wool Heaters				X
BBB	Rubber Tire Manufacturing Industry				X
CCC	(Reserved)				

		Air pollution control agency			
	Subpart	Northern Sierra AQMD	Northern Sonoma County APCD	Placer County APCD	Sacramento Metropolitan AQMD
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry				X
EEE	(Reserved)				
FFF	Flexible Vinyl and Urethane Coating and Printing				X
GGG	Equipment Leaks of VOC in Petroleum Refineries				X
HHH	Synthetic Fiber Production Facilities				X
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes				X
JJJ	Petroleum Dry Cleaners				X
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants				X
LLL	Onshore Natural Gas Processing: SO2 Emissions				X
MMM	(Reserved)				
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations				X
OOO	Nonmetallic Mineral Processing Plants				X
PPP	Wool Fiberglass Insulation Manufacturing Plants				X
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems				X
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes				X
SSS	Magnetic Tape Coating Facilities				X
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines				X
UUU	Calciners and Dryers in Mineral Industries				X
VVV	Polymeric Coating of Supporting Substrates Facilities				X
WWW	Municipal Solid Waste Landfills				X

(vii) Delegations for San Diego County Air Pollution Control District, San Joaquin Valley Unified Air Pollution Control District, San Luis Obispo County Air Pollution Control District, and Santa Barbara County Air Pollution Control District are shown in the following table:

Table 9 to Paragraph (d)(2)(vii) - Delegation Status for New Source Performance Standards for San Diego County APCD, San Joaquin Valley Unified APCD, San Luis Obispo County APCD, and Santa Barbara County APCD

	Subpart	Air pollution control agency			
		San Diego County APCD	San Joaquin Valley Unified APCD	San Luis Obispo County APCD	Santa Barbara County APCD
A	General Provisions	X	X	X	X
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971	X	X	X	X
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978	X	X	X	X
Db	Industrial-Commercial-Institutional Steam Generating Units	X	X	X	X
Dc	Small Industrial-Commercial-Institutional Steam Generating Units	X	X	X	X
E	Incinerators	X	X	X	X
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994	X	X	X	
Eb	Large Municipal Waste Combustors Constructed After September 20, 1994	X	X		X
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996	X			X
F	Portland Cement Plants	X	X	X	
G	Nitric Acid Plants	X	X	X	
Ga	Nitric Acid Plants For Which Construction, Reconstruction or Modification Commenced After October 14, 2011				
H	Sulfuric Acid Plant	X	X	X	
I	Hot Mix Asphalt Facilities	X	X	X	X
J	Petroleum Refineries	X	X	X	X
Ja	Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007				X
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978	X	X	X	X
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	X	X	X	X
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	X	X	X	X
L	Secondary Lead Smelters	X	X	X	X

	Subpart	Air pollution control agency			
		San Diego County APCD	San Joaquin Valley Unified APCD	San Luis Obispo County APCD	Santa Barbara County APCD
M	Secondary Brass and Bronze Production Plants	X	X	X	X
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973	X	X	X	
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983	X	X	X	
O	Sewage Treatment Plants	X	X	X	X
P	Primary Copper Smelters	X	X	X	
Q	Primary Zinc Smelters	X	X	X	
R	Primary Lead Smelters	X	X	X	
S	Primary Aluminum Reduction Plants	X	X	X	
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants	X	X	X	
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants	X	X	X	
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants	X	X	X	
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants	X	X	X	
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities	X	X	X	
Y	Coal Preparation and Processing Plants	X	X	X	
Z	Ferroalloy Production Facilities	X	X	X	
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983	X	X	X	
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983	X	X	X	
BB	Kraft Pulp Mills	X	X	X	
CC	Glass Manufacturing Plants	X	X	X	X
DD	Grain Elevators	X	X	X	X
EE	Surface Coating of Metal Furniture	X	X	X	
FF	(Reserved)				
GG	Stationary Gas Turbines	X	X	X	X

	Subpart	Air pollution control agency			
		San Diego County APCD	San Joaquin Valley Unified APCD	San Luis Obispo County APCD	Santa Barbara County APCD
HH	Lime Manufacturing Plants	X	X	X	
KK	Lead-Acid Battery Manufacturing Plants	X	X	X	
LL	Metallic Mineral Processing Plants	X	X	X	
MM	Automobile and Light Duty Trucks Surface Coating Operations	X	X	X	
NN	Phosphate Rock Plants	X	X	X	
PP	Ammonium Sulfate Manufacture	X	X	X	
QQ	Graphic Arts Industry: Publication Rotogravure Printing	X	X	X	
RR	Pressure Sensitive Tape and Label Surface Coating Operations	X	X	X	
SS	Industrial Surface Coating: Large Appliances	X	X	X	
TT	Metal Coil Surface Coating	X	X	X	
UU	Asphalt Processing and Asphalt Roofing Manufacture	X	X	X	
VV	Equipment Leaks of VOC in the Synthetic Organic Industry Chemicals Manufacturing	X	X	X	
VVa	Equipment Leaks of VOC in the Synthetic Organic Industry for Which Construction, Reconstruction, or Chemicals Manufacturing Modification Commenced After November 7, 2006				X
WW	Beverage Can Surface Coating Industry	X	X	X	
XX	Bulk Gasoline Terminals				
AAA	New Residential Wood Heaters	X	X	X	X
BBB	Rubber Tire Manufacturing Industry	X	X	X	
CCC	(Reserved)				
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry	X	X		
EEE	(Reserved)				
FFF	Flexible Vinyl and Urethane Coating and Printing	X	X	X	
GGG	Equipment Leaks of VOC in Petroleum Refineries	X	X	X	
GGGa	Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006				X
HHH	Synthetic Fiber Production Facilities	X	X	X	

	Subpart	Air pollution control agency			
		San Diego County APCD	San Joaquin Valley Unified APCD	San Luis Obispo County APCD	Santa Barbara County APCD
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	X	X		
JJJ	Petroleum Dry Cleaners	X	X	X	
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants	X	X	X	
LLL	Onshore Natural Gas Processing: SO ₂ Emissions	X	X	X	
MMM	(Reserved)				
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations	X	X		
OOO	Nonmetallic Mineral Processing Plants	X	X	X	X
PPP	Wool Fiberglass Insulation Manufacturing Plants	X	X	X	
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems	X	X	X	
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	X	X	X	
SSS	Magnetic Tape Coating Facilities	X	X	X	
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	X	X	X	
UUU	Calciners and Dryers in Mineral Industries	X	X	X	X
VVV	Polymeric Coating of Supporting Substrates Facilities	X	X	X	X
WWW	Municipal Solid Waste Landfills	X	X	X	X
AAAA	Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001	X			X
CCCC	Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001	X			X
EEEE	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	X			X
GGGG	(Reserved)				
HHHH	(Reserved)				
IIII	Stationary Compression Ignition Internal Combustion Engines	X			X

	Subpart	Air pollution control agency			
		San Diego County APCD	San Joaquin Valley Unified APCD	San Luis Obispo County APCD	Santa Barbara County APCD
JJJJ	Stationary Spark Ignition Internal Combustion Engines	X			X
KKKK	Stationary Combustion Turbines	X			X
LLLL	New Sewage Sludge Incineration Units				
OOOO	Crude Oil and Natural Gas Production, Transmission, and Distribution				
QQQQ	Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces	X			
TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	X			

(viii) Delegations for Shasta County Air Quality Management District, Siskiyou County Air Pollution Control District, South Coast Air Quality Management District, and Tehama County Air Pollution Control District are shown in the following table:

Delegation Status for New Source Performance Standards for Shasta County AQMD, Siskiyou County APCD, South Coast AQMD, and Tehama County APCD

	Subpart	Air pollution control agency			
		Shasta County AQMD	Siskiyou County APCD	South Coast AQMD	Tehama County APCD
A	General Provisions	X	X	X	
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971	X		X	
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978			X	
Db	Industrial-Commercial-Institutional Steam Generating Units			X	
Dc	Small Industrial-Commercial-Institutional Steam Generating Units			X	
E	Incinerators	X		X	
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994			X	
Eb	Large Municipal Waste Combustors Constructed After September 20, 1994			X	
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996			X	
F	Portland Cement Plants	X		X	
G	Nitric Acid Plants	X		X	

	Subpart	Air pollution control agency			
		Shasta County AQMD	Siskiyou County APCD	South Coast AQMD	Tehama County APCD
Ga	Nitric Acid Plants For Which Construction, Reconstruction or Modification Commenced After October 14, 2011				
H	Sulfuric Acid Plant	X		X	
I	Hot Mix Asphalt Facilities	X		X	
J	Petroleum Refineries	X		X	
Ja	Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007			X	
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978	X		X	
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984			X	
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984			X	
L	Secondary Lead Smelters	X		X	
M	Secondary Brass and Bronze Production Plants	X		X	
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973	X		X	
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983			X	
O	Sewage Treatment Plants	X		X	
P	Primary Copper Smelters	X		X	
Q	Primary Zinc Smelters	X		X	
R	Primary Lead Smelters	X		X	
S	Primary Aluminum Reduction Plants	X		X	
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants	X		X	
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants	X		X	
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants	X		X	
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants	X		X	
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities	X		X	

Permit Issued: January 4, 2024
Permit Expires: January 4, 2029

12300053-101
Page 468 of 707

	Subpart	Air pollution control agency			
		Shasta County AQMD	Siskiyou County APCD	South Coast AQMD	Tehama County APCD
Y	Coal Preparation and Processing Plants	X		X	
Z	Ferroalloy Production Facilities	X		X	
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983	X		X	
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983			X	
BB	Kraft Pulp Mills	X		X	
CC	Glass Manufacturing Plants			X	
DD	Grain Elevators	X		X	
EE	Surface Coating of Metal Furniture			X	
FF	(Reserved)				
GG	Stationary Gas Turbines			X	
HH	Lime Manufacturing Plants	X		X	
KK	Lead-Acid Battery Manufacturing Plants			X	
LL	Metallic Mineral Processing Plants			X	
MM	Automobile and Light Duty Trucks Surface Coating Operations			X	
NN	Phosphate Rock Plants			X	
PP	Ammonium Sulfate Manufacture			X	
QQ	Graphic Arts Industry: Publication Rotogravure Printing			X	
RR	Pressure Sensitive Tape and Label Surface Coating Operations			X	
SS	Industrial Surface Coating: Large Appliances			X	
TT	Metal Coil Surface Coating			X	
UU	Asphalt Processing and Asphalt Roofing Manufacture			X	
VV	Equipment Leaks of VOC in the Synthetic Organic Industry Chemicals Manufacturing			X	
VVa	Equipment Leaks of VOC in the Synthetic Organic Industry for Which Construction, Reconstruction, or Chemicals Manufacturing Modification Commenced After November 7, 2006			X	
WW	Beverage Can Surface Coating Industry			X	

	Subpart	Air pollution control agency			
		Shasta County AQMD	Siskiyou County APCD	South Coast AQMD	Tehama County APCD
XX	Bulk Gasoline Terminals				
AAA	New Residential Wood Heaters		X	X	
BBB	Rubber Tire Manufacturing Industry		X	X	
CCC	(Reserved)				
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry			X	
EEE	(Reserved)				
FFF	Flexible Vinyl and Urethane Coating and Printing			X	
GGG	Equipment Leaks of VOC in Petroleum Refineries			X	
GGGa	Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006			X	
HHH	Synthetic Fiber Production Facilities			X	
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes			X	
JJJ	Petroleum Dry Cleaners			X	
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants			X	
LLL	Onshore Natural Gas Processing: SO ₂ Emissions			X	
MMM	(Reserved)				
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations			X	
OOO	Nonmetallic Mineral Processing Plants			X	
PPP	Wool Fiberglass Insulation Manufacturing Plants			X	
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems		X	X	
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes			X	
SSS	Magnetic Tape Coating Facilities		X	X	
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines		X	X	
UUU	Calciners and Dryers in Mineral Industries			X	

	Subpart	Air pollution control agency			
		Shasta County AQMD	Siskiyou County APCD	South Coast AQMD	Tehama County APCD
VVV	Polymeric Coating of Supporting Substrates Facilities			X	
WWW	Municipal Solid Waste Landfills			X	
AAAA	Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001	X	X	X	
CCCC	Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001			X	
EEEE	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			X	
GGGG	(Reserved)				
HHHH	(Reserved)				
IIII	Stationary Compression Ignition Internal Combustion Engines			X	
JJJJ	Stationary Spark Ignition Internal Combustion Engines			X	
KKKK	Stationary Combustion Turbines			X	
LLLL	New Sewage Sludge Incineration Units				
OOOO	Crude Oil and Natural Gas Production, Transmission, and Distribution				

(ix) Delegations for Tuolumne County Air Pollution Control District, Ventura County Air Pollution Control District, and Yolo-Solano Air Quality Management District are shown in the following table:

Table 11 to Paragraph (d)(2)(ix) - Delegation Status for New Source Performance Standards for Tuolumne County APCD, Ventura County APCD, and Yolo-Solano AQMD

	Subpart	Air pollution control agency		
		Tuolumne County APCD	Ventura County APCD	Yolo-Solano AQMD
A	General Provisions		X	X
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971		X	X
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978		X	

	Subpart	Air pollution control agency		
		Tuolumne County APCD	Ventura County APCD	Yolo-Solano AQMD
Db	Industrial-Commercial-Institutional Steam Generating Units		X	X
Dc	Small Industrial-Commercial-Institutional Steam Generating Units		X	
E	Incinerators		X	
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994		X	
Eb	Large Municipal Waste Combustors Constructed After September 20, 1994			
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996			
F	Portland Cement Plants		X	
G	Nitric Acid Plants		X	
H	Sulfuric Acid Plant		X	
I	Hot Mix Asphalt Facilities		X	X
J	Petroleum Refineries		X	X
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978		X	X
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984		X	
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984		X	
L	Secondary Lead Smelters		X	
M	Secondary Brass and Bronze Production Plants		X	
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973		X	
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983		X	
O	Sewage Treatment Plants		X	
P	Primary Copper Smelters		X	

	Subpart	Air pollution control agency		
		Tuolumne County APCD	Ventura County APCD	Yolo-Solano AQMD
Q	Primary Zinc Smelters		X	
R	Primary Lead Smelters		X	
S	Primary Aluminum Reduction Plants		X	
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants		X	
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants		X	
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants		X	
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants		X	
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities		X	
Y	Coal Preparation and Processing Plants		X	
Z	Ferroalloy Production Facilities		X	
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983		X	X
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983		X	
BB	Kraft Pulp Mills		X	
CC	Glass Manufacturing Plants		X	
DD	Grain Elevators		X	
EE	Surface Coating of Metal Furniture		X	
FF	(Reserved)			
GG	Stationary Gas Turbines		X	
HH	Lime Manufacturing Plants		X	
KK	Lead-Acid Battery Manufacturing Plants		X	
LL	Metallic Mineral Processing Plants		X	
MM	Automobile and Light Duty Trucks Surface Coating Operations		X	

	Subpart	Air pollution control agency		
		Tuolumne County APCD	Ventura County APCD	Yolo-Solano AQMD
NN	Phosphate Rock Plants		X	
PP	Ammonium Sulfate Manufacture		X	
QQ	Graphic Arts Industry: Publication Rotogravure Printing		X	
RR	Pressure Sensitive Tape and Label Surface Coating Operations		X	
SS	Industrial Surface Coating: Large Appliances		X	
TT	Metal Coil Surface Coating		X	
UU	Asphalt Processing and Asphalt Roofing Manufacture		X	
VV	Equipment Leaks of VOC in the Synthetic Organic Industry Chemicals Manufacturing		X	
WW	Beverage Can Surface Coating Industry		X	
XX	Bulk Gasoline Terminals			
AAA	New Residential Wood Heaters		X	
BBB	Rubber Tire Manufacturing Industry		X	
CCC	(Reserved)			
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry		X	
EEE	(Reserved)			
FFF	Flexible Vinyl and Urethane Coating and Printing		X	
GGG	Equipment Leaks of VOC in Petroleum Refineries		X	
GGGa	Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006			
HHH	Synthetic Fiber Production Facilities		X	
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes		X	
JJJ	Petroleum Dry Cleaners		X	
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants		X	

	Subpart	Air pollution control agency		
		Tuolumne County APCD	Ventura County APCD	Yolo-Solano AQMD
LLL	Onshore Natural Gas Processing: SO ₂ Emissions		X	
MMM	(Reserved)			
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations		X	
OOO	Nonmetallic Mineral Processing Plants		X	X
PPP	Wool Fiberglass Insulation Manufacturing Plants		X	
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems		X	
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes		X	
SSS	Magnetic Tape Coating Facilities		X	
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines		X	
UUU	Calciners and Dryers in Mineral Industries		X	
VVV	Polymeric Coating of Supporting Substrates Facilities		X	
WWW	Municipal Solid Waste Landfills	X	X	

(3) **Hawaii.** The following table identifies delegations for Hawaii:

Delegation Status for New Source Performance Standards for Hawaii:

Delegation Status for New Source Performance Standards for Hawaii

	Subpart	Hawaii
A	General Provisions	X
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971	X
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978	X
Db	Industrial-Commercial-Institutional Steam Generating Units	X
Dc	Small Industrial Steam Generating Units	X
E	Incinerators	X
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994	X

	Subpart	Hawaii
Eb	Municipal Waste Combustors Constructed After September 20, 1994	X
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996	X
F	Portland Cement Plants	X
G	Nitric Acid Plants	
H	Sulfuric Acid Plants	
I	Hot Mix Asphalt Facilities	X
J	Petroleum Refineries	X
Ja	Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007	
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978	X
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	X
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	X
L	Secondary Lead Smelters	
M	Secondary Brass and Bronze Production Plants	
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973	
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983	
O	Sewage Treatment Plants	X
P	Primary Copper Smelters	
Q	Primary Zinc Smelters	
R	Primary Lead Smelters	
S	Primary Aluminum Reduction Plants	
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants	
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants	
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants	
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants	
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities	
Y	Coal Preparation Plants	X
Z	Ferroalloy Production Facilities	

	Subpart	Hawaii
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983	X
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983	X
BB	Kraft pulp Mills	
CC	Glass Manufacturing Plants	
DD	Grain Elevators	
EE	Surface Coating of Metal Furniture	
FF	(Reserved)	
GG	Stationary Gas Turbines	X
HH	Lime Manufacturing Plants	
KK	Lead-Acid Battery Manufacturing Plants	
LL	Metallic Mineral Processing Plants	
MM	Automobile and Light Duty Trucks Surface Coating Operations	
NN	Phosphate Rock Plants	
PP	Ammonium Sulfate Manufacture	
QQ	Graphic Arts Industry: Publication Rotogravure Printing	
RR	Pressure Sensitive Tape and Label Surface Coating Operations	
SS	Industrial Surface Coating: Large Appliances	
TT	Metal Coil Surface Coating	
UU	Asphalt Processing and Asphalt Roofing Manufacture	
VV	Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry	X
VVa	Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006	
WW	Beverage Can Surface Coating Industry	X
XX	Bulk Gasoline Terminals	X
AAA	New Residential Wool Heaters	
BBB	Rubber Tire Manufacturing Industry	
CCC	(Reserved)	
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry	
EEE	(Reserved)	
FFF	Flexible Vinyl and Urethane Coating and Printing	

	Subpart	Hawaii
GGG	Equipment Leaks of VOC in Petroleum Refineries	X
GGGa	Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006	
HHH	Synthetic Fiber Production Facilities	
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	
JJJ	Petroleum Dry Cleaners	X
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants	
LLL	Onshore Natural Gas Processing: SO ₂ Emissions	
MMM	(Reserved)	
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations	X
OOO	Nonmetallic Mineral Processing Plants	X
PPP	Wool Fiberglass Insulation Manufacturing Plants	
QQQ	VOC Emissions From Petroleum Refinery Wastewater	X
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	
SSS	Magnetic Tape Coating Facilities	
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	
UUU	Calciners and Dryers in Mineral Industries	X
VVV	Polymeric Coating of Supporting Substrates Facilities	X
WWW	Municipal Solid Waste Landfills	X
AAAA	Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001	X
CCCC	Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001	X
EEEE	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	
GGGG	(Reserved)	
IIII	Stationary Compression Ignition Internal Combustion Engines	
JJJJ	Stationary Spark Ignition Internal Combustion Engines	
KKKK	Stationary Combustion Turbines	

(4) **Nevada.** The following table identifies delegations for Nevada:

Table 12 to Paragraph (d)(4) - Delegation Status for New Source Performance Standards for Nevada

	Subpart	Air pollution control agency		
		Nevada DEP	Clark County	Washoe County
A	General Provisions	X	X	X
Cf	Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills	X		
D	Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971	X	X	X
Da	Electric Utility Steam Generating Units Constructed After September 18, 1978	X	X	
Db	Industrial-Commercial-Institutional Steam Generating Units	X	X	
Dc	Small Industrial-Commercial-Institutional Steam Generating Units	X	X	
E	Incinerators	X	X	X
Ea	Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994	X	X	
Eb	Large Municipal Waste Combustors Constructed After September 20, 1994	X	X	
Ec	Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996	X	X	
F	Portland Cement Plants	X	X	X
G	Nitric Acid Plants	X	X	
Ga	Nitric Acid Plants For Which Construction, Reconstruction or Modification Commenced After October 14, 2011	X		
H	Sulfuric Acid Plant	X	X	
I	Hot Mix Asphalt Facilities	X	X	X
J	Petroleum Refineries	X	X	
Ja	Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007	X		
K	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978	X	X	X
Ka	Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	X	X	X
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	X	X	
L	Secondary Lead Smelters	X	X	X

	Subpart	Air pollution control agency		
		Nevada DEP	Clark County	Washoe County
M	Secondary Brass and Bronze Production Plants	X	X	
N	Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973	X	X	
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983	X	X	
O	Sewage Treatment Plants	X	X	X
P	Primary Copper Smelters	X	X	X
Q	Primary Zinc Smelters	X	X	X
R	Primary Lead Smelters	X	X	X
S	Primary Aluminum Reduction Plants	X	X	
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants		X	
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants		X	
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants		X	
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants		X	
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities		X	
Y	Coal Preparation and Processing Plants	X	X	X
Z	Ferroalloy Production Facilities	X	X	
AA	Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983	X	X	
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983	X	X	
BB	Kraft Pulp Mills		X	
CC	Glass Manufacturing Plants	X	X	
DD	Grain Elevators	X	X	X
EE	Surface Coating of Metal Furniture	X	X	X
FF	(Reserved)			
GG	Stationary Gas Turbines	X	X	X
HH	Lime Manufacturing Plants	X	X	X
KK	Lead-Acid Battery Manufacturing Plants	X	X	X

	Subpart	Air pollution control agency		
		Nevada DEP	Clark County	Washoe County
LL	Metallic Mineral Processing Plants	X	X	X
MM	Automobile and Light Duty Trucks Surface Coating Operations	X	X	X
NN	Phosphate Rock Plants	X	X	X
PP	Ammonium Sulfate Manufacture	X	X	
QQ	Graphic Arts Industry: Publication Rotogravure Printing	X	X	X
RR	Pressure Sensitive Tape and Label Surface Coating Operations	X	X	
SS	Industrial Surface Coating: Large Appliances	X	X	X
TT	Metal Coil Surface Coating	X	X	X
UU	Asphalt Processing and Asphalt Roofing Manufacture	X	X	X
VV	Equipment Leaks of VOC in the Synthetic Organic Industry Chemicals Manufacturing	X	X	X
VVa	Equipment Leaks of VOC in the Synthetic Organic Industry for Which Construction, Reconstruction, or Chemicals Manufacturing Modification Commenced After November 7, 2006	X	X	
WW	Beverage Can Surface Coating Industry	X	X	
XX	Bulk Gasoline Terminals	X	X	
AAA	New Residential Wood Heaters		X	
BBB	Rubber Tire Manufacturing Industry	X	X	
CCC	(Reserved)			
DDD	Volatile Organic Compounds (VOC) Emissions from the Polymer Manufacturing Industry	X	X	
EEE	(Reserved)			
FFF	Flexible Vinyl and Urethane Coating and Printing	X	X	
GGG	Equipment Leaks of VOC in Petroleum Refineries	X	X	
GGGa	Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006	X	X	
HHH	Synthetic Fiber Production Facilities	X	X	
III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	X	X	
JJJ	Petroleum Dry Cleaners	X	X	X
KKK	Equipment Leaks of VOC From Onshore Natural Gas Processing Plants	X	X	

	Subpart	Air pollution control agency		
		Nevada DEP	Clark County	Washoe County
LLL	Onshore Natural Gas Processing: SO ₂ Emissions	X	X	
MMM	(Reserved)			
NNN	Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations	X	X	
OOO	Nonmetallic Mineral Processing Plants	X	X	
PPP	Wool Fiberglass Insulation Manufacturing Plants	X	X	
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems	X	X	
RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	X	X	
SSS	Magnetic Tape Coating Facilities	X	X	
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	X	X	X
UUU	Calciners and Dryers in Mineral Industries	X	X	X
VVV	Polymeric Coating of Supporting Substrates Facilities	X	X	X
WWW	Municipal Solid Waste Landfills	X	X	X
XXX	Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification after July 17, 2014	X		
AAAA	Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001	X	X	X
CCCC	Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001	X	X	X
EEEE	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	X	X	X
GGGG	(Reserved)			
HHHH	(Reserved)			
IIII	Stationary Compression Ignition Internal Combustion Engines	X	X	X
JJJJ	Stationary Spark Ignition Internal Combustion Engines	X	X	X
KKKK	Stationary Combustion Turbines	X	X	X
LLLL	New Sewage Sludge Incineration Units		X	
OOOO	Crude Oil and Natural Gas Production, Transmission, and Distribution	X		

(5) **Guam.** The following table identifies delegations as of June 15, 2001:

Delegation Status for New Source Performance Standards for Guam

Subpart	Guam
A General Provisions	X
D Fossil-Fuel Fired Steam Generators Constructed After August 17, 1971	X
Da Electric Utility Steam Generating Units Constructed After September 18, 1978	
Db Industrial-Commercial-Institutional Steam Generating Units	
Dc Small Industrial Steam Generating Units	
E Incinerators	
Ea Municipal Waste Combustors Constructed After December 20, 1989 and On or Before September 20, 1994	
Eb Municipal Waste Combustors Constructed After September 20, 1994	
Ec Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996	
F Portland Cement Plants	X
G Nitric Acid Plants	
H Sulfuric Acid Plants	
I Hot Mix Asphalt Facilities	X
J Petroleum Refineries	X
K Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978	X

(e) The following lists the specific part 60 standards that have been delegated unchanged to the air pollution control agencies in Region 6.

(1) **New Mexico.** The New Mexico Environment Department has been delegated all part 60 standards promulgated by the EPA, except subpart AAA - Standards of Performance for New Residential Wood Heaters; and subpart QQQQ - Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces, as amended in the Federal Register through January 15, 2017.

(2) **Louisiana.** The Louisiana Department of Environmental Quality has been delegated all part 60 standards promulgated by EPA, except subpart AAA - Standards of Performance for New Residential Wood Heaters, as amended in the Federal Register through July 1, 2013.

Delegation Status for Part 60 Standards - State of Louisiana

[Excluding Indian Country]

Subpart	Source category	LDEQ ¹
A	General Provisions	Yes
Ce	Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators	Yes
D	Fossil Fueled Steam Generators (>250 MM BTU/hr)	Yes

Subpart	Source category	LDEQ ¹
Da	Electric Utility Steam Generating Units (>250 MM BTU/hr)	Yes
Db	Industrial-Commercial-Institutional Steam Generating Units (100 to 250 MM BTU/hr)	Yes
Dc	Industrial-Commercial-Institutional Small Steam Generating Units (10 to 100 MM BTU/hr)	Yes
E	Incinerators (>50 tons per day)	Yes
Ea	Municipal Waste Combustors	Yes
Eb	Large Municipal Waste Combustors	Yes
Ec	Hospital/Medical/Infectious Waste Incinerators	Yes
F	Portland Cement Plants	Yes
G	Nitric Acid Plants	Yes
Ga	Nitric Acid Plants (after October 14, 2011)	Yes
H	Sulfuric Acid Plants	Yes
I	Hot Mix Asphalt Facilities	Yes
J	Petroleum Refineries	Yes
Ja	Petroleum Refineries (After May 14, 2007)	Yes
K	Storage Vessels for Petroleum Liquids (After 6/11/73 & Before 5/19/78)	Yes
Ka	Storage Vessels for Petroleum Liquids (After 6/11/73 & Before 5/19/78)	Yes
Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Stg/Vessels) After 7/23/84	Yes
L	Secondary Lead Smelters Yes	Yes
M	Secondary Brass and Bronze Production Plants	Yes
N	Primary Emissions from Basic Oxygen Process Furnaces (Construction Commenced After June 11, 1973)	Yes
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Facilities Construction is Commenced After January 20, 1983	Yes
O	Sewage Treatment Plants	Yes
P	Primary Copper Smelters	Yes
Q	Primary Zinc Smelters	Yes
R	Primary Lead Smelters	Yes
S	Primary Aluminum Reduction Plants	Yes
T	Phosphate Fertilizer Industry: Wet Process Phosphoric Plants	Yes
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants	Yes
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants	Yes

Subpart	Source category	LDEQ ¹
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants	Yes
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities	Yes
Y	Coal Preparation Plants	Yes
Z	Ferroalloy Production Facilities	Yes
AA	Steel Plants: Electric Arc Furnaces After 10/21/74 & On or Before 8/17/83	Yes
AAa	Steel Plants: Electric Arc Furnaces & Argon-Oxygen Decarburization Vessels After 8/07/83	Yes
BB	Kraft Pulp Mills	Yes
CC	Glass Manufacturing Plants	Yes
DD	Grain Elevators	Yes
EE	Surface Coating of Metal Furniture	Yes
GG	Stationary Gas Turbines	Yes
HH	Lime Manufacturing Plants	Yes
KK	Lead-Acid Battery Manufacturing Plants	Yes
LL	Metallic Mineral Processing Plants	Yes
MM	Automobile & Light Duty Truck Surface Coating Operations	Yes
NN	Phosphate Manufacturing Plants	Yes
PP	Ammonium Sulfate Manufacture	Yes
QQ	Graphic Arts Industry: Publication Rotogravure Printing	Yes
RR	Pressure Sensitive Tape and Label Surface Coating Operations	Yes
SS	Industrial Surface Coating: Large Appliances	Yes
TT	Metal Coil Surface Coating	Yes
UU	Asphalt Processing and Asphalt Roofing Manufacture	Yes
VV	VOC Equipment Leaks in the SOCM I Industry	Yes
VVa	VOC Equipment Leaks in the SOCM I Industry (After November 7, 2006)	Yes
XX	Bulk Gasoline Terminals	Yes
AAA	New Residential Wood Heaters	No
BBB	Rubber Tire Manufacturing Industry	Yes
DDD	Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry	Yes
FFF	Flexible Vinyl and Urethane Coating and Printing	Yes

Subpart	Source category	LDEQ ¹
GGG	VOC Equipment Leaks in Petroleum Refineries	Yes
HHH	Synthetic Fiber Production	Yes
III	VOC Emissions from the SOCM I Air Oxidation Unit Processes	Yes
JJJ	Petroleum Dry Cleaners	Yes
KKK	VOC Equipment Leaks From Onshore Natural Gas Processing Plants	Yes
LLL	Onshore Natural Gas Processing: SO ₂ Emissions	Yes
NNN	VOC Emissions from SOCM I Distillation Operations	Yes
OOO	Nonmetallic Mineral Processing Plants	Yes
PPP	Wool Fiberglass Insulation Manufacturing Plants	Yes
QQQ	VOC Emissions From Petroleum Refinery Wastewater Systems	Yes
RRR	VOC Emissions from SOCM I Reactor Processes	Yes
SSS	Magnetic Tape Coating Operations	Yes
TTT	Industrial Surface Coating: Plastic Parts for Business Machines	Yes
UUU	Calciners and Dryers in Mineral Industries	Yes
VVV	Polymeric Coating of Supporting Substrates Facilities	Yes
WWW	Municipal Solid Waste Landfills	Yes
AAAA	Small Municipal Waste Combustion Units (Construction is Commenced After 8/30/99 or Modification/Reconstruction is Commenced After 6/06/2001)	Yes
CCCC	Commercial & Industrial Solid Waste Incineration Units (Construction is Commenced After 11/30/1999 or Modification/Reconstruction is Commenced on or After 6/01/2001)	Yes
DDDD	Emission Guidelines & Compliance Times for Commercial & Industrial Solid Waste Incineration Units (Commenced Construction On or Before 11/30/1999)	Yes
EEEE	Other Solid Waste Incineration Units (Constructed after 12/09/2004 or Modification/Reconstruction is commenced on or after 06/16/2004)	Yes
IIII	Stationary Compression Ignition Internal Combustion Engines	Yes
JJJJ	Stationary Spark Ignition Internal Combustion Engines	Yes
KKKK	Stationary Combustion Turbines (Construction Commenced After 02/18/2005)	Yes
LLLL	New Sewage Sludge Incineration Units	Yes
MMMM	Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units	Yes
OOOO	Crude Oil and Natural Gas Production, Transmission and Distribution	Yes

¹ The Louisiana Department of Environmental Quality (LDEQ) has been delegated all Part 60 standards promulgated by EPA, except subpart AAA - Standards of Performance for New Residential Wood Heaters - as amended in the Federal Register through July 1, 2013.

(3) **Albuquerque-Bernalillo County Air Quality Control Board.** The Albuquerque-Bernalillo County Air Quality Control Board has been delegated all part 60 standards promulgated by the EPA, except subpart AAA of this part and subpart QQQQ of this part as amended through January 23, 2017.

Editorial Note: For Federal Register citations affecting § 60.4, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.govinfo.gov.

§ 60.5 Determination of construction or modification.

- (a) When requested to do so by an owner or operator, the Administrator will make a determination of whether action taken or intended to be taken by such owner or operator constitutes construction (including reconstruction) or modification or the commencement thereof within the meaning of this part.
- (b) The Administrator will respond to any request for a determination under paragraph (a) of this section within 30 days of receipt of such request.

§ 60.6 Review of plans.

- (a) When requested to do so by an owner or operator, the Administrator will review plans for construction or modification for the purpose of providing technical advice to the owner or operator.
- (b)
 - (1) A separate request shall be submitted for each construction or modification project.
 - (2) Each request shall identify the location of such project, and be accompanied by technical information describing the proposed nature, size, design, and method of operation of each affected facility involved in such project, including information on any equipment to be used for measurement or control of emissions.
- (c) Neither a request for plans review nor advice furnished by the Administrator in response to such request shall
 - (1) relieve an owner or operator of legal responsibility for compliance with any provision of this part or of any applicable State or local requirement, or
 - (2) prevent the Administrator from implementing or enforcing any provision of this part or taking any other action authorized by the Act.

§ 60.7 Notification and record keeping.

- (a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification or, if acceptable to both the Administrator and the owner or operator of a source, electronic notification, as follows:
 - (1) A notification of the date construction (or reconstruction as defined under § 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
 - (2) [Reserved]

(3) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in § 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

(5) A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with § 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.

(6) A notification of the anticipated date for conducting the opacity observations required by § 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.

(7) A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by § 60.8 in lieu of Method 9 observation data as allowed by § 60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.

(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(c) Each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and-or summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with § 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(d) The summary report form shall contain the information and be in the format shown in figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in § 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in § 60.7(c) shall both be submitted.

Figure 1 - Summary Report - Gaseous and Opacity Excess Emission and Monitoring System Performance

Pollutant (Circle One - SO₂/NO_x/TRS/H₂S/CO/Opacity)

Reporting period dates: From _____ to _____

Company:

Emission Limitation

Address:

Monitor Manufacturer and Model No.

Date of Latest CMS Certification or Audit

Process Unit(s) Description:

Total source operating time in reporting period¹

Emission data summary ¹	CMS performance summary ¹
1. Duration of excess emissions in reporting period due to: a. Startup/shutdown b. Control equipment problems c. Process problems d. Other known causes e. Unknown causes 2. Total duration of excess emission 3. Total duration of excess emissions × (100) [Total source operating time] ²	1. CMS downtime in reporting period due to: a. Monitor equipment malfunctions b. Non-Monitor equipment malfunctions c. Quality assurance calibration d. Other known causes e. Unknown causes 2. Total CMS Downtime 3. [Total CMS Downtime] × (100) [Total source operating time] ²

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in § 60.7(c) shall be submitted.

On a separate page, describe any changes since last quarter in CMS, process or controls. I certify that the information contained in this report is true, accurate, and complete.

Name

Signature

Title

Date

(e)(1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the

disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.

(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows:

(1) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(2) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(3) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (f) of this section, if the Administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(g) If notification substantially similar to that in paragraph (a) of this section is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of paragraph (a) of this section.

(h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

§ 60.8 Performance tests.

(a) Except as specified in paragraphs (a)(1), (a)(2), (a)(3), and (a)(4) of this section, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, or at such other times specified by this part, and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

(1) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure, the owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall occur as soon as practicable.

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

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

(4) Until an extension of the performance test deadline has been approved by the Administrator under paragraphs (a)(1), (2), and (3) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator

(1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology,

(2) approves the use of an equivalent method,

(3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance,

(4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or

(5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Administrator (or delegated State or local agency) as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator (or delegated State or local agency) by mutual agreement.

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

- (1) Sampling ports adequate for test methods applicable to such facility. This includes
 - (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and
 - (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- (2) Safe sampling platform(s).
- (3) Safe access to sampling platform(s).
- (4) Utilities for sampling and testing equipment.

(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method.

(1) Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(2) Contents of report (electronic or paper submitted copy). Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, the report for a

performance test shall include the elements identified in paragraphs (f)(2)(i) through (vi) of this section.

- (i) General identification information for the facility including a mailing address, the physical address, the owner or operator or responsible official (where applicable) and his/her email address, and the appropriate Federal Registry System (FRS) number for the facility.
- (ii) Purpose of the test including the applicable regulation(s) requiring the test, the pollutant(s) and other parameters being measured, the applicable emission standard and any process parameter component, and a brief process description.
- (iii) Description of the emission unit tested including fuel burned, control devices, and vent characteristics; the appropriate source classification code (SCC); the permitted maximum process rate (where applicable); and the sampling location.
- (iv) Description of sampling and analysis procedures used and any modifications to standard procedures, quality assurance procedures and results, record of process operating conditions that demonstrate the applicable test conditions are met, and values for any operating parameters for which limits were being set during the test.
- (v) Where a test method requires you record or report, the following shall be included: Record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, chain-of-custody documentation, and example calculations for reported results.
- (vi) Identification of the company conducting the performance test including the primary office address, telephone number, and the contact for this test program including his/her email address.

(g) The performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Gaseous audit samples are designed to audit the performance of the sampling system as well as the analytical system and must be collected by the sampling system during the compliance test just as the compliance samples are collected. If a liquid or solid audit sample is designed to audit the sampling system, it must also be collected by the sampling system during the compliance test. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the compliance authority may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. Acceptance of the test results shall constitute a waiver of the reanalysis requirement, further audits, or retests. The compliance authority may also use the audit sample failure and the compliance test results as evidence to determine the compliance or noncompliance status of the affected facility. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. For pollutants that exist in the gas phase at ambient temperature, the audit sample

shall consist of an appropriate concentration of the pollutant in air or nitrogen that can be introduced into the sampling system of the test method at or near the same entry point as a sample from the emission source. If no gas phase audit samples are available, an acceptable alternative is a sample of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. For samples that exist only in a liquid or solid form at ambient temperature, the audit sample shall consist of an appropriate concentration of the pollutant in the same matrix that would be produced when the sample is recovered from the sampling system as required by the test method. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

(1) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3A and 3C of appendix A-3 of part 60, Methods 6C, 7E, 9, and 10 of appendix A-4 of part 60, Methods 18 and 19 of appendix A-6 of part 60, Methods 20, 22, and 25A of appendix A-7 of part 60, Methods 30A and 30B of appendix A-8 of part 60, and Methods 303, 318, 320, and 321 of appendix A of part 63 of this chapter. If multiple sources at a single facility are tested during a compliance test event, only one audit sample is required for each method used during a compliance test. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary. "Commercially available" means that two or more independent AASPs have blind audit samples available for purchase. If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, www.epa.gov/ttn/emc, to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test. When ordering an audit sample, the source owner, operator, or representative shall give the sample provider an estimate for the concentration of each pollutant that is emitted by the source or the estimated concentration of each pollutant based on the permitted level and the name, address, and phone number of the compliance authority. The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the AASP. If the method being audited is a method that allows the samples to be analyzed in the field and the tester plans to analyze the samples in the field, the tester may analyze the audit samples prior to collecting the emission samples provided a representative of the compliance authority is present at the testing site. The tester may request and the compliance authority may grant a waiver to the requirement that a representative of the compliance authority must be present at the testing site during the field analysis of an audit sample. The source owner, operator, or representative may report the results of the audit sample to the compliance authority and report the results of the audit sample to the AASP prior to collecting any emission samples. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

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

- (i) Preparing the sample;
- (ii) Confirming the true concentration of the sample;
- (iii) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range.
- (iv) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;
- (v) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;
- (vi) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;
- (vii) The AASP shall report the results from each audit sample in a timely manner to the compliance authority and then to the source owner, operator, or representative. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.
- (viii) Evaluating the acceptance limits of samples at least once every two years to determine in cooperation with the voluntary consensus standard body if they should be changed;
- (ix) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.

(3) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that

describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:

- (i) Checking audit samples to confirm their true value as reported by the AASP;
- (ii) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years;
- (iii) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.

(4) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget Circular A-119. A copy of Circular A-119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395-6880 or downloading online at http://standards.gov/standards__gov/a119.cfm. The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in paragraphs (g)(2) through (4) of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, <http://www.epa.gov/ttn/emc>.

(h) Unless otherwise specified in the applicable subpart, each test location must be verified to be free of cyclonic flow and evaluated for the existence of emission gas stratification and the required number of sampling traverse points. If other procedures are not specified in the applicable subpart to the regulations, use the appropriate procedures in Method 1 to check for cyclonic flow and Method 7E to evaluate emission gas stratification and selection of sampling points.

- (i) Whenever the use of multiple calibration gases is required by a test method, performance specification, or quality assurance procedure in a part 60 standard or appendix, Method 205 of 40 CFR part 51, appendix M of this chapter, "Verification of Gas Dilution Systems for Field Instrument Calibrations," may be used.

§ 60.9 Availability of information.

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. (Information submitted voluntarily to the Administrator for the purposes of §§ 60.5 and 60.6 is governed by §§ 2.201 through 2.213 of this chapter and not by § 2.301 of this chapter.)

§ 60.10 State authority.

The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from:

- (a) Adopting and enforcing any emission standard or limitation applicable to an affected facility, provided that such emission standard or limitation is not less stringent than the standard applicable to such facility.

(b) Requiring the owner or operator of an affected facility to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such facility.

§ 60.11 Compliance with standards and maintenance requirements.

(a) Compliance with standards in this part, other than opacity standards, shall be determined in accordance with performance tests established by § 60.8, unless otherwise specified in the applicable standard.

(b) Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in paragraph (e)(5) of this section. For purposes of determining initial compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test or other set of observations (meaning those fugitive-type emission sources subject only to an opacity standard).

(c) The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e) (1) For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in § 60.8 unless one of the following conditions apply. If no performance test under § 60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility. If visibility or other conditions prevent the opacity observations from being conducted concurrently with the initial performance test required under § 60.8, the source owner or operator shall reschedule the opacity observations as soon after the initial performance test as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. In these cases, the 30-day prior notification to the Administrator required in § 60.7(a)(6) shall be waived. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under § 60.8. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from being made concurrently with the initial performance test in accordance with procedures contained in Method 9 of appendix B of this part. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The owner or operator of an affected facility shall make available, upon request by the Administrator, such records as may be necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification. Except as provided in paragraph (e)(5) of this section, the results of continuous monitoring by transmissometer which indicate that the opacity at the time visual

observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation) Performance Specification 1 in appendix B of this part, has been properly maintained and (at the time of the alleged violation) that the resulting data have not been altered in any way.

(2) Except as provided in paragraph (e)(3) of this section, the owner or operator of an affected facility to which an opacity standard in this part applies shall conduct opacity observations in accordance with paragraph (b) of this section, shall record the opacity of emissions, and shall report to the Administrator the opacity results along with the results of the initial performance test required under § 60.8. The inability of an owner or operator to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial performance test.

(3) The owner or operator of an affected facility to which an opacity standard in this part applies may request the Administrator to determine and to record the opacity of emissions from the affected facility during the initial performance test and at such times as may be required. The owner or operator of the affected facility shall report the opacity results. Any request to the Administrator to determine and to record the opacity of emissions from an affected facility shall be included in the notification required in § 60.7(a)(6). If, for some reason, the Administrator cannot determine and record the opacity of emissions from the affected facility during the performance test, then the provisions of paragraph (e)(1) of this section shall apply.

(4) An owner or operator of an affected facility using a continuous opacity monitor (transmissometer) shall record the monitoring data produced during the initial performance test required by § 60.8 and shall furnish the Administrator a written report of the monitoring results along with Method 9 and § 60.8 performance test results.

(5) An owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under § 60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under § 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under § 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under § 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under § 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in § 60.13(c) of this part, that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine compliance with the opacity standard.

(6) Upon receipt from an owner or operator of the written reports of the results of the performance tests required by § 60.8, the opacity observation results and observer certification required by § 60.11(e)(1), and the COMS results, if applicable, the Administrator will make a finding concerning compliance with opacity and other applicable standards. If COMS data results are used to comply with an opacity standard, only those results are required to be submitted along with the performance test results required by § 60.8. If the Administrator finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with § 60.8 of this part but during the time such performance tests are being conducted fails to meet any applicable opacity standard, he shall notify the owner or operator and advise him that he may petition the Administrator within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.

(7) The Administrator will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under the conditions established by the Administrator; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.

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

(f) Special provisions set forth under an applicable subpart shall supersede any conflicting provisions in paragraphs (a) through (e) of this section.

(g) For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

§ 60.12 Circumvention.

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

§ 60.13 Monitoring requirements.

(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B to this part and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to this part,

unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.

(b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under § 60.8. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

(c) If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under § 60.11(e)(5), he shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, appendix B, of this part before the performance test required under § 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under § 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of this part. The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under § 60.8 and as described in § 60.11(e)(5) shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in paragraph (c) of this section at least 10 days before the performance test required under § 60.8 is conducted.

(2) Except as provided in paragraph (c)(1) of this section, the owner or operator of an affected facility shall furnish the Administrator within 60 days of completion two or, upon request, more copies of a written report of the results of the performance evaluation.

(d) (1) Owners and operators of a CEMS installed in accordance with the provisions of this part, must check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once each operating day in accordance with a written procedure. The zero and span must, at a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable performance specification in appendix B of this part. The system must allow the amount of the excess zero and span drift to be recorded and quantified whenever specified. Owners and operators of a COMS installed in accordance with the provisions of this part must check the zero and upscale (span) calibration drifts at least once daily. For a particular COMS, the acceptable range of zero and upscale calibration materials is defined in the applicable version of PS-1 in appendix B of this part. For a COMS, the optical surfaces, exposed to the effluent gases, must be cleaned before performing the zero and upscale drift adjustments, except for systems using automatic zero adjustments. The optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures must be followed for a COMS. Minimum procedures must include an automated method for producing a simulated zero opacity condition and an upscale opacity condition using a certified neutral density filter or other related technique to produce a known obstruction of the light beam. Such procedures must provide a system check of all active analyzer internal optics with power or curvature, all active electronic circuitry

including the light source and photodetector assembly, and electronic or electro-mechanical systems and hardware and or software used during normal measurement operation.

(e) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under paragraph (d) of this section, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by paragraph (c) of this section for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by paragraph (c) of this section for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(f) All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of this part shall be used.

(g) When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Administrator. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system.

(h) (1) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in § 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period.

(2) For continuous monitoring systems other than opacity, 1-hour averages shall be computed as follows, except that the provisions pertaining to the validation of partial operating hours are only applicable for affected facilities that are required by the applicable subpart to include partial hours in the emission calculations:

(i) Except as provided under paragraph (h)(2)(iii) of this section, for a full operating hour (any clock hour with 60 minutes of unit operation), at least four valid data points are required to calculate the hourly average, *i.e.*, one data point in each of the 15-minute quadrants of the hour.

(ii) Except as provided under paragraph (h)(2)(iii) of this section, for a partial operating hour (any clock hour with less than 60 minutes of unit operation), at least one valid data point in

each 15-minute quadrant of the hour in which the unit operates is required to calculate the hourly average.

(iii) For any operating hour in which required maintenance or quality-assurance activities are performed:

(A) If the unit operates in two or more quadrants of the hour, a minimum of two valid data points, separated by at least 15 minutes, is required to calculate the hourly average; or

(B) If the unit operates in only one quadrant of the hour, at least one valid data point is required to calculate the hourly average.

(iv) If a daily calibration error check is failed during any operating hour, all data for that hour shall be invalidated, unless a subsequent calibration error test is passed in the same hour and the requirements of paragraph (h)(2)(iii) of this section are met, based solely on valid data recorded after the successful calibration.

(v) For each full or partial operating hour, all valid data points shall be used to calculate the hourly average.

(vi) Except as provided under paragraph (h)(2)(vii) of this section, data recorded during periods of continuous monitoring system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph.

(vii) Owners and operators complying with the requirements of § 60.7(f)(1) or (2) must include any data recorded during periods of monitor breakdown or malfunction in the data averages.

(viii) When specified in an applicable subpart, hourly averages for certain partial operating hours shall not be computed or included in the emission averages (e.g., hours with < 30 minutes of unit operation under § 60.47b(d)).

(ix) Either arithmetic or integrated averaging of all data may be used to calculate the hourly averages. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O₂ or ng/J of pollutant).

(3) All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the applicable subpart. After conversion into units of the standard, the data may be rounded to the same number of significant digits used in the applicable subpart to specify the emission limit.

(i) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following:

(1) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases.

(2) Alternative monitoring requirements when the affected facility is infrequently operated.

- (3) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.
 - (4) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.
 - (5) Alternative methods of converting pollutant concentration measurements to units of the standards.
 - (6) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.
 - (7) Alternatives to the A.S.T.M. test methods or sampling procedures specified by any subpart.
 - (8) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, appendix B, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The Administrator may require that such demonstration be performed for each affected facility.
 - (9) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities is released to the atmosphere through more than one point.
- (j) An alternative to the relative accuracy (RA) test specified in Performance Specification 2 of appendix B may be requested as follows:
- (1) An alternative to the reference method tests for determining RA is available for sources with emission rates demonstrated to be less than 50 percent of the applicable standard. A source owner or operator may petition the Administrator to waive the RA test in Section 8.4 of Performance Specification 2 and substitute the procedures in Section 16.0 if the results of a performance test conducted according to the requirements in § 60.8 of this subpart or other tests performed following the criteria in § 60.8 demonstrate that the emission rate of the pollutant of interest in the units of the applicable standard is less than 50 percent of the applicable standard. For sources subject to standards expressed as control efficiency levels, a source owner or operator may petition the Administrator to waive the RA test and substitute the procedures in Section 16.0 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the continuous emission monitoring system is used to determine compliance continuously with the applicable standard. The petition to waive the RA test shall include a detailed description of the procedures to be applied. Included shall be location and procedure for conducting the alternative, the concentration or response levels of the alternative RA materials, and the other equipment checks included in the alternative procedure. The Administrator will review the petition for completeness and applicability. The determination to grant a waiver will depend on the intended use of the CEMS data (e.g., data collection purposes other than NSPS) and may require specifications more stringent than in Performance Specification 2 (e.g., the applicable emission limit is more stringent than NSPS).
 - (2) The waiver of a CEMS RA test will be reviewed and may be rescinded at such time, following successful completion of the alternative RA procedure, that the CEMS data indicate that the source

emissions are approaching the level. The criterion for reviewing the waiver is the collection of CEMS data showing that emissions have exceeded 70 percent of the applicable standard for seven, consecutive, averaging periods as specified by the applicable regulation(s). For sources subject to standards expressed as control efficiency levels, the criterion for reviewing the waiver is the collection of CEMS data showing that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for seven, consecutive, averaging periods as specified by the applicable regulation(s) [e.g., §§ 60.45(g) (2) and (3), 60.73(e), and 60.84(e)]. It is the responsibility of the source operator to maintain records and determine the level of emissions relative to the criterion on the waiver of RA testing. If this criterion is exceeded, the owner or operator must notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increasing emissions. The Administrator will review the notification and may rescind the waiver and require the owner or operator to conduct a RA test of the CEMS as specified in Section 8.4 of Performance Specification 2.

§ 60.14 Modification.

- (a) Except as provided under paragraphs (e) and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.
- (b) Emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable. The Administrator shall use the following to determine emission rate:
 - (1) Emission factors as specified in the latest issue of "Compilation of Air Pollutant Emission Factors," EPA Publication No. AP-42, or other emission factors determined by the Administrator to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrates that the emission level resulting from the physical or operational change will either clearly increase or clearly not increase.
 - (2) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in paragraph (b)(1) of this section does not demonstrate to the Administrator's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Administrator's satisfaction that there are reasonable grounds to dispute the result obtained by the Administrator utilizing emission factors as referenced in paragraph (b)(1) of this section. When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in appendix C of this part shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

- (c) The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this part any other facility within that source.
- (d) [Reserved]
- (e) The following shall not, by themselves, be considered modifications under this part:
- (1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of paragraph (c) of this section and § 60.15.
 - (2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.
 - (3) An increase in the hours of operation.
 - (4) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, as provided by § 60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.
 - (5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Administrator determines to be less environmentally beneficial.
 - (6) The relocation or change in ownership of an existing facility.
- (f) Special provisions set forth under an applicable subpart of this part shall supersede any conflicting provisions of this section.
- (g) Within 180 days of the completion of any physical or operational change subject to the control measures specified in paragraph (a) of this section, compliance with all applicable standards must be achieved.
- (h) No physical change, or change in the method of operation, at an existing electric utility steam generating unit shall be treated as a modification for the purposes of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the 5 years prior to the change.
- (i) Repowering projects that are awarded funding from the Department of Energy as permanent clean coal technology demonstration projects (or similar projects funded by EPA) are exempt from the requirements of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the five years prior to the change.
- (j) (1) Repowering projects that qualify for an extension under section 409(b) of the Clean Air Act are exempt from the requirements of this section, provided that such change does not increase the actual hourly emissions of any pollutant regulated under this section above the actual hourly emissions achievable at that unit during the 5 years prior to the change.

(2) This exemption shall not apply to any new unit that:

- (i) Is designated as a replacement for an existing unit;
- (ii) Qualifies under section 409(b) of the Clean Air Act for an extension of an emission limitation compliance date under section 405 of the Clean Air Act; and
- (iii) Is located at a different site than the existing unit.

(k) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project is exempt from the requirements of this section. A *temporary clean coal control technology demonstration project*, for the purposes of this section is a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State implementation plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(l) The reactivation of a very clean coal-fired electric utility steam generating unit is exempt from the requirements of this section.

§ 60.15 Reconstruction.

(a) An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.

(b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:

- (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and
- (2) It is technologically and economically feasible to meet the applicable standards set forth in this part.

(c) "Fixed capital cost" means the capital needed to provide all the depreciable components.

(d) If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Administrator of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:

- (1) Name and address of the owner or operator.
- (2) The location of the existing facility.
- (3) A brief description of the existing facility and the components which are to be replaced.
- (4) A description of the existing air pollution control equipment and the proposed air pollution control equipment.
- (5) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.
- (6) The estimated life of the existing facility after the replacements.

- (7) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.
- (e) The Administrator will determine, within 30 days of the receipt of the notice required by paragraph (d) of this section and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.
- (f) The Administrator's determination under paragraph (e) shall be based on:
- (1) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;
 - (2) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;
 - (3) The extent to which the components being replaced cause or contribute to the emissions from the facility; and
 - (4) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.
- (g) Individual subparts of this part may include specific provisions which refine and delimit the concept of reconstruction set forth in this section.

§ 60.16 Priority list.

Prioritized Major Source Categories

Priority Number ¹	Source Category
1.	Synthetic Organic Chemical Manufacturing Industry (SOCMI) and Volatile Organic Liquid Storage Vessels and Handling Equipment (a) SOCMI unit processes (b) Volatile organic liquid (VOL) storage vessels and handling equipment (c) SOCMI fugitive sources (d) SOCMI secondary sources
2.	Industrial Surface Coating: Cans
3.	Petroleum Refineries: Fugitive Sources
4.	Industrial Surface Coating: Paper
5.	Dry Cleaning (a) Perchloroethylene (b) Petroleum solvent
6.	Graphic Arts
7.	Polymers and Resins: Acrylic Resins

Priority Number¹	Source Category
8.	Mineral Wool (Deleted)
9.	Stationary Internal Combustion Engines
10.	Industrial Surface Coating: Fabric
11.	Industrial-Commercial-Institutional Steam Generating Units.
12.	Incineration: Non-Municipal (Deleted)
13.	Non-Metallic Mineral Processing
14.	Metallic Mineral Processing
15.	Secondary Copper (Deleted)
16.	Phosphate Rock Preparation
17.	Foundries: Steel and Gray Iron
18.	Polymers and Resins: Polyethylene
19.	Charcoal Production
20.	Synthetic Rubber (a) Tire manufacture (b) SBR production
21.	Vegetable Oil
22.	Industrial Surface Coating: Metal Coil
23.	Petroleum Transportation and Marketing
24.	By-Product Coke Ovens
25.	Synthetic Fibers
26.	Plywood Manufacture
27.	Industrial Surface Coating: Automobiles
28.	Industrial Surface Coating: Large Appliances
29.	Crude Oil and Natural Gas Production
30.	Secondary Aluminum
31.	Potash (Deleted)
32.	Lightweight Aggregate Industry: Clay, Shale, and Slate ²
33.	Glass
34.	Gypsum

Priority Number¹	Source Category
35.	Sodium Carbonate
36.	Secondary Zinc (Deleted)
37.	Polymers and Resins: Phenolic
38.	Polymers and Resins: Urea-Melamine
39.	Ammonia (Deleted)
40.	Polymers and Resins: Polystyrene
41.	Polymers and Resins: ABS-SAN Resins
42.	Fiberglass
43.	Polymers and Resins: Polypropylene
44.	Textile Processing
45.	Asphalt Processing and Asphalt Roofing Manufacture
46.	Brick and Related Clay Products
47.	Ceramic Clay Manufacturing (Deleted)
48.	Ammonium Nitrate Fertilizer
49.	Castable Refractories (Deleted)
50.	Borax and Boric Acid (Deleted)
51.	Polymers and Resins: Polyester Resins
52.	Ammonium Sulfate
53.	Starch
54.	Perlite
55.	Phosphoric Acid: Thermal Process (Deleted)
56.	Uranium Refining
57.	Animal Feed Defluorination (Deleted)
58.	Urea (for fertilizer and polymers)
59.	Detergent (Deleted)

Other Source Categories

Lead acid battery manufacture³

Organic solvent cleaning³

Industrial surface coating: metal furniture³

Priority Number ¹	Source Category

Stationary gas turbines⁴

Municipal solid waste landfills⁴

¹ Low numbers have highest priority, e.g., No. 1 is high priority, No. 59 is low priority.

² Formerly titled "Sintering: Clay and Fly Ash".

³ Minor source category, but included on list since an NSPS is being developed for that source category.

⁴ Not prioritized, since an NSPS for this major source category has already been promulgated.

§ 60.17 Incorporations by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the EPA must publish notice of change in the Federal Register and the material must be available to the public. All approved material is available for inspection at the EPA Docket Center, Public Reading Room, EPA WJC West, Room 3334, 1301 Constitution Ave. NW., Washington, DC, telephone number 202-566-1744, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to www.archives.gov/federal-register/cfr/ibr-locations.html.

(b) American Gas Association, available through ILI Infodisk, 610 Winters Avenue, Paramus, New Jersey 07652:

(1) American Gas Association Report No. 3: Orifice Metering for Natural Gas and Other Related Hydrocarbon Fluids, Part 1: General Equations and Uncertainty Guidelines (1990), IBR approved for § 60.107a(d).

(2) American Gas Association Report No. 3: Orifice Metering for Natural Gas and Other Related Hydrocarbon Fluids, Part 2: Specification and Installation Requirements (2000), IBR approved for § 60.107a(d).

(3) American Gas Association Report No. 11: Measurement of Natural Gas by Coriolis Meter (2003), IBR approved for § 60.107a(d).

(4) American Gas Association Transmission Measurement Committee Report No. 7: Measurement of Gas by Turbine Meters (Revised February 2006), IBR approved for § 60.107a(d).

(c) American Hospital Association (AHA) Service, Inc., Post Office Box 92683, Chicago, Illinois 60675-2683. You may inspect a copy at the EPA's Air and Radiation Docket and Information Center (Docket A-91-61, Item IV-J-124), Room M-1500, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

(1) An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities. American Society for Health Care Environmental Services of the American Hospital Association. Chicago, Illinois. 1993. AHA Catalog No. 057007. ISBN 0-87258-673-5. IBR approved for §§ 60.35e and 60.55c.

(2) [Reserved]

(d) The following material is available for purchase from the American National Standards Institute (ANSI), 25 W. 43rd Street, 4th Floor, New York, NY 10036, Telephone (212) 642-4980, and is also available at the following Web site: <http://www.ansi.org>.

(1) ANSI No. C12.20-2010 American National Standard for Electricity Meters - 0.2 and 0.5 Accuracy Classes (Approved August 31, 2010), IBR approved for § 60.5535(d).

(2) [Reserved]

(e) American Petroleum Institute (API), 1220 L Street NW., Washington, DC 20005.

(1) API Publication 2517, Evaporation Loss from External Floating Roof Tanks, Second Edition, February 1980, IBR approved for §§ 60.111(i), 60.111a(f), and 60.116b(e).

(2) API Manual of Petroleum Measurement Standards, Chapter 14 - Natural Gas Fluids Measurement, Section 1 - Collecting and Handling of Natural Gas Samples for Custody Transfer, 7th Edition, May 2016, IBR approved for § 60.4415(a).

(3) API Manual of Petroleum Measurement Standards, Chapter 22 - Testing Protocol, Section 2 - Differential Pressure Flow Measurement Devices, First Edition, August 2005, IBR approved for § 60.107a(d).

(f) American Public Health Association, 1015 18th Street NW., Washington, DC 20036.

(1) "Standard Methods for the Examination of Water and Wastewater," 16th edition, 1985. Method 303F: "Determination of Mercury by the Cold Vapor Technique." Incorporated by reference for appendix A-8 to part 60, Method 29, §§ 9.2.3, 10.3, and 11.1.3.

(2) 2540 G. Total, Fixed, and Volatile Solids in Solid and Semisolid Samples, in Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, IBR approved for § 60.154(b).

(g) The following material is available for purchase from the American Society of Mechanical Engineers (ASME), Two Park Avenue, New York, NY 10016-5990, Telephone (800) 843-2763, and is also available at the following Web site: <http://www.asme.org>.

(1) ASME Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th Edition (1971), IBR approved for §§ 60.58a(h), 60.58b(i), 60.1320(a), and 60.1810(a).

(2) ASME MFC-3M-2004, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi, IBR approved for § 60.107a(d).

(3) ASME/ANSI MFC-4M-1986 (Reaffirmed 2008), Measurement of Gas Flow by Turbine Meters, IBR approved for § 60.107a(d).

(4) ASME/ANSI MFC-5M-1985 (Reaffirmed 2006), Measurement of Liquid Flow in Closed Conduits Using Transit-Time Ultrasonic Flowmeters, IBR approved for § 60.107a(d).

(5) ASME MFC-6M-1998 (Reaffirmed 2005), Measurement of Fluid Flow in Pipes Using Vortex Flowmeters, IBR approved for § 60.107a(d).

(6) ASME/ANSI MFC-7M-1987 (Reaffirmed 2006), Measurement of Gas Flow by Means of Critical Flow Venturi Nozzles, IBR approved for § 60.107a(d).

- (7) ASME/ANSI MFC-9M-1988 (Reaffirmed 2006), Measurement of Liquid Flow in Closed Conduits by Weighing Method, IBR approved for § 60.107a(d).
 - (8) ASME MFC-11M-2006, Measurement of Fluid Flow by Means of Coriolis Mass Flowmeters, IBR approved for § 60.107a(d).
 - (9) ASME MFC-14M-2003, Measurement of Fluid Flow Using Small Bore Precision Orifice Meters, IBR approved for § 60.107a(d).
 - (10) ASME MFC-16-2007, Measurement of Liquid Flow in Closed Conduits with Electromagnetic Flowmeters, IBR approved for § 60.107a(d).
 - (11) ASME MFC-18M-2001, Measurement of Fluid Flow Using Variable Area Meters, IBR approved for § 60.107a(d).
 - (12) ASME MFC-22-2007, Measurement of Liquid by Turbine Flowmeters, IBR approved for § 60.107a(d).
 - (13) ASME PTC 4.1-1964 (Reaffirmed 1991), Power Test Codes: Test Code for Steam Generating Units (with 1968 and 1969 Addenda), IBR approved for §§ 60.46b, 60.58a(h), 60.58b(i), 60.1320(a), and 60.1810(a).
 - (14) ASME/ANSI PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], (Issued August 31, 1981), IBR approved for §§ 60.56c(b), 60.63(f), 60.106(e), 60.104a(d), (h), (i), and (j), 60.105a(b), (d), (f), and (g), 60.106a(a), 60.107a(a), (c), and (d), tables 1 and 3 to subpart EEEE, tables 2 and 4 to subpart FFFF, table 2 to subpart JJJJ, §§ 60.285a(f), 60.4415(a), 60.2145(s) and (t), 60.2710(s) and (t), 60.2730(q), 60.4900(b), 60.5220(b), tables 1 and 2 to subpart LLLL, tables 2 and 3 to subpart MMMM, §§ 60.5406(c), 60.5406a(c), 60.5407a(g), 60.5413(b), 60.5413a(b), and 60.5413a(d).
 - (15) ASME PTC 22-2014, Gas Turbines: Performance Test Codes, (Issued December 31, 2014), IBR approved for § 60.5580.
 - (16) ASME PTC 46-1996, Performance Test Code on Overall Plant Performance, (Issued October 15, 1997), IBR approved for § 60.5580.
 - (17) ASME QRO-1-1994, Standard for the Qualification and Certification of Resource Recovery Facility Operators, IBR approved for §§ 60.54b(a) and (b), 60.56a, 60.1185(a) and (c), and 60.1675(a) and (c).
- (h) The following material is available for purchase from ASTM International, 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428-2959, (800) 262-1373, <http://www.astm.org>.
- (1) ASTM A99-76, Standard Specification for Ferromanganese, IBR approved for § 60.261.
 - (2) ASTM A99-82 (Reapproved 1987), Standard Specification for Ferromanganese, IBR approved for § 60.261.
 - (3) ASTM A100-69, Standard Specification for Ferrosilicon, IBR approved for § 60.261.
 - (4) ASTM A100-74, Standard Specification for Ferrosilicon, IBR approved for § 60.261.
 - (5) ASTM A100-93, Standard Specification for Ferrosilicon, IBR approved for § 60.261.
 - (6) ASTM A101-73, Standard Specification for Ferrochromium, IBR approved for § 60.261.

- (7) ASTM A101-93, Standard Specification for Ferrochromium, IBR approved for § 60.261.
- (8) ASTM A482-76, Standard Specification for Ferrochromesilicon, IBR approved for § 60.261.
- (9) ASTM A482-93, Standard Specification for Ferrochromesilicon, IBR approved for § 60.261.
- (10) ASTM A483-64, Standard Specification for Silicomanganese, IBR approved for § 60.261.
- (11) ASTM A483-74 (Reapproved 1988), Standard Specification for Silicomanganese, IBR approved for § 60.261.
- (12) ASTM A495-76, Standard Specification for Calcium-Silicon and Calcium Manganese-Silicon, IBR approved for § 60.261.
- (13) ASTM A495-94, Standard Specification for Calcium-Silicon and Calcium Manganese-Silicon, IBR approved for § 60.261.
- (14) ASTM D86-78, Distillation of Petroleum Products, IBR approved for §§ 60.562-2(d), 60.593(d), 60.593a(d), 60.633(h).
- (15) ASTM D86-82, Distillation of Petroleum Products, IBR approved for §§ 60.562-2(d), 60.593(d), 60.593a(d), 60.633(h).
- (16) ASTM D86-90, Distillation of Petroleum Products, IBR approved for §§ 60.562-2(d), 60.593(d), 60.593a(d), 60.633(h).
- (17) ASTM D86-93, Distillation of Petroleum Products, IBR approved for §§ 60.562-2(d), 60.593(d), 60.593a(d), 60.633(h).
- (18) ASTM D86-95, Distillation of Petroleum Products, IBR approved for §§ 60.562-2(d), 60.593(d), 60.593a(d), 60.633(h).
- (19) ASTM D86-96, Distillation of Petroleum Products, (Approved April 10, 1996), IBR approved for §§ 60.562-2(d), 60.593(d), 60.593a(d), 60.633(h), 60.5401(f), 60.5401a(f).
- (20) ASTM D129-64, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved for §§ 60.106(j) and appendix A-7 to part 60: Method 19, Section 12.5.2.2.3.
- (21) ASTM D129-78, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved for §§ 60.106(j) and appendix A-7 to part 60: Method 19, Section 12.5.2.2.3.
- (22) ASTM D129-95, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved for §§ 60.106(j) and appendix A-7 to part 60: Method 19, Section 12.5.2.2.3.
- (23) ASTM D129-00, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved for § 60.335(b).
- (24) ASTM D129-00 (Reapproved 2005), Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved for § 60.4415(a).
- (25) ASTM D240-76, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, IBR approved for §§ 60.46(c), 60.296(b), and appendix A-7 to part 60: Method 19, Section 12.5.2.2.3.

- (26) ASTM D240-92, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, IBR approved for §§ 60.46(c), 60.296(b), and appendix A-7: Method 19, Section 12.5.2.2.3.
- (27) ASTM D240-02 (Reapproved 2007), Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, (Approved May 1, 2007), IBR approved for § 60.107a(d).
- (28) ASTM D270-65, Standard Method of Sampling Petroleum and Petroleum Products, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.2.1.
- (29) ASTM D270-75, Standard Method of Sampling Petroleum and Petroleum Products, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.2.1.
- (30) ASTM D323-82, Test Method for Vapor Pressure of Petroleum Products (Reid Method), IBR approved for §§ 60.111(l), 60.111a(g), 60.111b, and 60.116b(f).
- (31) ASTM D323-94, Test Method for Vapor Pressure of Petroleum Products (Reid Method), IBR approved for §§ 60.111(l), 60.111a(g), 60.111b, and 60.116b(f).
- (32) ASTM D388-77, Standard Specification for Classification of Coals by Rank, IBR approved for §§ 60.41, 60.45(f), 60.41Da, 60.41b, 60.41c, and 60.251.
- (33) ASTM D388-90, Standard Specification for Classification of Coals by Rank, IBR approved for §§ 60.41, 60.45(f), 60.41Da, 60.41b, 60.41c, and 60.251.
- (34) ASTM D388-91, Standard Specification for Classification of Coals by Rank, IBR approved for §§ 60.41, 60.45(f), 60.41Da, 60.41b, 60.41c, and 60.251.
- (35) ASTM D388-95, Standard Specification for Classification of Coals by Rank, IBR approved for §§ 60.41, 60.45(f), 60.41Da, 60.41b, 60.41c, and 60.251.
- (36) ASTM D388-98a, Standard Specification for Classification of Coals by Rank, IBR approved for §§ 60.41, 60.45(f), 60.41Da, 60.41b, 60.41c, and 60.251.
- (37) ASTM D388-99 (Reapproved 2004) 1 Standard Classification of Coals by Rank, IBR approved for §§ 60.41, 60.45(f), 60.41Da, 60.41b, 60.41c, 60.251, and 60.5580.
- (38) ASTM D396-78, Standard Specification for Fuel Oils, IBR approved for §§ 60.41b, 60.41c, 60.111(b), and 60.111a(b).
- (39) ASTM D396-89, Standard Specification for Fuel Oils, IBR approved for §§ 60.41b, 60.41c, 60.111(b), and 60.111a(b).
- (40) ASTM D396-90, Standard Specification for Fuel Oils, IBR approved for §§ 60.41b, 60.41c, 60.111(b), and 60.111a(b).
- (41) ASTM D396-92, Standard Specification for Fuel Oils, IBR approved for §§ 60.41b, 60.41c, 60.111(b), and 60.111a(b).
- (42) ASTM D396-98, Standard Specification for Fuel Oils, IBR approved for §§ 60.41b, 60.41c, 60.111(b), 60.111a(b), and 60.5580.
- (43) ASTM D975-78, Standard Specification for Diesel Fuel Oils, IBR approved for §§ 60.111(b) and 60.111a(b).

- (44) ASTM D975-96, Standard Specification for Diesel Fuel Oils, IBR approved for §§ 60.111(b) and 60.111a(b).
- (45) ASTM D975-98a, Standard Specification for Diesel Fuel Oils, IBR approved for §§ 60.111(b) and 60.111a(b).
- (46) ASTM D975-08a, Standard Specification for Diesel Fuel Oils, IBR approved for §§ 60.41b 60.41c, and 60.5580.
- (47) ASTM D1072-80, Standard Test Method for Total Sulfur in Fuel Gases, IBR approved for § 60.335(b).
- (48) ASTM D1072-90 (Reapproved 1994), Standard Test Method for Total Sulfur in Fuel Gases, IBR approved for § 60.335(b).
- (49) ASTM D1072-90 (Reapproved 1999), Standard Test Method for Total Sulfur in Fuel Gases, IBR approved for § 60.4415(a).
- (50) ASTM D1137-53, Standard Method for Analysis of Natural Gases and Related Types of Gaseous Mixtures by the Mass Spectrometer, IBR approved for § 60.45(f).
- (51) ASTM D1137-75, Standard Method for Analysis of Natural Gases and Related Types of Gaseous Mixtures by the Mass Spectrometer, IBR approved for § 60.45(f).
- (52) ASTM D1193-77, Standard Specification for Reagent Water, IBR approved for appendix A-3 to part 60: Method 5, Section 7.1.3; Method 5E, Section 7.2.1; Method 5F, Section 7.2.1; appendix A-4 to part 60: Method 6, Section 7.1.1; Method 7, Section 7.1.1; Method 7C, Section 7.1.1; Method 7D, Section 7.1.1; Method 10A, Section 7.1.1; appendix A-5 to part 60: Method 11, Section 7.1.3; Method 12, Section 7.1.3; Method 13A, Section 7.1.2; appendix A-8 to part 60: Method 26, Section 7.1.2; Method 26A, Section 7.1.2; and Method 29, Section 7.2.2.
- (53) ASTM D1193-91, Standard Specification for Reagent Water, IBR approved for appendix A-3 to part 60: Method 5, Section 7.1.3; Method 5E, Section 7.2.1; Method 5F, Section 7.2.1; appendix A-4 to part 60: Method 6, Section 7.1.1; Method 7, Section 7.1.1; Method 7C, Section 7.1.1; Method 7D, Section 7.1.1; Method 10A, Section 7.1.1; appendix A-5 to part 60: Method 11, Section 7.1.3; Method 12, Section 7.1.3; Method 13A, Section 7.1.2; appendix A-8 to part 60: Method 26, Section 7.1.2; Method 26A, Section 7.1.2; and Method 29, Section 7.2.2.
- (54) ASTM D1266-87, Standard Test Method for Sulfur in Petroleum Products (Lamp Method), IBR approved for §§ 60.106(j) and 60.335(b).
- (55) ASTM D1266-91, Standard Test Method for Sulfur in Petroleum Products (Lamp Method), IBR approved for §§ 60.106(j) and 60.335(b).
- (56) ASTM D1266-98, Standard Test Method for Sulfur in Petroleum Products (Lamp Method), IBR approved for §§ 60.106(j) and 60.335(b).
- (57) ASTM D1266-98 (Reapproved 2003)^{e,1} Standard Test Method for Sulfur in Petroleum Products (Lamp Method), IBR approved for § 60.4415(a).

(58) ASTM D1475-60 (Reapproved 1980), Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for § 60.435(d), appendix A-7 to part 60: Method 24, Section 6.1; and Method 24A, Sections 6.5 and 7.1.

(59) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for § 60.435(d), appendix A-7 to part 60: Method 24, Section 6.1; and Method 24A, §§ 6.5 and 7.1.

(60) ASTM D1552-83, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved for §§ 60.106(j), 60.335(b), and appendix A-7 to part 60: Method 19, Section 12.5.2.2.3.

(61) ASTM D1552-95, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved for §§ 60.106(j), 60.335(b), and appendix A-7 to part 60: Method 19, Section 12.5.2.2.3.

(62) ASTM D1552-01, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved for §§ 60.106(j), 60.335(b), and appendix A-7 to part 60: Method 19, Section 12.5.2.2.3.

(63) ASTM D1552-03, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved for § 60.4415(a).

(64) ASTM D1826-77, Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, IBR approved for §§ 60.45(f), 60.46(c), 60.296(b), and appendix A-7 to part 60: Method 19, Section 12.3.2.4.

(65) ASTM D1826-94, Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, IBR approved for §§ 60.45(f), 60.46(c), 60.296(b), and appendix A-7 to part 60: Method 19, Section 12.3.2.4.

(66) ASTM D1826-94 (Reapproved 2003), Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, (Approved May 10, 2003), IBR approved for § 60.107a(d).

(67) ASTM D1835-87, Standard Specification for Liquefied Petroleum (LP) Gases, IBR approved for §§ 60.41Da, 60.41b, and 60.41c.

(68) ASTM D1835-91, Standard Specification for Liquefied Petroleum (LP) Gases, IBR approved for §§ 60.41Da, 60.41b, and 60.41c.

(69) ASTM D1835-97, Standard Specification for Liquefied Petroleum (LP) Gases, IBR approved for §§ 60.41Da, 60.41b, and 60.41c.

(70) ASTM D1835-03a, Standard Specification for Liquefied Petroleum (LP) Gases, IBR approved for §§ 60.41Da, 60.41b, and 60.41c.

(71) ASTM D1945-64, Standard Method for Analysis of Natural Gas by Gas Chromatography, IBR approved for § 60.45(f).

(72) ASTM D1945-76, Standard Method for Analysis of Natural Gas by Gas Chromatography, IBR approved for § 60.45(f).

- (73) ASTM D1945-91, Standard Method for Analysis of Natural Gas by Gas Chromatography, IBR approved for § 60.45(f).
- (74) ASTM D1945-96, Standard Method for Analysis of Natural Gas by Gas Chromatography, IBR approved for § 60.45(f).
- (75) ASTM D1945-03 (Reapproved 2010), Standard Method for Analysis of Natural Gas by Gas Chromatography, (Approved January 1, 2010), IBR approved for §§ 60.107a(d), 60.5413(d), 60.5413a(d).
- (76) ASTM D1946-77, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for §§ 60.18(f), 60.45(f), 60.564(f), 60.614(e), 60.664(e), and 60.704(d).
- (77) ASTM D1946-90 (Reapproved 1994), Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for §§ 60.18(f), 60.45(f), 60.564(f), 60.614(e), 60.664(e), and 60.704(d).
- (78) ASTM D1946-90 (Reapproved 2006), Standard Method for Analysis of Reformed Gas by Gas Chromatography, (Approved June 1, 2006), IBR approved for § 60.107a(d).
- (79) ASTM D2013-72, Standard Method of Preparing Coal Samples for Analysis, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (80) ASTM D2013-86, Standard Method of Preparing Coal Samples for Analysis, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (81) ASTM D2015-77 (Reapproved 1978), Standard Test Method for Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, IBR approved for §§ 60.45(f), 60.46(c), and appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (82) ASTM D2015-96, Standard Test Method for Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, IBR approved for §§ 60.45(f), 60.46(c), and appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (83) ASTM D2016-74, Standard Test Methods for Moisture Content of Wood, IBR approved for appendix A-8 to part 60: Method 28, Section 16.1.1.
- (84) ASTM D2016-83, Standard Test Methods for Moisture Content of Wood, IBR approved for appendix A-8 to part 60: Method 28, Section 16.1.1.
- (85) ASTM D2234-76, Standard Methods for Collection of a Gross Sample of Coal, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.1.
- (86) ASTM D2234-96, Standard Methods for Collection of a Gross Sample of Coal, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.1.
- (87) ASTM D2234-97b, Standard Methods for Collection of a Gross Sample of Coal, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.1.
- (88) ASTM D2234-98, Standard Methods for Collection of a Gross Sample of Coal, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.1.
- (89) ASTM D2369-81, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A-7 to part 60: Method 24, Section 6.2.

- (90) ASTM D2369-87, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A-7 to part 60: Method 24, Section 6.2.
- (91) ASTM D2369-90, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A-7 to part 60: Method 24, Section 6.2.
- (92) ASTM D2369-92, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A-7 to part 60: Method 24, Section 6.2.
- (93) ASTM D2369-93, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A-7 to part 60: Method 24, Section 6.2.
- (94) ASTM D2369-95, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A-7 to part 60: Method 24, Section 6.2.
- (95) ASTM D2369-10 (Reapproved 2015)e1, Standard Test Method for Volatile Content of Coatings, (Approved June 1, 2015); IBR approved for appendix A-7 to part 60: Method 24, Section 6.2.
- (96) ASTM D2382-76, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for §§ 60.18(f), 60.485(g), 60.485a(g), 60.564(f), 60.614(e), 60.664(e), and 60.704(d).
- (97) ASTM D2382-88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for §§ 60.18(f), 60.485(g), 60.485a(g), 60.564(f), 60.614(e), 60.664(e), and 60.704(d).
- (98) ASTM D2504-67, Noncondensable Gases in C3 and Lighter Hydrocarbon Products by Gas Chromatography, IBR approved for §§ 60.485(g) and 60.485a(g).
- (99) ASTM D2504-77, Noncondensable Gases in C3 and Lighter Hydrocarbon Products by Gas Chromatography, IBR approved for §§ 60.485(g) and 60.485a(g).
- (100) ASTM D2504-88 (Reapproved 1993), Noncondensable Gases in C3 and Lighter Hydrocarbon Products by Gas Chromatography, IBR approved for §§ 60.485(g) and 60.485a(g).
- (101) ASTM D2584-68(Reapproved 1985), Standard Test Method for Ignition Loss of Cured Reinforced Resins, IBR approved for § 60.685(c).
- (102) ASTM D2584-94, Standard Test Method for Ignition Loss of Cured Reinforced Resins, IBR approved for § 60.685(c).
- (103) ASTM D2597-94 (Reapproved 1999), Standard Test Method for Analysis of Demethanized Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Gas Chromatography, IBR approved for § 60.335(b).
- (104) ASTM D2622-87, Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry, IBR approved for §§ 60.106(j) and 60.335(b).
- (105) ASTM D2622-94, Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry, IBR approved for §§ 60.106(j) and 60.335(b).
- (106) ASTM D2622-98, Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry, IBR approved for §§ 60.106(j) and 60.335(b).

(107) ASTM D2622-05, Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry, IBR approved for § 60.4415(a).

(108) ASTM D2879-83 Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for §§ 60.111b(f)(3), 60.116b(e), 60.116b(f), 60.485(e), and 60.485a(e).

(109) ASTM D2879-96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for §§ 60.111b(f)(3), 60.116b(e), 60.116b(f), 60.485(e), and 60.485a(e).

(110) ASTM D2879-97, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for §§ 60.111b(f)(3), 60.116b(e), 60.116b(f), 60.485(e), and 60.485a(e).

(111) ASTM D2880-78, Standard Specification for Gas Turbine Fuel Oils, IBR approved for §§ 60.111(b), 60.111a(b), and 60.335(d).

(112) ASTM D2880-96, Standard Specification for Gas Turbine Fuel Oils, IBR approved for §§ 60.111(b), 60.111a(b), and 60.335(d).

(113) ASTM D2908-74, Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, IBR approved for § 60.564(j).

(114) ASTM D2908-91, Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, IBR approved for § 60.564(j).

(115) ASTM D2986-71, Standard Method for Evaluation of Air, Assay Media by the Monodisperse DOP (Diethyl Phthalate) Smoke Test, IBR approved for appendix A-3 to part 60: Method 5, Section 7.1.1; appendix A-5 to part 60: Method 12, Section 7.1.1; and Method 13A, Section 7.1.1.2.

(116) ASTM D2986-78, Standard Method for Evaluation of Air, Assay Media by the Monodisperse DOP (Diethyl Phthalate) Smoke Test, IBR approved for appendix A-3 to part 60: Method 5, Section 7.1.1; appendix A-5 to part 60: Method 12, Section 7.1.1; and Method 13A, Section 7.1.1.2.

(117) ASTM D2986-95a, Standard Method for Evaluation of Air, Assay Media by the Monodisperse DOP (Diethyl Phthalate) Smoke Test, IBR approved for appendix A-3 to part 60: Method 5, Section 7.1.1; appendix A-5 to part 60: Method 12, Section 7.1.1; and Method 13A, Section 7.1.1.2.

(118) ASTM D3173-73, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.

(119) ASTM D3173-87, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.

(120) ASTM D3176-74, Standard Method for Ultimate Analysis of Coal and Coke, IBR approved for § 60.45(f)(5)(i) and appendix A-7 to part 60: Method 19, Section 12.3.2.3.

(121) ASTM D3176-89, Standard Method for Ultimate Analysis of Coal and Coke, IBR approved for § 60.45(f)(5)(i) and appendix A-7 to part 60: Method 19, Section 12.3.2.3.

(122) ASTM D3177-75, Standard Test Method for Total Sulfur in the Analysis Sample of Coal and Coke, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.

- (123) ASTM D3177-89, Standard Test Method for Total Sulfur in the Analysis Sample of Coal and Coke, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (124) ASTM D3178-73 (Reapproved 1979), Standard Test Methods for Carbon and Hydrogen in the Analysis Sample of Coal and Coke, IBR approved for § 60.45(f).
- (125) ASTM D3178-89, Standard Test Methods for Carbon and Hydrogen in the Analysis Sample of Coal and Coke, IBR approved for § 60.45(f).
- (126) ASTM D3246-81, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry, IBR approved for § 60.335(b).
- (127) ASTM D3246-92, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry, IBR approved for § 60.335(b).
- (128) ASTM D3246-96, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry, IBR approved for § 60.335(b).
- (129) ASTM D3246-05, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry, IBR approved for § 60.4415(a)(1).
- (130) ASTM D3270-73T, Standard Test Methods for Analysis for Fluoride Content of the Atmosphere and Plant Tissues (Semiautomated Method), IBR approved for appendix A-5 to part 60: Method 13A, Section 16.1.
- (131) ASTM D3270-80, Standard Test Methods for Analysis for Fluoride Content of the Atmosphere and Plant Tissues (Semiautomated Method), IBR approved for appendix A-5 to part 60: Method 13A, Section 16.1.
- (132) ASTM D3270-91, Standard Test Methods for Analysis for Fluoride Content of the Atmosphere and Plant Tissues (Semiautomated Method), IBR approved for appendix A-5 to part 60: Method 13A, Section 16.1.
- (133) ASTM D3270-95, Standard Test Methods for Analysis for Fluoride Content of the Atmosphere and Plant Tissues (Semiautomated Method), IBR approved for appendix A-5 to part 60: Method 13A, Section 16.1.
- (134) ASTM D3286-85, Standard Test Method for Gross Calorific Value of Coal and Coke by the Isoperibol Bomb Calorimeter, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (135) ASTM D3286-96, Standard Test Method for Gross Calorific Value of Coal and Coke by the Isoperibol Bomb Calorimeter, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (136) ASTM D3370-76, Standard Practices for Sampling Water, IBR approved for § 60.564(j).
- (137) ASTM D3370-95a, Standard Practices for Sampling Water, IBR approved for § 60.564(j).
- (138) ASTM D3588-98 (Reapproved 2003), Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels, (Approved May 10, 2003), IBR approved for §§ 60.107a(d), 60.5413(d), and 60.5413a(d).
- (139) ASTM D3699-08, Standard Specification for Kerosine, including Appendix X1, (Approved September 1, 2008), IBR approved for §§ 60.41b, 60.41c, and 60.5580.

- (140) ASTM D3792-79, Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for appendix A-7 to part 60: Method 24, Section 6.3.
- (141) ASTM D3792-91, Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for appendix A-7 to part 60: Method 24, Section 6.3.
- (142) ASTM D4017-81, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A-7 to part 60: Method 24, Section 6.4.
- (143) ASTM D4017-90, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A-7 to part 60: Method 24, Section 6.4.
- (144) ASTM D4017-96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A-7 to part 60: Method 24, Section 6.4.
- (145) ASTM D4057-81, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.2.3.
- (146) ASTM D4057-95, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.2.3.
- (147) ASTM D4057-95 (Reapproved 2000), Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for § 60.4415(a).
- (148) ASTM D4084-82, Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), IBR approved for § 60.334(h).
- (149) ASTM D4084-94, Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), IBR approved for § 60.334(h).
- (150) ASTM D4084-05, Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), IBR approved for §§ 60.4360 and 60.4415(a).
- (151) ASTM D4177-95, Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.2.1.
- (152) ASTM D4177-95 (Reapproved 2000), Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, IBR approved for § 60.4415(a).
- (153) ASTM D4239-85, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (154) ASTM D4239-94, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (155) ASTM D4239-97, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, IBR approved for appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.
- (156) ASTM D4294-02, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, IBR approved for § 60.335(b).

- (157) ASTM D4294-03, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, IBR approved for § 60.4415(a).
- (158) ASTM D4442-84, Standard Test Methods for Direct Moisture Content Measurement in Wood and Wood-base Materials, IBR approved for appendix A-8 to part 60: Method 28, Section 16.1.1.
- (159) ASTM D4442-92, Standard Test Methods for Direct Moisture Content Measurement in Wood and Wood-base Materials, IBR approved for appendix A-8 to part 60: Method 28, Section 16.1.1.
- (160) ASTM D4444-92, Standard Test Methods for Use and Calibration of Hand-Held Moisture Meters, IBR approved for appendix A-8 to part 60: Method 28, Section 16.1.1.
- (161) ASTM D4457-85 (Reapproved 1991), Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph, IBR approved for appendix A-7 to part 60: Method 24, Section 6.5.
- (162) ASTM D4468-85 (Reapproved 2000), Standard Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry, IBR approved for §§ 60.335(b) and 60.4415(a).
- (163) ASTM D4468-85 (Reapproved 2006), Standard Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry, (Approved June 1, 2006), IBR approved for § 60.107a(e).
- (164) ASTM D4629-02, Standard Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons by Syringe/Inlet Oxidative Combustion and Chemiluminescence Detection, IBR approved for §§ 60.49b(e) and 60.335(b).
- (165) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for §§ 60.18(f), 60.485(g), 60.485a(g), 60.564(f), 60.614(d), 60.664(e), and 60.704(d).
- (166) ASTM D4809-06, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), (Approved December 1, 2006), IBR approved for § 60.107a(d).
- (167) ASTM D4810-88 (Reapproved 1999), Standard Test Method for Hydrogen Sulfide in Natural Gas Using Length of Stain Detector Tubes, IBR approved for §§ 60.4360 and 60.4415(a).
- (168) ASTM D4891-89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion, (Approved June 1, 2006), IBR approved for §§ 60.107a(d), 60.5413(d), and 60.5413a(d).
- (169) ASTM D5287-97 (Reapproved 2002), Standard Practice for Automatic Sampling of Gaseous Fuels, IBR approved for § 60.4415(a).
- (170) ASTM D5403-93, Standard Test Methods for Volatile Content of Radiation Curable Materials, IBR approved for appendix A-7 to part 60: Method 24, Section 6.6.
- (171) ASTM D5453-00, Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence, IBR approved for § 60.335(b).
- (172) ASTM D5453-05, Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence, IBR approved for § 60.4415(a).

(173) ASTM D5504-01, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence, IBR approved for §§ 60.334(h) and 60.4360.

(174) ASTM D5504-08, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence, (Approved June 15, 2008), IBR approved for §§ 60.107a(e) and 60.5413(d).

(175) ASTM D5623-19, Standard Test Method for Sulfur Compounds in Light Petroleum Liquids by Gas Chromatography and Sulfur Selective Detection, (Approved July 1, 2019); IBR approved for § 60.4415(a).

(176) ASTM D5762-02, Standard Test Method for Nitrogen in Petroleum and Petroleum Products by Boat-Inlet Chemiluminescence, IBR approved for § 60.335(b).

(177) ASTM D5865-98, Standard Test Method for Gross Calorific Value of Coal and Coke, IBR approved for §§ 60.45(f) and 60.46(c), and appendix A-7 to part 60: Method 19, Section 12.5.2.1.3.

(178) ASTM D5865-10, Standard Test Method for Gross Calorific Value of Coal and Coke, (Approved January 1, 2010), IBR approved for §§ 60.45(f), 60.46(c), and appendix A-7 to part 60: Method 19, section 12.5.2.1.3.

(179) ASTM D6216-12, Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications, approved October 1, 2012; IBR approved for appendix B to part 60.

(180) ASTM D6228-98, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection, IBR approved for § 60.334(h).

(181) ASTM D6228-98 (Reapproved 2003), Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection, IBR approved for §§ 60.4360 and 60.4415.

(182) ASTM D6348-03, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, (Approved October 1, 2003), IBR approved for § 60.73a(b), table 7 to subpart IIII, table 2 to subpart JJJJ, and § 60.4245(d).

(183) ASTM D6366-99, Standard Test Method for Total Trace Nitrogen and Its Derivatives in Liquid Aromatic Hydrocarbons by Oxidative Combustion and Electrochemical Detection, IBR approved for § 60.335(b)(9).

(184) ASTM D6420-99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, (Approved October 1, 2004), IBR approved for § 60.107a(d) and table 2 to subpart JJJJ.

(185) ASTM D6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for § 60.335(a).

- (186) ASTM D6522-00 (Reapproved 2005), Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, (Approved October 1, 2005), IBR approved for table 2 to subpart JJJJ, §§ 60.5413(b) and (d), and 60.5413a(b).
- (187) ASTM D6522-11 Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers (Approved December 1, 2011), IBR approved for § 60.37f(a), 60.766(a).
- (188) ASTM D6667-01, Standard Test Method for Determination of Total Volatile Sulfur in Gaseous Hydrocarbons and Liquefied Petroleum Gases by Ultraviolet Fluorescence, IBR approved for § 60.335(b).
- (189) ASTM D6667-04, Standard Test Method for Determination of Total Volatile Sulfur in Gaseous Hydrocarbons and Liquefied Petroleum Gases by Ultraviolet Fluorescence, IBR approved for § 60.4415(a).
- (190) ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, including Appendices X1 through X3, (Approved July 15, 2011), IBR approved for §§ 60.41b, 60.41c, and 60.5580.
- (191) ASTM D6784-02, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), IBR approved for § 60.56c(b) and appendix B to part 60: Performance Specification 12A, Section 8.6.2.
- (192) ASTM D6784-02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), (Approved April 1, 2008), IBR approved for §§ 60.2165(j) and 60.2730(j), tables 5, 6 and 8 to subpart CCCC, and tables 2, 6, 7, and 9 to subpart DDDD, §§ 60.4900(b), 60.5220(b), tables 1 and 2 to subpart LLLL, and tables 2 and 3 to subpart MMMM.
- (193) ASTM D6911-15, Standard Guide for Packaging and Shipping Environmental Samples for Laboratory Analysis, approved January 15, 2015, IBR approved for appendix A-8: Method 30B.
- (194) ASTM D7039-15a, Standard Test Method for Sulfur in Gasoline, Diesel Fuel, Jet Fuel, Kerosine, Boideisel, Biodiesel Blends, and Gasoline-Ethanol Blends by Monochromatic Wavelength Dispersive X-ray Fluorescence Spectrometry, (Approved July 1, 2015); IBR approved for § 60.4415(a).
- (195) ASTM D7467-10, Standard Specification for Diesel Fuel Oil, Biodiesel Blend (B6 to B20), including Appendices X1 through X3, (Approved August 1, 2010), IBR approved for §§ 60.41b, 60.41c, and 60.5580.
- (196) ASTM D7520-16, Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere, approved April 1, 2016; IBR approved for § 60.374a(d).
- (197) ASTM E168-67, General Techniques of Infrared Quantitative Analysis, IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), and 60.632(f).

- (198) ASTM E168-77, General Techniques of Infrared Quantitative Analysis, IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), and 60.632(f).
- (199) ASTM E168-92, General Techniques of Infrared Quantitative Analysis, IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), 60.632(f), 60.5400, 60.5400a(f).
- (200) ASTM E169-63, General Techniques of Ultraviolet Quantitative Analysis, IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), and 60.632(f) .
- (201) ASTM E169-77, General Techniques of Ultraviolet Quantitative Analysis, IBR approved for §§ 60.485a(d), 60.593(b), and 60.593a(b), 60.632(f).
- (202) ASTM E169-93, General Techniques of Ultraviolet Quantitative Analysis, (Approved May 15, 1993), IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), 60.632(f), 60.5400(f), and 60.5400a(f).
- (203) ASTM E260-73, General Gas Chromatography Procedures, IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), and 60.632(f).
- (204) ASTM E260-91, General Gas Chromatography Procedures, (IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), and 60.632(f).
- (205) ASTM E260-96, General Gas Chromatography Procedures, (Approved April 10, 1996), IBR approved for §§ 60.485a(d), 60.593(b), 60.593a(b), 60.632(f), 60.5400(f), 60.5400a(f) 60.5406(b), and 60.5406a(b)(3).
- (206) ASTM E617-13, Standard Specification for Laboratory Weights and Precision Mass Standards, approved May 1, 2013, IBR approved for appendix A-3: Methods 4, 5, 5H, 5I, and appendix A-8: Method 29.
- (207) ASTM E871-82 (Reapproved 2013), Standard Test Method for Moisture Analysis of Particulate Wood Fuels, (Approved August 15, 2013), IBR approved for appendix A-8: method 28R.
- (208) ASTM E1584-11, Standard Test Method for Assay of Nitric Acid, (Approved August 1, 2011), IBR approved for § 60.73a(c).
- (209) ASTM E2515-11, Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel, (Approved November 1, 2011), IBR approved for § 60.534 and § 60.5476.
- (210) ASTM E2618-13 Standard Test Method for Measurement of Particulate Matter Emissions and Heating Efficiency of Outdoor Solid Fuel-Fired Hydronic Heating Appliances, (Approved September 1, 2013), IBR approved for § 60.5476.
- (211) ASTM E2779-10, Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters, (Approved October 1, 2010), IBR approved for § 60.534.
- (212) ASTM E2780-10, Standard Test Method for Determining Particulate Matter Emissions from Wood Heaters, (Approved October 1, 2010), IBR approved for appendix A: method 28R.
- (213) ASTM UOP539-97, Refinery Gas Analysis by Gas Chromatography, (Copyright 1997), IBR approved for § 60.107a(d).

(i) Association of Official Analytical Chemists, 1111 North 19th Street, Suite 210, Arlington, VA 22209.

(1) AOAC Method 9, Official Methods of Analysis of the Association of Official Analytical Chemists (AOAC), 11th edition, 1970, pp. 11-12, IBR approved for §§ 60.204(b), 60.214(b), 60.224(b), and 60.234(b).

(2) [Reserved]

(j) U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>.

(1) EPA-454/R-98-015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=2000D5T6.PDF>; IBR approved for §§ 60.373a(b); 60.2145(r); 60.2710(r); 60.4905(b); 60.5225(b).

(2) EPA-600/R-12/531, EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards, May 2012, IBR approved for §§ 60.5413(d) and 60.5413a(d).

(3) SW-846-6010D, Inductively Coupled Plasma-Optical Emission Spectrometry, Revision 5, July 2018, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for appendix A-5 to part 60: Method 12.

(4) SW-846-6020B, Inductively Coupled Plasma-Mass Spectrometry, Revision 2, July 2014, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for appendix A-5 to part 60: Method 12.

(k) GPA Midstream Association (formerly known as Gas Processors Association), Sixty Sixty American Plaza, Suite 700, Tulsa, OK 74135.

Note 1 to paragraph (k):

Material in this paragraph that is no longer available from GPA may be available through the reseller HIS Markit, 15 Inverness Way East, P.O. Box 1154, Englewood, CO 80150-1154, <https://global.ihs.com/>. For material that is out-of-print, contact EPA's Air and Radiation Docket and Information Center, Room 3334, 1301 Constitution Ave. NW, Washington, DC 20460 or a-and-rdocket@epa.gov.

(1) GPA Midstream Standard 2140-17 (GPA 2140-17), Liquefied Petroleum Gas Specifications and Test Methods, (Revised 2017), IBR approved for § 60.4415(a).

(2) GPA Midstream Standard 2166-17 (GPA 2166-17), Obtaining Natural Gas Samples for Analysis by Gas Chromatography, (Reaffirmed 2017), IBR approved for § 60.4415(a).

(3) Gas Processors Association Standard 2172-09, Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures for Custody Transfer (2009), IBR approved for § 60.107a(d).

(4) GPA Standard 2174-14 (GPA 2174-14), Obtaining Liquid Hydrocarbon Samples for Analysis by Gas Chromatography, (Revised 2014), IBR approved for § 60.4415(a).

(5) GPA Standard 2261-19 (GPA 2261-19), Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography, (Revised 2019), IBR approved for § 60.4415(a).

(6) Gas Processors Association Standard 2377-86, Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes, 1986 Revision, IBR approved for §§ 60.105(b), 60.107a(b), 60.334(h), 60.4360, and 60.4415(a).

(l) International Organization for Standardization (ISO) available through IHS Inc., 15 Inverness Way East, Englewood, CO 80112.

(1) ISO 8178-4: 1996(E), Reciprocating Internal Combustion Engines - Exhaust Emission Measurement - part 4: Test Cycles for Different Engine Applications, IBR approved for § 60.4241(b).

(2) ISO 10715:1997(E), Natural gas - Sampling guidelines, (First Edition, June 1, 1997), IBR approved for § 60.4415(a)

(m) International Organization for Standardization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, + 41 22 749 01 11, <http://www.iso.org/iso/home.htm>.

(1) ISO 2314:2009(E), Gas turbines-Acceptance tests, Third edition (December 15, 2009), IBR approved for § 60.5580.

(2) ISO 8316: Measurement of Liquid Flow in Closed Conduits - Method by Collection of the Liquid in a Volumetric Tank (1987-10-01) - First Edition, IBR approved for § 60.107a(d).

(n) This material is available for purchase from the National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. You may inspect a copy at the EPA's Air and Radiation Docket and Information Center (Docket A-91-61, Item IV-J-125), Room M-1500, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

(1) OMB Bulletin No. 93-17: Revised Statistical Definitions for Metropolitan Areas. Office of Management and Budget, June 30, 1993. NTIS No. PB 93-192-664. IBR approved for § 60.31e.

(2) [Reserved]

(o) North American Electric Reliability Corporation, 1325 G Street NW., Suite 600, Washington, DC 20005-3801, <http://www.nerc.com>.

(1) North American Electric Reliability Corporation Reliability Standard EOP-002-3, Capacity and Energy Emergencies, updated November 19, 2012, IBR approved for §§ 60.4211(f) and 60.4243(d). Also available online: http://www.nerc.com/files/EOP-002-3__1.pdf.

(2) [Reserved]

(p) The following material is available for purchase from the Technical Association of the Pulp and Paper Industry (TAPPI), 15 Technology Parkway South, Suite 115, Peachtree Corners, GA 30092, Telephone (800) 332-8686, and is also available at the following Web site: <http://www.tappi.org>.

(1) TAPPI Method T 624 cm-11, (Copyright 2011), IBR approved, for §§ 60.285(d) and 60.285a(d).

(2) [Reserved]

(q) Underwriter's Laboratories, Inc. (UL), 333 Pfingsten Road, Northbrook, IL 60062.

(1) UL 103, Sixth Edition revised as of September 3, 1986, Standard for Chimneys, Factory-built, Residential Type and Building Heating Appliance, IBR approved for appendix A-8 to part 60.

(2) [Reserved]

(r) Water Pollution Control Federation (WPCF), 2626 Pennsylvania Avenue NW., Washington, DC 20037.

(1) Method 209A, Total Residue Dried at 103-105 °C, in Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980, IBR approved for § 60.683(b).

(2) [Reserved]

(s) West Coast Lumber Inspection Bureau, 6980 SW. Barnes Road, Portland, OR 97223.

(1) West Coast Lumber Standard Grading Rules No. 16, pages 5-21, 90 and 91, September 3, 1970, revised 1984, IBR approved for appendix A-8 to part 60.

(2) [Reserved]

(t) This material is available for purchase from the Canadian Standards Association (CSA), 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6, Telephone: 800-463-6727.

(1) CSA B415.1-10, Performance Testing of Solid-fuel-burning Heating Appliances, (March 2010), IBR approved for § 60.534 and § 60.5476. (The standard is also available at <http://shop.csa.ca/en/canada/fuel-burning-equipment/b4151-10/invnt/27013322010>)

(2) [Reserved]

(u) This European National (EN) standards material is available for purchase at European Committee for Standardization, Management Centre, Avenue Marnix 17, B-1000 Brussels, Belgium, Telephone: + 32 2 550 08 11.

(1) DIN EN 303-5:2012E (EN 303-5), Heating boilers - Part 5: Heating boilers for solid fuels, manually and automatically stoked, nominal heat output of up to 500 kW - Terminology, requirements, testing and marking, (October 2012), IBR approved for § 60.5476. (The standard is also available at http://www.en-standard.eu/csn-en-303-5-heating-boilers-part-5-heating-boilers-for-solid-fuels-manually-and-automatically-stoked-nominal-heat-output-of-up-to-500-kw-terminology-requirements-testing-and-marking/?gclid=CJXI2P__97MMCFdcccQodan8ATA)

(2) [Reserved]

§ 60.18 General control device and work practice requirements.

(a) **Introduction.**

(1) This section contains requirements for control devices used to comply with applicable subparts of 40 CFR parts 60 and 61. The requirements are placed here for administrative convenience and apply only to facilities covered by subparts referring to this section.

(2) This section also contains requirements for an alternative work practice used to identify leaking equipment. This alternative work practice is placed here for administrative convenience and is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(b) **Flares.** Paragraphs (c) through (f) apply to flares.

(c) (1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).

(3) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (c)(3)(ii) of this section and the maximum tip velocity specifications in paragraph (c)(4) of this section, or adhering to the requirements in paragraph (c)(3)(i) of this section.

(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, $V_{\max}$, as determined by the following equation:

$$V_{\max} = (X_{H_2} - K_1) * K_2$$

Where:

$V_{\max}$ = Maximum permitted velocity, m/sec.

K_1 = Constant, 6.0 volume-percent hydrogen.

K_2 = Constant, 3.9(m/sec)/volume-percent hydrogen.

X_{H_2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 60.17).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (f)(4) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f)(3) of this section.

(4) (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4) of this section, less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (c)(4) (ii) and (iii) of this section.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity, $V_{\max}$, as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

(5) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, $V_{\max}$, as determined by the method specified in paragraph (f)(6).

(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.

(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(f) (1) Method 22 of appendix A to this part shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$$K = \text{Constant}, \frac{1}{1.740 \times 10^{-7}} \left(\frac{1}{\text{ppm}} \right) \left(\frac{\text{g mole}}{\text{scm}} \right) \left(\frac{\text{MJ}}{\text{kcal}} \right)$$

where the standard temperature for $\left(\frac{\text{g mole}}{\text{scm}} \right)$ is 20°C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Reapproved 1994) (Incorporated by reference as specified in § 60.17); and

H_i = Net heat of combustion of sample component i , kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.

(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

(5) The maximum permitted velocity, V_{max} , for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.

$$\text{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

V_{max} = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant

H_T = The net heating value as determined in paragraph (f)(3).

(6) The maximum permitted velocity, V_{max} , for air-assisted flares shall be determined by the following equation.

$$V_{max} = 8.706 + 0.7084 (H_T)$$

V_{max} = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

H_T = The net heating value as determined in paragraph (f)(3).

(g) **Alternative work practice for monitoring equipment for leaks.** Paragraphs (g), (h), and (i) of this section apply to all equipment for which the applicable subpart requires monitoring with a 40 CFR part 60, appendix A-7, Method 21 monitor, except for closed vent systems, equipment designated as leakless, and equipment identified in the applicable subpart as having no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. An owner or operator may use an optical gas imaging instrument instead of a 40 CFR part 60, appendix A-7, Method 21 monitor. Requirements in the existing subparts that are specific to the Method 21 instrument do not apply under this section. All other requirements in the applicable subpart that are not addressed in paragraphs (g), (h), and (i) of this section apply to this standard. For example, equipment specification requirements, and non-Method 21 instrument recordkeeping and reporting requirements in the applicable subpart continue to apply. The terms defined in paragraphs (g)(1) through (5) of this section have meanings that are specific to the alternative work practice standard in paragraphs (g), (h), and (i) of this section.

(1) **Applicable subpart** means the subpart in 40 CFR parts 60, 61, 63, or 65 that requires monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(2) **Equipment** means pumps, valves, pressure relief valves, compressors, open-ended lines, flanges, connectors, and other equipment covered by the applicable subpart that require monitoring with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(3) **Imaging** means making visible emissions that may otherwise be invisible to the naked eye.

(4) **Optical gas imaging instrument** means an instrument that makes visible emissions that may otherwise be invisible to the naked eye.

(5) **Repair** means that equipment is adjusted, or otherwise altered, in order to eliminate a leak.

(6) **Leak** means:

(i) Any emissions imaged by the optical gas instrument;

(ii) Indications of liquids dripping;

(iii) Indications by a sensor that a seal or barrier fluid system has failed; or

(iv) Screening results using a 40 CFR part 60, appendix A-7, Method 21 monitor that exceed the leak definition in the applicable subpart to which the equipment is subject.

(h) The alternative work practice standard for monitoring equipment for leaks is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(1) An owner or operator of an affected source subject to CFR parts 60, 61, 63, or 65 can choose to comply with the alternative work practice requirements in paragraph (i) of this section instead of using the 40 CFR part 60, appendix A-7, Method 21 monitor to identify leaking equipment. The owner or operator must document the equipment, process units, and facilities for which the alternative work practice will be used to identify leaks.

(2) Any leak detected when following the leak survey procedure in paragraph (i)(3) of this section must be identified for repair as required in the applicable subpart.

(3) If the alternative work practice is used to identify leaks, re-screening after an attempted repair of leaking equipment must be conducted using either the alternative work practice or the 40 CFR part 60, appendix A-7, Method 21 monitor at the leak definition required in the applicable subpart to which the equipment is subject.

(4) The schedule for repair is as required in the applicable subpart.

(5) When this alternative work practice is used for detecting leaking equipment, choose one of the monitoring frequencies listed in Table 1 to subpart A of this part in lieu of the monitoring frequency specified for regulated equipment in the applicable subpart. Reduced monitoring frequencies for good performance are not applicable when using the alternative work practice.

(6) When this alternative work practice is used for detecting leaking equipment the following are not applicable for the equipment being monitored:

(i) Skip period leak detection and repair;

(ii) Quality improvement plans; or

(iii) Complying with standards for allowable percentage of valves and pumps to leak.

(7) When the alternative work practice is used to detect leaking equipment, the regulated equipment in paragraph (h)(1)(i) of this section must also be monitored annually using a 40 CFR part 60, appendix

A-7, Method 21 monitor at the leak definition required in the applicable subpart. The owner or operator may choose the specific monitoring period (for example, first quarter) to conduct the annual monitoring. Subsequent monitoring must be conducted every 12 months from the initial period. Owners or operators must keep records of the annual Method 21 screening results, as specified in paragraph (i)(4)(vii) of this section.

(i) An owner or operator of an affected source who chooses to use the alternative work practice must comply with the requirements of paragraphs (i)(1) through (i)(5) of this section.

(1) Instrument Specifications. The optical gas imaging instrument must comply with the requirements in (i)(1)(i) and (i)(1)(ii) of this section.

(i) Provide the operator with an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check described in paragraph (i)(2) of this section. The detection sensitivity level depends upon the frequency at which leak monitoring is to be performed.

(ii) Provide a date and time stamp for video records of every monitoring event.

(2) Daily Instrument Check. On a daily basis, and prior to beginning any leak monitoring work, test the optical gas imaging instrument at the mass flow rate determined in paragraph (i)(2)(i) of this section in accordance with the procedure specified in paragraphs (i)(2)(ii) through (i)(2)(iv) of this section for each camera configuration used during monitoring (for example, different lenses used), unless an alternative method to demonstrate daily instrument checks has been approved in accordance with paragraph (i)(2)(v) of this section.

(i) Calculate the mass flow rate to be used in the daily instrument check by following the procedures in paragraphs (i)(2)(i)(A) and (i)(2)(i)(B) of this section.

(A) For a specified population of equipment to be imaged by the instrument, determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, within the distance to be used in paragraph (i)(2)(iv)(B) of this section, at or below the standard detection sensitivity level.

(B) Multiply the standard detection sensitivity level, corresponding to the selected monitoring frequency in Table 1 of subpart A of this part, by the mass fraction of detectable chemicals from the stream identified in paragraph (i)(2)(i)(A) of this section to determine the mass flow rate to be used in the daily instrument check, using the following equation.

$$E_{dic} = (E_{sds}) \sum_{i=1}^k x_i$$

Where:

E_{dic} = Mass flow rate for the daily instrument check, grams per hour

x_i = Mass fraction of detectable chemical(s) i seen by the optical gas imaging instrument, within the distance to be used in paragraph (i)(2)(iv)(B) of this section, at or below the standard detection sensitivity level, E_{sds} .

E_{sds} = Standard detection sensitivity level from Table 1 to subpart A, grams per hour

k = Total number of detectable chemicals emitted from the leaking equipment and seen by the optical gas imaging instrument.

- (ii) Start the optical gas imaging instrument according to the manufacturer's instructions, ensuring that all appropriate settings conform to the manufacturer's instructions.
 - (iii) Use any gas chosen by the user that can be viewed by the optical gas imaging instrument and that has a purity of no less than 98 percent.
 - (iv) Establish a mass flow rate by using the following procedures:
 - (A) Provide a source of gas where it will be in the field of view of the optical gas imaging instrument.
 - (B) Set up the optical gas imaging instrument at a recorded distance from the outlet or leak orifice of the flow meter that will not be exceeded in the actual performance of the leak survey. Do not exceed the operating parameters of the flow meter.
 - (C) Open the valve on the flow meter to set a flow rate that will create a mass emission rate equal to the mass rate specified in paragraph (i)(2)(i) of this section while observing the gas flow through the optical gas imaging instrument viewfinder. When an image of the gas emission is seen through the viewfinder at the required emission rate, make a record of the reading on the flow meter.
 - (v) Repeat the procedures specified in paragraphs (i)(2)(ii) through (i)(2)(iv) of this section for each configuration of the optical gas imaging instrument used during the leak survey.
 - (vi) To use an alternative method to demonstrate daily instrument checks, apply to the Administrator for approval of the alternative under § 60.13(i).
- (3) Leak Survey Procedure. Operate the optical gas imaging instrument to image every regulated piece of equipment selected for this work practice in accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and are subject to repair. All emissions visible to the naked eye are also considered to be leaks and are subject to repair.
- (4) Recordkeeping. You must keep the records described in paragraphs (i)(4)(i) through (i)(4)(vii) of this section:
- (i) The equipment, processes, and facilities for which the owner or operator chooses to use the alternative work practice.
 - (ii) The detection sensitivity level selected from Table 1 to subpart A of this part for the optical gas imaging instrument.
 - (iii) The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, as specified in paragraph (i)(2)(i)(A) of this section.
 - (iv) The technical basis for the mass fraction of detectable chemicals used in the equation in paragraph (i)(2)(i)(B) of this section.

(v) The daily instrument check. Record the distance, per paragraph (i)(2)(iv)(B) of this section, and the flow meter reading, per paragraph (i)(2)(iv)(C) of this section, at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a time and date stamp for each daily instrument check. The video record must be kept for 5 years.

(vi) Recordkeeping requirements in the applicable subpart. A video record must be used to document the leak survey results. The video record must include a time and date stamp for each monitoring event. A video record can be used to meet the recordkeeping requirements of the applicable subparts if each piece of regulated equipment selected for this work practice can be identified in the video record. The video record must be kept for 5 years.

(vii) The results of the annual Method 21 screening required in paragraph (h)(7) of this section. Records must be kept for all regulated equipment specified in paragraph (h)(1) of this section. Records must identify the equipment screened, the screening value measured by Method 21, the time and date of the screening, and calibration information required in the existing applicable subpart.

(5) Reporting. Submit the reports required in the applicable subpart. Submit the records of the annual Method 21 screening required in paragraph (h)(7) of this section to the Administrator via e-mail to *CCG-AWP@EPA.GOV*.

§ 60.19 General notification and reporting requirements.

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

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

(c) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(d) If an owner or operator of an affected facility in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such

facility under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. The allowance in the previous sentence applies in each State beginning 1 year after the affected facility is required to be in compliance with the applicable subpart in this part. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(e) If an owner or operator supervises one or more stationary sources affected by standards set under this part and standards set under part 61, part 63, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State with an approved permit program) a common schedule on which periodic reports required by each applicable standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the applicable subpart in this part, or 1 year after the stationary source is required to be in compliance with the applicable 40 CFR part 61 or part 63 of this chapter standard, whichever is latest. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(f) (1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (f)(2) and (f)(3) of this section, the owner or operator of an affected facility remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (f)(2) and (f)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

Table 1 to Subpart A of Part 60 - Detection Sensitivity Levels (grams per hour)

Monitoring frequency per subpart ^a	Detection sensitivity level
Bi-Monthly	60

Monitoring frequency per subpart ^a	Detection sensitivity level
Semi-Quarterly	85
Monthly	100

^a When this alternative work practice is used to identify leaking equipment, the owner or operator must choose one of the monitoring frequencies listed in this table in lieu of the monitoring frequency specified in the applicable subpart. Bi-monthly means every other month. Semi-quarterly means twice per quarter. Monthly means once per month.

Appendix L. 40 CFR Part 63, Subpart A—General Provisions

§ 63.1 Applicability.

(a) *General.*

- (1) Terms used throughout this part are defined in § 63.2 or in the Clean Air Act (Act) as amended in 1990, except that individual subparts of this part may include specific definitions in addition to or that supersede definitions in § 63.2.
- (2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR part 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.
- (3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard.
- (4) (i) Each relevant standard in this part 63 must identify explicitly whether each provision in this subpart A is or is not included in such relevant standard.
 - (ii) If a relevant part 63 standard incorporates the requirements of 40 CFR part 60, part 61 or other part 63 standards, the relevant part 63 standard must identify explicitly the applicability of each corresponding part 60, part 61, or other part 63 subpart A (General) provision.
 - (iii) The General Provisions in this subpart A do not apply to regulations developed pursuant to section 112(r) of the amended Act, unless otherwise specified in those regulations.
- (5) [Reserved]
- (6) To obtain the most current list of categories of sources to be regulated under section 112 of the Act, or to obtain the most recent regulation promulgation schedule established pursuant to section 112(e) of the Act, contact the Office of the Director, Emission Standards Division, Office of Air Quality Planning and Standards, U.S. EPA (MD-13), Research Triangle Park, North Carolina 27711.
- (7)-(9) [Reserved]
- (10) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word “calendar” is absent, unless otherwise specified in an applicable requirement.
- (11) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, test plan, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be

submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery agreed to by the permitting authority, is acceptable.

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

(b) Initial applicability determination for this part.

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

- (i) Emits or has the potential to emit any hazardous air pollutant listed in or pursuant to section 112(b) of the Act; and
- (ii) Is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to this part.

(2) [Reserved]

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

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

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

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

- (i) States will have the option to exclude area sources affected by that standard from the requirement to obtain a title V permit (i.e., the standard will exempt the category of area sources altogether from the permitting requirement);
- (ii) States will have the option to defer permitting of area sources in that category until the Administrator takes rulemaking action to determine applicability of the permitting requirements; or

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

(3)-(4) [Reserved]

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

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

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

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

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

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

(d) [Reserved]

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

§ 63.2 Definitions.

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

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

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

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

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

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

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

Alternative test method means any method of sampling and analyzing for an air pollutant that has been demonstrated to the Administrator's satisfaction, using Method 301 in appendix A of this part, to produce

results adequate for the Administrator's determination that it may be used in place of a test method specified in this part.

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

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

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

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

Compliance schedule means:

- (1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or
- (2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or
- (3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based.

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

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

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

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

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

Effective date means:

- (1) With regard to an emission standard established under this part, the date of promulgation in the Federal Register of such standard; or
- (2) With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

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

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

EPA means the United States Environmental Protection Agency.

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

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

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

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

- (1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;
- (2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;

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

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

Force majeure means, for purposes of § 63.7, an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

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

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

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is

the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

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

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

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

- (1) Indicator(s) of performance - the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.
- (2) Measurement techniques - the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.
- (3) Monitoring frequency - the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.
- (4) Averaging time - the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

New affected source means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of “new affected source,” and the

criteria to be utilized in implementing it, shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term “new affected source,” which will be the same as the “affected source” unless a different collection is warranted based on consideration of factors including:

- (1) Emission reduction impacts of controlling individual sources versus groups of sources;
- (2) Cost effectiveness of controlling individual equipment;
- (3) Flexibility to accommodate common control strategies;
- (4) Cost/benefits of emissions averaging;
- (5) Incentives for pollution prevention;
- (6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);
- (7) Feasibility and cost of monitoring; and
- (8) Other relevant factors.

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

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

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

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

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

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

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

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

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

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

Permitting authority means:

- (1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or
- (2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

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

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

- (i) Reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and
- (ii) Reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.

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

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

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is enforceable.

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

- (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and
- (2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

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

Relevant standard means:

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

Responsible official means one of the following:

- (1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:
 - (i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
 - (ii) The delegation of authority to such representative is approved in advance by the Administrator.
- (2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.
- (3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).
- (4) For affected sources (as defined in this part) applying for or subject to a title V permit: “responsible official” shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 63.3 Units and abbreviations.

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

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

A = ampere

g = gram

Hz = hertz

J = joule

°K = degree Kelvin

kg = kilogram

l = liter

m = meter

m³ = cubic meter

mg = milligram = 10^{-3} gram

ml = milliliter = 10^{-3} liter

mm = millimeter = 10^{-3} meter

Mg = megagram = 10^6 gram = metric ton

MJ = megajoule

mol = mole

N = newton

ng = nanogram = 10^{-9} gram

nm = nanometer = 10^{-9} meter

Pa = pascal

s = second

V = volt

W = watt

Ω = ohm

μg = microgram = 10^{-6} gram

μl = microliter = 10^{-6} liter

(b) Other units of measure:

Btu = British thermal unit

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

cal = calorie

cfm = cubic feet per minute

cc = cubic centimeter

cu ft = cubic feet

d = day

dcf = dry cubic feet

dcm = dry cubic meter

dscf = dry cubic feet at standard conditions

dscm = dry cubic meter at standard conditions

eq = equivalent

$^{\circ}\text{F}$ degree Fahrenheit

ft = feet

ft² = square feet

ft³ = cubic feet

gal = gallon

gr = grain

g-eq = gram equivalent

g-mole = gram mole

hr = hour

in. = inch

in. H₂ O = inches of water

K = 1,000

kcal = kilocalorie

lb = pound

lpm = liter per minute

meq = milliequivalent

min = minute

MW = molecular weight

oz = ounces

ppb = parts per billion

ppbw = parts per billion by weight

ppbv = parts per billion by volume

ppm = parts per million

ppmw = parts per million by weight

ppmv = parts per million by volume

psia = pounds per square inch absolute

psig = pounds per square inch gage

°R = degree Rankine

scf = cubic feet at standard conditions

scfh = cubic feet at standard conditions per hour

scm = cubic meter at standard conditions

scmm = cubic meter at standard conditions per minute

sec = second

sq ft = square feet

std = at standard conditions

v/v = volume per volume

yd² = square yards

yr = year

(c) *Miscellaneous:*

act = actual

avg = average

I.D. = inside diameter

M = molar

N = normal

O.D. = outside diameter

% = percent

§ 63.4 Prohibited activities and circumvention.

(a) Prohibited activities.

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

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

(3)-(5) [Reserved]

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

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

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

(c) *Fragmentation.* Fragmentation after November 15, 1990 which divides ownership of an operation, within the same facility among various owners where there is no real change in control, will not affect applicability. The owner and operator must not use fragmentation or phasing of reconstruction

activities (i.e., intentionally dividing reconstruction into multiple parts for purposes of avoiding new source requirements) to avoid becoming subject to new source requirements.

§ 63.5 Preconstruction review and notification requirements.

(a) Applicability.

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

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

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

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

(2) [Reserved]

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

- (i) Construct a new affected source that is major-emitting and subject to such standard;
- (ii) Reconstruct an affected source that is major-emitting and subject to such standard; or
- (iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

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

(5) [Reserved]

(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition

of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source.

(c) [Reserved]

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

(1) *General application requirements.*

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

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

(A) The applicant's name and address;

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

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

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

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

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

(G) [Reserved]

(H) The type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the relevant standard, or if actual emissions data are not yet available, an estimate of the type and quantity of hazardous air pollutants expected to be emitted by the source reported in units and averaging times specified in the relevant standard. The owner or operator may submit percent reduction information if a relevant standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance; and

(I) [Reserved]

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

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

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

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

- (i) A brief description of the affected source and the components that are to be replaced;
- (ii) A description of present and proposed emission control systems (i.e., equipment or methods). The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations;
- (iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;
- (iv) The estimated life of the affected source after the replacements; and
- (v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.
- (vi) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in paragraphs (d)(3)(iii) through (d)(3)(v) of this section.

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

(e) *Approval of construction or reconstruction.*

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

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

- (A) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new source;
- (B) The estimated life of the source after the replacements compared to the life of a comparable entirely new source;
- (C) The extent to which the components being replaced cause or contribute to the emissions from the source; and
- (D) Any economic or technical limitations on compliance with relevant standards that are inherent in the proposed replacements.

(2) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of construction or reconstruction within 60 calendar days after receipt of sufficient information to evaluate an application submitted under paragraph (d) of this section. The 60-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted.

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

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

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

(4) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 calendar days of

presentation of additional information or arguments (if the application is complete), or within 60 calendar days after the final date specified for presentation if no presentation is made.

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

- (i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or
- (ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

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

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

- (i) The owner or operator of the new affected source or reconstructed affected source has undergone a preconstruction review and approval process in the State in which the source is (or would be) located and has received a federally enforceable construction permit that contains a finding that the source will meet the relevant promulgated emission standard, if the source is properly built and operated.
- (ii) Provide a statement from the State or other evidence (such as State regulations) that it considered the factors specified in paragraph (e)(1) of this section.

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

§ 63.6 Compliance with standards and maintenance requirements.

(a) Applicability.

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

- (i) The Administrator (or a State with an approved permit program) has granted an extension of compliance consistent with paragraph (i) of this section; or
- (ii) The President has granted an exemption from compliance with any relevant standard in accordance with section 112(i)(4) of the Act.

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

(b) Compliance dates for new and reconstructed sources.

(1) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source for which construction or reconstruction commences after proposal of a relevant standard that has an initial startup before the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard not later than the standard's effective date.

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

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

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

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

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

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

(6) [Reserved]

(7) When an area source increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source, the portion of the facility that meets the definition of a

new affected source must comply with all requirements of that standard applicable to new sources. The source owner or operator must comply with the relevant standard upon startup.

(c) *Compliance dates for existing sources.*

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

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

(3)-(4) [Reserved]

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

(d) [Reserved]

(e) *Operation and maintenance requirements.*

(1) (i) At all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section), review of operation and maintenance records, and inspection of the source.

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

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

(2) [Reserved]

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

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

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

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

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

(ii) [Reserved]

(iii) When actions taken by the owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan and describes the actions taken for that event. In addition, the owner or operator must keep records of these events as specified in paragraph 63.10(b), including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the

relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in § 63.10(d)(5).

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

(v) The owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph (e)(3)(viii) of this section, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator. The Administrator may at any time request in writing that the owner or operator submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the owner or operator. Upon receipt of such a request, the owner or operator must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. The owner or operator may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Administrator in an electronic format. If the owner or operator claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission.

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

(vii) Based on the results of a determination made under paragraph (e)(1)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to

the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

- (A) Does not address a startup, shutdown, or malfunction event that has occurred;
- (B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;
- (C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or
- (D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in § 63.2.

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

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

(f) *Compliance with nonopacity emission standards -*

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

(2) *Methods for determining compliance.*

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

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

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

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

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

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

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

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

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

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

(g) Use of an alternative nonopacity emission standard.

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

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

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

(h) Compliance with opacity and visible emission standards -

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

(2) Methods for determining compliance.

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

visible emission standards in this part shall be determined by conducting observations in accordance with Test Method 22 in appendix A of part 60 of this chapter.

(ii) [Reserved]

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

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

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

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

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

(3) [Reserved]

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

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

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

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

(B) If visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under § 63.7, or within the time period specified in paragraph (h)(5)(i)(A) of this section, the source's owner or operator shall reschedule the opacity or visible emission observations as soon after the initial performance test, or time period, as possible, but not later than

30 days thereafter, and shall advise the Administrator of the rescheduled date. The rescheduled opacity or visible emission observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under § 63.7. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity or visible emission observations from being made concurrently with the initial performance test in accordance with procedures contained in Test Method 9 or Test Method 22 in appendix A of part 60 of this chapter.

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

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

(iv) [Reserved]

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

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

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

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

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

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

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

(v) Except as provided in paragraph (h)(7)(ii) of this section, the results of continuous monitoring by a COMS that indicate that the opacity at the time visual observations were made was not in excess of the emission standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the affected source proves that, at the time of the alleged violation, the instrument used was properly maintained, as specified in § 63.8(c), and met Performance Specification 1 in appendix B of part 60 of this chapter, and that the resulting data have not been altered in any way.

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

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

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

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

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

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

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

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

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

(i) Extension of compliance with emission standards.

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

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

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

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

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

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

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

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

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

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

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

that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

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

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

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

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

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

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

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

(C)-(D)

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

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

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

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

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

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

(ii) Specify the termination date of the extension;

(iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and

(v) (A) Under paragraph (i)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or

(B) Under paragraph (i)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

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

(12) (i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(i) or (i)(5) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete.

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

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

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

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

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

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

information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

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

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

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

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

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

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

(i) Notice of the reason for termination; and

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

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

(15) [Reserved]

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

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

§ 63.7 Performance testing requirements.

(a) Applicability and performance test dates.

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

(2) Except as provided in paragraph (a)(4) of this section, if required to do performance testing by a relevant standard, and unless a waiver of performance testing is obtained under this section or the conditions of paragraph (c)(3)(ii)(B) of this section apply, the owner or operator of the affected source must perform such tests within 180 days of the compliance date for such source.

(i)-(viii) [Reserved]

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

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

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

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

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

(iii) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or

operator in writing of approval or disapproval of the request for an extension as soon as practicable.

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

(b) Notification of performance test.

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

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

(c) Quality assurance program.

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

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

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

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

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

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

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

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

- (1) Preparing the sample;
- (2) Confirming the true concentration of the sample;
- (3) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range;
- (4) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;
- (5) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;
- (6) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;
- (7) Reporting the results from each audit sample in a timely manner to the compliance authority and to the source owner, operator, or representative by the AASP. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the

sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.

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

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

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

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

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

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

(D) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). The VCSB shall operate in accordance with the procedures and requirements in the Office of Management and Budget *Circular A-119*. A copy of Circular A-119 is available upon request by writing the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, by calling (202) 395-6880 or downloading online at http://standards.gov/standards_gov/a119.cfm. The VCSB shall approve all accrediting bodies. The Administrator will review all technical criteria documents. If the technical criteria documents do not meet the minimum technical requirements in paragraphs (c)(2)(iii)(B) through (C) of this section, the technical criteria documents are not acceptable and the proposed audit sample program is not capable of producing audit samples of sufficient quality to be used in a compliance test. All acceptable technical criteria documents shall be posted on the EPA Web site at the following URL, <http://www.epa.gov/ttn/emc>.

(iv) The owner or operator of an affected source shall submit the site-specific test plan to the Administrator upon the Administrator's request at least 60 calendar days before the performance test is scheduled to take place, that is, simultaneously with the notification of

intention to conduct a performance test required under paragraph (b) of this section, or on a mutually agreed upon date.

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

(3) Approval of site-specific test plan.

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

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

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

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

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

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

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

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

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

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

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

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

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

(2) Safe sampling platform(s);

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

(4) Utilities for sampling and testing equipment; and

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

(e) *Conduct of performance tests.*

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

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

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

- (ii) Approves the use of an intermediate or major change or alternative to a test method (see definitions in § 63.90(a)), the results of which the Administrator has determined to be adequate for indicating whether a specific affected source is in compliance; or
- (iii) Approves shorter sampling times or smaller sample volumes when necessitated by process variables or other factors; or
- (iv) Waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the Administrator's satisfaction that the affected source is in compliance with the relevant standard.

(3) Unless otherwise specified in a relevant standard or test method, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the relevant standard. For the purpose of determining compliance with a relevant standard, the arithmetic mean of the results of the three runs shall apply. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run in the event that -

- (i) A sample is accidentally lost after the testing team leaves the site; or
- (ii) Conditions occur in which one of the three runs must be discontinued because of forced shutdown; or
- (iii) Extreme meteorological conditions occur; or
- (iv) Other circumstances occur that are beyond the owner or operator's control.

(4) Nothing in paragraphs (e)(1) through (e)(3) of this section shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(f) Use of an alternative test method -

(1) *General.* Until authorized to use an intermediate or major change or alternative to a test method, the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) The owner or operator of an affected source required to do performance testing by a relevant standard may use an alternative test method from that specified in the standard provided that the owner or operator -

- (i) Notifies the Administrator of his or her intention to use an alternative test method at least 60 days before the performance test is scheduled to begin;
- (ii) Uses Method 301 in appendix A of this part to validate the alternative test method. This may include the use of specific procedures of Method 301 if use of such procedures are sufficient to validate the alternative test method; and
- (iii) Submits the results of the Method 301 validation process along with the notification of intention and the justification for not using the specified test method. The owner or operator may submit the information required in this paragraph well in advance of the deadline specified in paragraph (f)(2)(i) of this section to ensure a timely review by the Administrator in order to meet the performance test date specified in this section or the relevant standard.

(3) The Administrator will determine whether the owner or operator's validation of the proposed alternative test method is adequate and issue an approval or disapproval of the alternative test method. If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method. However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval/disapproval 45 days after submission of the request to use an alternative method and the request satisfies the requirements in paragraph (f)(2) of this section. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(4) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative test method for the purposes of demonstrating compliance with a relevant standard, the Administrator may require the use of a test method specified in a relevant standard.

(5) If the owner or operator uses an alternative test method for an affected source during a required performance test, the owner or operator of such source shall continue to use the alternative test method for subsequent performance tests at that affected source until he or she receives approval from the Administrator to use another test method as allowed under § 63.7(f).

(6) Neither the validation and approval process nor the failure to validate an alternative test method shall abrogate the owner or operator's responsibility to comply with the requirements of this part.

(g) Data analysis, recordkeeping, and reporting.

(1) Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, results of a performance test shall include the analysis of samples, determination of emissions, and raw data. A performance test is "completed" when field sample collection is terminated. The owner or operator of an affected source shall report the results of the performance test to the Administrator before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator (see § 63.9(i)). The results of the performance test shall be submitted as part of the notification of compliance status required under § 63.9(h). Before a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the appropriate permitting authority.

(2) Contents of a performance test, CMS performance evaluation, or CMS quality assurance test report (electronic or paper submitted copy). Unless otherwise specified in a relevant standard, test method, CMS performance specification, or quality assurance requirement for a CMS, or as otherwise approved by the Administrator in writing, the report shall include the elements identified in paragraphs (g)(2)(i) through (vi) of this section.

(i) General identification information for the facility including a mailing address, the physical address, the owner or operator or responsible official (where applicable) and his/her email address, and the appropriate Federal Registry System (FRS) number for the facility.

(ii) Purpose of the test including the applicable regulation requiring the test, the pollutant(s) and other parameters being measured, the applicable emission standard, and any process parameter component, and a brief process description.

(iii) Description of the emission unit tested including fuel burned, control devices, and vent characteristics; the appropriate source classification code (SCC); the permitted maximum process rate (where applicable); and the sampling location.

(iv) Description of sampling and analysis procedures used and any modifications to standard procedures, quality assurance procedures and results, record of process operating conditions that demonstrate the applicable test conditions are met, and values for any operating parameters for which limits were being set during the test.

(v) Where a test method, CEMS, PEMS, or COMS performance specification, or on-going quality assurance requirement for a CEMS, PEMS, or COMS requires you record or report, the following shall be included in your report: Record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, chain-of-custody documentation, and example calculations for reported results.

(vi) Identification of the company conducting the performance test including the primary office address, telephone number, and the contact for this test including his/her email address.

(3) For a minimum of 5 years after a performance test is conducted, the owner or operator shall retain and make available, upon request, for inspection by the Administrator the records or results of such performance test and other data needed to determine emissions from an affected source.

(h) Waiver of performance tests.

(1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) Request to waive a performance test.

(i) If a request is made for an extension of compliance under § 63.6(i), the application for a waiver of an initial performance test shall accompany the information required for the request for an extension of compliance. If no extension of compliance is requested or if the owner or operator has requested an extension of compliance and the Administrator is still considering that request, the application for a waiver of an initial performance test shall be submitted at least 60 days before the performance test if the site-specific test plan under paragraph (c) of this section is not submitted.

(ii) If an application for a waiver of a subsequent performance test is made, the application may accompany any required compliance progress report, compliance status report, or excess emissions and continuous monitoring system performance report [such as those required under § 63.6(i), § 63.9(h), and § 63.10(e) or specified in a relevant standard or in the source's title V permit], but it shall be submitted at least 60 days before the performance test if the site-specific test plan required under paragraph (c) of this section is not submitted.

(iii) Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test.

(4) *Approval of request to waive performance test.* The Administrator will approve or deny a request for a waiver of a performance test made under paragraph (h)(3) of this section when he/she -

(i) Approves or denies an extension of compliance under § 63.6(i)(8); or

(ii) Approves or disapproves a site-specific test plan under § 63.7(c)(3); or

(iii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iv) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.8 Monitoring requirements.

(a) Applicability.

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

(2) For the purposes of this part, all CMS required under relevant standards shall be subject to the provisions of this section upon promulgation of performance specifications for CMS as specified in the relevant standard or otherwise by the Administrator.

(3) [Reserved]

(4) Additional monitoring requirements for control devices used to comply with provisions in relevant standards of this part are specified in § 63.11.

(b) Conduct of monitoring.

(1) Monitoring shall be conducted as set forth in this section and the relevant standard(s) unless the Administrator -

(i) Specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures (see § 63.90(a) for definition); or

(ii) Approves the use of an intermediate or major change or alternative to any monitoring requirements or procedures (see § 63.90(a) for definition).

(iii) Owners or operators with flares subject to § 63.11(b) are not subject to the requirements of this section unless otherwise specified in the relevant standard.

(2) (i) When the emissions from two or more affected sources are combined before being released to the atmosphere, the owner or operator may install an applicable CMS for each emission stream or for the combined emissions streams, provided the monitoring is sufficient to demonstrate compliance with the relevant standard.

(ii) If the relevant standard is a mass emission standard and the emissions from one affected source are released to the atmosphere through more than one point, the owner or operator must install an applicable CMS at each emission point unless the installation of fewer systems is

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(A) Approved by the Administrator; or

(B) Provided for in a relevant standard (e.g., instead of requiring that a CMS be installed at each emission point before the effluents from those points are channeled to a common control device, the standard specifies that only one CMS is required to be installed at the vent of the control device).

(3) When more than one CMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CMS. However, when one CMS is used as a backup to another CMS, the owner or operator shall report the results from the CMS used to meet the monitoring requirements of this part. If both such CMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CMS for the relevant compliance period.

(c) Operation and maintenance of continuous monitoring systems.

(1) The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of an affected source must maintain and operate each CMS as specified in § 63.6(e)(1).

(ii) The owner or operator must keep the necessary parts for routine repairs of the affected CMS equipment readily available.

(iii) The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan for CMS as specified in § 63.6(e)(3).

(2) (i) All CMS must be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

(3) All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under § 63.7. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(4) Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS, including COMS and CEMS, shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

- (i) All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
- (ii) All CEMS for measuring emissions other than opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(5) Unless otherwise approved by the Administrator, minimum procedures for COMS shall include a method for producing a simulated zero opacity condition and an upscale (high-level) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of all the analyzer's internal optical surfaces and all electronic circuitry, including the lamp and photodetector assembly normally used in the measurement of opacity.

(6) The owner or operator of a CMS that is not a CPMS, which is installed in accordance with the provisions of this part and the applicable CMS performance specification(s), must check the zero (low-level) and high-level calibration drifts at least once daily in accordance with the written procedure specified in the performance evaluation plan developed under paragraphs (e)(3)(i) and (ii) of this section. The zero (low-level) and high-level calibration drifts must be adjusted, at a minimum, whenever the 24-hour zero (low-level) drift exceeds two times the limits of the applicable performance specification(s) specified in the relevant standard. The system shall allow the amount of excess zero (low-level) and high-level drift measured at the 24-hour interval checks to be recorded and quantified whenever specified. For COMS, all optical and instrumental surfaces exposed to the effluent gases must be cleaned prior to performing the zero (low-level) and high-level drift adjustments; the optical surfaces and instrumental surfaces must be cleaned when the cumulative automatic zero compensation, if applicable, exceeds 4 percent opacity. The CPMS must be calibrated prior to use for the purposes of complying with this section. The CPMS must be checked daily for indication that the system is responding. If the CPMS system includes an internal system check, results must be recorded and checked daily for proper operation.

(7) (i) A CMS is out of control if -

- (A) The zero (low-level), mid-level (if applicable), or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard; or
- (B) The CMS fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit; or

(C) The COMS CD exceeds two times the limit in the applicable performance specification in the relevant standard.

(ii) When the CMS is out of control, the owner or operator of the affected source shall take the necessary corrective action and shall repeat all necessary tests which indicate that the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour the owner or operator conducts a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement established under this part.

(8) The owner or operator of a CMS that is out of control as defined in paragraph (c)(7) of this section shall submit all information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken, in the excess emissions and continuous monitoring system performance report required in § 63.10(e)(3).

(d) *Quality control program.*

(1) The results of the quality control program required in this paragraph will be considered by the Administrator when he/she determines the validity of monitoring data.

(2) The owner or operator of an affected source that is required to use a CMS and is subject to the monitoring requirements of this section and a relevant standard shall develop and implement a CMS quality control program. As part of the quality control program, the owner or operator shall develop and submit to the Administrator for approval upon request a site-specific performance evaluation test plan for the CMS performance evaluation required in paragraph (e)(3)(i) of this section, according to the procedures specified in paragraph (e). In addition, each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the following operations:

- (i) Initial and any subsequent calibration of the CMS;
- (ii) Determination and adjustment of the calibration drift of the CMS;
- (iii) Preventive maintenance of the CMS, including spare parts inventory;
- (iv) Data recording, calculations, and reporting;
- (v) Accuracy audit procedures, including sampling and analysis methods; and
- (vi) Program of corrective action for a malfunctioning CMS.

(3) The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. Where relevant, e.g., program of corrective action for a malfunctioning CMS, these written procedures may be incorporated as part of the affected

source's startup, shutdown, and malfunction plan to avoid duplication of planning and recordkeeping efforts.

(e) *Performance evaluation of continuous monitoring systems -*

(1) *General.* When required by a relevant standard, and at any other time the Administrator may require under section 114 of the Act, the owner or operator of an affected source being monitored shall conduct a performance evaluation of the CMS. Such performance evaluation shall be conducted according to the applicable specifications and procedures described in this section or in the relevant standard.

(2) *Notification of performance evaluation.* The owner or operator shall notify the Administrator in writing of the date of the performance evaluation simultaneously with the notification of the performance test date required under § 63.7(b) or at least 60 days prior to the date the performance evaluation is scheduled to begin if no performance test is required.

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

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance. The external QA program shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(iii) The owner or operator of an affected source shall submit the site-specific performance evaluation test plan to the Administrator (if requested) at least 60 days before the performance test or performance evaluation is scheduled to begin, or on a mutually agreed upon date, and review and approval of the performance evaluation test plan by the Administrator will occur with the review and approval of the site-specific test plan (if review of the site-specific test plan is requested).

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

(v) In the event that the Administrator fails to approve or disapprove the site-specific performance evaluation test plan within the time period specified in § 63.7(c)(3), the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the monitoring method(s) specified in the relevant standard, the owner or operator shall conduct the performance evaluation within the time specified in this subpart using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to a monitoring method specified in the relevant standard, the owner or operator shall refrain from conducting the performance evaluation until the Administrator approves the use of the alternative method. If the Administrator does not approve the use of the alternative method within 30 days before the performance evaluation is scheduled to begin, the performance evaluation deadlines specified in paragraph (e)(4) of this section may be extended such that the owner or operator shall conduct the performance evaluation within 60 calendar days after the Administrator approves the use of the alternative method. Notwithstanding the requirements in the preceding two sentences, the owner or operator may proceed to conduct the performance evaluation as required in this section (without the Administrator's prior approval of the site-specific performance evaluation test plan) if he/she subsequently chooses to use the specified monitoring method(s) instead of an alternative.

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

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

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

(4) *Conduct of performance evaluation and performance evaluation dates.* The owner or operator of an affected source shall conduct a performance evaluation of a required CMS during any performance test required under § 63.7 in accordance with the applicable performance specification as specified in the relevant standard. Notwithstanding the requirement in the previous sentence, if the owner or operator of an affected source elects to submit COMS data for compliance with a relevant opacity emission standard as provided under § 63.6(h)(7), he/she shall conduct a performance evaluation of the COMS as specified in the relevant standard, before the performance test required under § 63.7 is conducted in time to submit the results of the performance evaluation as specified in paragraph (e)(5)(ii) of this section. If a performance test is not required, or the requirement for a performance test has been waived under § 63.7(h), the owner or operator of an affected source shall conduct the performance evaluation not later than 180 days after the appropriate compliance date for the affected source, as specified in § 63.7(a), or as otherwise specified in the relevant standard.

(5) *Reporting performance evaluation results.*

(i) The owner or operator shall furnish the Administrator a copy of a written report of the results of the performance evaluation containing the information specified in § 63.7(g)(2)(i) through (vi) simultaneously with the results of the performance test required under § 63.7 or within 60 days of completion of the performance evaluation, unless otherwise specified in a relevant standard.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under § 63.7 and described in § 63.6(d)(6) shall furnish

the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation under this paragraph. The copies shall be provided at least 15 calendar days before the performance test required under § 63.7 is conducted.

(f) Use of an alternative monitoring method -

(1) *General.* Until permission to use an alternative monitoring procedure (minor, intermediate, or major changes; see definition in § 63.90(a)) has been granted by the Administrator under this paragraph (f)(1), the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their measurements and the measurements of opacity by a system complying with the requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4) (i) *Request to use alternative monitoring procedure.* An owner or operator who wishes to use an alternative monitoring procedure must submit an application to the Administrator as described in paragraph (f)(4)(ii) of this section. The application may be submitted at any time provided that the monitoring procedure is not the performance test method used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring procedure will serve as the performance test method that is to be used to demonstrate compliance with a relevant standard, the application must be submitted at least 60 days before the performance evaluation is scheduled to begin and must meet the requirements for an alternative test method under § 63.7(f).

(ii) The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in § 63.2 and a performance evaluation test plan, if required, as specified in paragraph (e)(3) of this section. In addition, the application must include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) The owner or operator may submit the information required in this paragraph well in advance of the submittal dates specified in paragraph (f)(4)(i) above to ensure a timely review by the Administrator in order to meet the compliance demonstration date specified in this section or the relevant standard.

(iv) Application for minor changes to monitoring procedures, as specified in paragraph (b)(1) of this section, may be made in the site-specific performance evaluation plan.

(5) *Approval of request to use alternative monitoring procedure.*

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. If a request for a minor change is made in conjunction with site-specific performance evaluation plan, then approval of the plan will constitute approval of the minor change. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with -

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

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) The Administrator may establish general procedures and criteria in a relevant standard to accomplish the requirements of paragraph (f)(5)(i) of this section.

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (f)(5)(i) of this section, the owner or operator of such source shall

continue to use the alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by § 63.8(f).

(6) *Alternative to the relative accuracy test.* An alternative to the relative accuracy test for CEMS specified in a relevant standard may be requested as follows:

(i) *Criteria for approval of alternative procedures.* An alternative to the test method for determining relative accuracy is available for affected sources with emission rates demonstrated to be less than 50 percent of the relevant standard. The owner or operator of an affected source may petition the Administrator under paragraph (f)(6)(ii) of this section to substitute the relative accuracy test in section 7 of Performance Specification 2 with the procedures in section 10 if the results of a performance test conducted according to the requirements in § 63.7, or other tests performed following the criteria in § 63.7, demonstrate that the emission rate of the pollutant of interest in the units of the relevant standard is less than 50 percent of the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the owner or operator may petition the Administrator to substitute the relative accuracy test with the procedures in section 10 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the CEMS is used continuously to determine compliance with the relevant standard.

(ii) *Petition to use alternative to relative accuracy test.* The petition to use an alternative to the relative accuracy test shall include a detailed description of the procedures to be applied, the location and the procedure for conducting the alternative, the concentration or response levels of the alternative relative accuracy materials, and the other equipment checks included in the alternative procedure(s). The Administrator will review the petition for completeness and applicability. The Administrator's determination to approve an alternative will depend on the intended use of the CEMS data and may require specifications more stringent than in Performance Specification 2.

(iii) *Rescission of approval to use alternative to relative accuracy test.* The Administrator will review the permission to use an alternative to the CEMS relative accuracy test and may rescind such permission if the CEMS data from a successful completion of the alternative relative accuracy procedure indicate that the affected source's emissions are approaching the level of the relevant standard. The criterion for reviewing the permission is that the collection of CEMS data shows that emissions have exceeded 70 percent of the relevant standard for any averaging period, as specified in the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the criterion for reviewing the permission is that the collection of CEMS data shows that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for any averaging period, as specified in the relevant standard. The owner or operator of the affected source shall maintain records and determine the level of emissions relative to the criterion for permission to use an alternative for relative accuracy testing. If this criterion is exceeded, the owner or operator shall notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increased emissions. The Administrator will review the notification and may rescind permission to use an alternative and require the owner or operator to conduct a

relative accuracy test of the CEMS as specified in section 7 of Performance Specification 2. The Administrator will review the notification and may rescind permission to use an alternative and require the owner or operator to conduct a relative accuracy test of the CEMS as specified in section 8.4 of Performance Specification 2.

(g) Reduction of monitoring data.

(1) The owner or operator of each CMS must reduce the monitoring data as specified in paragraphs (g)(1) through (5) of this section.

(2) The owner or operator of each COMS shall reduce all data to 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period. Data from CEMS for measurement other than opacity, unless otherwise specified in the relevant standard, shall be reduced to 1-hour averages computed from four or more data points equally spaced over each 1-hour period, except during periods when calibration, quality assurance, or maintenance activities pursuant to provisions of this part are being performed. During these periods, a valid hourly average shall consist of at least two data points with each representing a 15-minute period. Alternatively, an arithmetic or integrated 1-hour average of CEMS data may be used. Time periods for averaging are defined in § 63.2.

(3) The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O₂ or ng/J of pollutant).

(4) All emission data shall be converted into units of the relevant standard for reporting purposes using the conversion procedures specified in that standard. After conversion into units of the relevant standard, the data may be rounded to the same number of significant digits as used in that standard to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

(5) Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments must not be included in any data average computed under this part. For the owner or operator complying with the requirements of § 63.10(b)(2)(vii)(A) or (B), data averages must include any data recorded during periods of monitor breakdown or malfunction.

§ 63.9 Notification requirements.

(a) Applicability and general information.

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

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a notice that contains all the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(4) (i) Before a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the appropriate Regional Office of the EPA

(to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any notifications at its discretion.

(b) Initial notifications.

(1) (i) The requirements of this paragraph apply to the owner or operator of an affected source when such source becomes subject to a relevant standard.

(ii) If an area source subsequently becomes a major source that is subject to the emission standard or other requirement, such source shall be subject to the notification requirements of this section. Area sources previously subject to major source requirements that become major sources again are also subject to the notification requirements of this paragraph and must submit the notification according to the requirements of paragraph (k) of this section.

(iii) Affected sources that are required under this paragraph to submit an initial notification may use the application for approval of construction or reconstruction under § 63.5(d) of this subpart, if relevant, to fulfill the initial notification requirements of this paragraph.

(2) The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard), shall provide the following information:

(i) The name and address of the owner or operator;

(ii) The address (i.e., physical location) of the affected source;

(iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;

(iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and

(v) A statement of whether the affected source is a major source or an area source.

(3) [Reserved]

(4) The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i); and

(ii)-(iv) [Reserved]

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

(5) The owner or operator of a new or reconstructed affected source for which an application for approval of construction or reconstruction is not required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new affected source, reconstruct an affected source, or reconstruct a source such that the source becomes an affected source, and

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

(iii) Unless the owner or operator has requested and received prior permission from the Administrator to submit less than the information in § 63.5(d), the notification must include the information required on the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i).

(c) *Request for extension of compliance.* If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with § 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in § 63.6(i)(4) through § 63.6(i)(6).

(d) *Notification that source is subject to special compliance requirements.* An owner or operator of a new source that is subject to special compliance requirements as specified in § 63.6(b)(3) and § 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in paragraph (b) of this section for new sources that are not subject to the special provisions.

(e) *Notification of performance test.* The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Administrator to review and approve the site-specific test plan required under § 63.7(c), if requested by the Administrator, and to have an observer present during the test.

(f) *Notification of opacity and visible emission observations.* The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting the opacity or visible emission observations specified in § 63.6(h)(5), if such observations are required for the source by a relevant standard. The notification shall be submitted with the notification of the performance test date, as specified in paragraph (e) of this section, or if no performance test is required or visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under § 63.7, the owner or operator shall deliver or postmark the

notification not less than 30 days before the opacity or visible emission observations are scheduled to take place.

(g) *Additional notification requirements for sources with continuous monitoring systems.* The owner or operator of an affected source required to use a CMS by a relevant standard shall furnish the Administrator written notification as follows:

- (1) A notification of the date the CMS performance evaluation under § 63.8(e) is scheduled to begin, submitted simultaneously with the notification of the performance test date required under § 63.7(b). If no performance test is required, or if the requirement to conduct a performance test has been waived for an affected source under § 63.7(h), the owner or operator shall notify the Administrator in writing of the date of the performance evaluation at least 60 calendar days before the evaluation is scheduled to begin;
- (2) A notification that COMS data results will be used to determine compliance with the applicable opacity emission standard during a performance test required by § 63.7 in lieu of Method 9 or other opacity emissions test method data, as allowed by § 63.6(h)(7)(ii), if compliance with an opacity emission standard is required for the source by a relevant standard. The notification shall be submitted at least 60 calendar days before the performance test is scheduled to begin; and
- (3) A notification that the criterion necessary to continue use of an alternative to relative accuracy testing, as provided by § 63.8(f)(6), has been exceeded. The notification shall be delivered or postmarked not later than 10 days after the occurrence of such exceedance, and it shall include a description of the nature and cause of the increased emissions.

(h) *Notification of compliance status.*

- (1) The requirements of paragraphs (h)(2) through (h)(4) of this section apply when an affected source becomes subject to a relevant standard.
- (2) (i) Before a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit to the Administrator a notification of compliance status, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the relevant standard. The notification shall list -
 - (A) The methods that were used to determine compliance;
 - (B) The results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted;
 - (C) The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods;
 - (D) The type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard;

- (E) If the relevant standard applies to both major and area sources, an analysis demonstrating whether the affected source is a major source (using the emissions data generated for this notification);
- (F) A description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method); and
- (G) A statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements.

(ii) The notification must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business on the 60th (or other required) day following the completion of any subsequent required performance test. If no performance test is required but opacity or visible emission observations are required to demonstrate compliance with an opacity or visible emission standard under this part, the notification of compliance status shall be sent before close of business on the 30th day following the completion of opacity or visible emission observations. Notifications may be combined as long as the due date requirement for each notification is met.

(3) After a title V permit has been issued to the owner or operator of an affected source, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this part. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in the relevant standard.

(4) [Reserved]

(5) If an owner or operator of an affected source submits estimates or preliminary information in the application for approval of construction or reconstruction required in § 63.5(d) in place of the actual emissions data or control efficiencies required in paragraphs (d)(1)(ii)(H) and (d)(2) of § 63.5, the owner or operator shall submit the actual emissions data and other correct information as soon as available but no later than with the initial notification of compliance status required in this section.

(6) Advice on a notification of compliance status may be obtained from the Administrator.

(i) *Adjustment to time periods or postmark deadlines for submittal and review of required communications.*

(1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (i)(2) and (i)(3) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (i)(2) and (i)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

(j) *Change in information already provided.* Any change in the information already provided under this section shall be provided to the Administrator within 15 calendar days after the change. The owner or operator of a major source that reclassifies to area source status is also subject to the notification requirements of this paragraph. The owner or operator may use the application for reclassification with the regulatory authority (*e.g.*, permit application) to fulfill the requirements of this paragraph. A source which reclassified after January 25, 2018, and before January 19, 2021, and has not yet provided the notification of a change in information is required to provide such notification no later than February 2, 2021, according to the requirements of paragraph (k) of this section. Beginning January 19, 2021, the owner or operator of a major source that reclassifies to area source status must submit the notification according to the requirements of paragraph (k) of this section. A notification of reclassification must contain the following information:

- (1) The name and address of the owner or operator;
- (2) The address (*i.e.*, physical location) of the affected source;
- (3) An identification of the standard being reclassified from and to (if applicable); and
- (4) Date of effectiveness of the reclassification.

(k) *Electronic submission of notifications or reports.* If you are required to submit notifications or reports following the procedure specified in this paragraph (k), you must submit notifications or reports to the EPA via CEDRI, which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). The notification or report must be submitted by the deadline specified. The EPA will make all the information submitted through CEDRI available to the public without further notice to

you. Do not use CEDRI to submit information you claim as confidential business information (CBI). Anything submitted using CEDRI cannot later be claimed to be CBI. Although we do not expect persons to assert a claim of CBI, if persons wish to assert a CBI, submit a complete notification or report, including information claimed to be CBI, to the EPA. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (k). All CBI claims must be asserted at the time of submission. Furthermore, under section 114(c) of the Act emissions data is not entitled to confidential treatment and requires EPA to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available.

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

- (i) You must have been or will be precluded from accessing CEDRI and submitting a required notification or report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.
- (ii) The outage must have occurred within the period of time beginning 5 business days prior to the date that the notification or report is due.
- (iii) The outage may be planned or unplanned.
- (iv) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.
- (v) You must provide to the Administrator a written description identifying:
 - (A) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;
 - (B) A rationale for attributing the delay in submitting beyond the regulatory deadline to EPA system outage;
 - (C) Measures taken or to be taken to minimize the delay in submitting; and
 - (D) The date by which you propose to submit, or if you have already met the electronic submittal requirement in this paragraph (k) at the time of the notification, the date you submitted the notification or report.
- (vi) The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.
- (vii) In any circumstance, the notification or report must be submitted electronically as soon as possible after the outage is resolved.

(2) If you are required to electronically submit a notification or report by this paragraph (k) through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to timely comply with the electronic submittal requirement. To assert a claim of force majeure, you must meet the requirements outlined in paragraphs (k)(2)(i) through (v) of this section.

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

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

(iii) You must provide to the Administrator:

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

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

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

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

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

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

§ 63.10 Recordkeeping and reporting requirements.

(a) Applicability and general information.

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

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a report that contains all the information required in a report listed in this section, an owner or operator may send the Administrator a copy of the report sent to the State to satisfy the requirements of this section for that report.

(4) (i) Before a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each report submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any reports at its discretion.

(5) If an owner or operator of an affected source in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. For each relevant standard established pursuant to section 112 of the Act, the allowance in the previous sentence applies in each State beginning 1 year after the affected source's compliance date for that standard. Procedures governing the implementation of this provision are specified in § 63.9(i).

(6) If an owner or operator supervises one or more stationary sources affected by more than one standard established pursuant to section 112 of the Act, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required for each source shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the latest compliance date for any relevant standard established pursuant to section 112 of the Act for any such affected source(s). Procedures governing the implementation of this provision are specified in § 63.9(i).

(7) If an owner or operator supervises one or more stationary sources affected by standards established pursuant to section 112 of the Act (as amended November 15, 1990) and standards set under part 60, part 61, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required by each relevant (i.e., applicable) standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the relevant section 112 standard, or 1 year after the stationary source is required to be in compliance with the applicable part 60 or part 61 standard, whichever is latest. Procedures governing the implementation of this provision are specified in § 63.9(i).

(b) *General recordkeeping requirements.*

(1) The owner or operator of an affected source subject to the provisions of this part shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(2) The owner or operator of an affected source subject to the provisions of this part shall maintain relevant records for such source of -

(i) The occurrence and duration of each startup or shutdown when the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards;

(ii) The occurrence and duration of each malfunction of operation (i.e., process equipment) or the required air pollution control and monitoring equipment;

(iii) All required maintenance performed on the air pollution control and monitoring equipment;

(iv) (A) Actions taken during periods of startup or shutdown when the source exceeded applicable emission limitations in a relevant standard and when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see § 63.6(e)(3)); or

(B) Actions taken during periods of malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see § 63.6(e)(3));

(v) All information necessary, including actions taken, to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see § 63.6(e)(3)) when all actions taken during periods of startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events);

(vi) Each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);

(vii) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing

measurements, and raw performance evaluation measurements, that support data that the source is required to report);

(A) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(B) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(C) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (b)(2)(vii), if the administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(viii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations;

(ix) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations;

(x) All CMS calibration checks;

(xi) All adjustments and maintenance performed on CMS;

(xii) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements under this part, if the source has been granted a waiver under paragraph (f) of this section;

(xiii) All emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test, if the source has been granted such permission under § 63.8(f)(6); and

(xiv) All documentation supporting initial notifications and notifications of compliance status under § 63.9.

(3) If an owner or operator determines that his or her existing or new stationary source is in the source category regulated by a standard established pursuant to section 112 of the Act, but that source is not subject to the relevant standard (or other requirement established under this part) because of enforceable limitations on the source's potential to emit, or the source otherwise qualifies for an exclusion, the owner or operator must keep a record of the applicability determination. The applicability determination must be kept on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source subject to the relevant standard (or other requirement established under this part), whichever comes first if the determination is made prior to January 19, 2021. The applicability determination must be kept until the source changes its operations to become an affected source subject to the relevant standard (or other requirement established under this part) if the determination was made on or after January 19, 2021. The record of the applicability determination must be signed by the person making the determination and include an emissions analysis (or other information) that demonstrates the owner or operator's conclusion that the source is unaffected (*e.g.*, because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the Administrator to make an applicability finding for the source with regard to the relevant standard or other requirement. If applicable, the analysis must be performed in accordance with requirements established in relevant subparts of this part for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with EPA guidance materials published to assist sources in making applicability determinations under section 112 of the Act, if any. The requirements to determine applicability of a standard under § 63.1(b)(3) and to record the results of that determination under this paragraph (b)(3) of this section shall not by themselves create an obligation for the owner or operator to obtain a title V permit.

(c) *Additional recordkeeping requirements for sources with continuous monitoring systems.* In addition to complying with the requirements specified in paragraphs (b)(1) and (b)(2) of this section, the owner or operator of an affected source required to install a CMS by a relevant standard shall maintain records for such source of -

- (1) All required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);
- (2)-(4) [Reserved]
- (5) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;
- (6) The date and time identifying each period during which the CMS was out of control, as defined in § 63.8(c)(7);
- (7) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source;
- (8) The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

(9) [Reserved]

(10) The nature and cause of any malfunction (if known);

(11) The corrective action taken or preventive measures adopted;

(12) The nature of the repairs or adjustments to the CMS that was inoperative or out of control;

(13) The total process operating time during the reporting period; and

(14) All procedures that are part of a quality control program developed and implemented for CMS under § 63.8(d).

(15) In order to satisfy the requirements of paragraphs (c)(10) through (c)(12) of this section and to avoid duplicative recordkeeping efforts, the owner or operator may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan specified in § 63.6(e), provided that such plan and records adequately address the requirements of paragraphs (c)(10) through (c)(12).

(d) General reporting requirements.

(1) Notwithstanding the requirements in this paragraph or paragraph (e) of this section, and except as provided in § 63.16, the owner or operator of an affected source subject to reporting requirements under this part shall submit reports to the Administrator in accordance with the reporting requirements in the relevant standard(s).

(2) *Reporting results of performance tests.* Before a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of any performance test under § 63.7 to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of a required performance test to the appropriate permitting authority. The owner or operator of an affected source shall report the results of the performance test to the Administrator (or the State with an approved permit program) before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator. The results of the performance test shall be submitted as part of the notification of compliance status required under § 63.9(h).

(3) *Reporting results of opacity or visible emission observations.* The owner or operator of an affected source required to conduct opacity or visible emission observations by a relevant standard shall report the opacity or visible emission results (produced using Test Method 9 or Test Method 22, or an alternative to these test methods) along with the results of the performance test required under § 63.7. If no performance test is required, or if visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the performance test required under § 63.7, the owner or operator shall report the opacity or visible emission results before the close of business on the 30th day following the completion of the opacity or visible emission observations.

(4) *Progress reports.* The owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under § 63.6(i) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

(5) (i) *Periodic startup, shutdown, and malfunction reports.* If actions taken by an owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see § 63.6(e)(3)), the owner or operator shall state such information in a startup, shutdown, and malfunction report. Actions taken to minimize emissions during such startups, shutdowns, and malfunctions shall be summarized in the report and may be done in checklist form; if actions taken are the same for each event, only one checklist is necessary. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup or shutdown caused the source to exceed any applicable emission limitation in the relevant emission standards, or if a malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit). The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in paragraph (e)(3) of this section.

(ii) *Immediate startup, shutdown, and malfunction reports.* Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under paragraph (d)(5)(i) of this section, any time an action taken by an owner or operator during a startup or shutdown that caused the source to exceed any applicable emission limitation in the relevant emission standards, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this paragraph (d)(5)(ii) shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the

reasons for not following the startup, shutdown, and malfunction plan, describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred (or could have occurred in the case of malfunctions), and actions taken to minimize emissions in conformance with § 63.6(e)(1)(i). Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph (d)(5)(ii) are specified in § 63.9(i).

(e) Additional reporting requirements for sources with continuous monitoring systems -

(1) *General.* When more than one CEMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CEMS.

(2) Reporting results of continuous monitoring system performance evaluations.

(i) The owner or operator of an affected source required to install a CMS by a relevant standard shall furnish the Administrator a copy of a written report of the results of the CMS performance evaluation, as required under § 63.8(e), simultaneously with the results of the performance test required under § 63.7, unless otherwise specified in the relevant standard.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under § 63.7 and described in § 63.6(d)(6) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation conducted under § 63.8(e). The copies shall be furnished at least 15 calendar days before the performance test required under § 63.7 is conducted.

(3) Excess emissions and continuous monitoring system performance report and summary report.

(i) Excess emissions and parameter monitoring exceedances are defined in relevant standards. The owner or operator of an affected source required to install a CMS by a relevant standard shall submit an excess emissions and continuous monitoring system performance report and/or a summary report to the Administrator semiannually, except when -

(A) More frequent reporting is specifically required by a relevant standard;

(B) The Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source; or

(C) [Reserved]

(D) The affected source is complying with the Performance Track Provisions of § 63.16, which allows less frequent reporting.

(ii) *Request to reduce frequency of excess emissions and continuous monitoring system performance reports.* Notwithstanding the frequency of reporting requirements specified in paragraph (e)(3)(i) of this section, an owner or operator who is required by a relevant standard to submit excess emissions and continuous monitoring system performance (and summary) reports on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(A) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected source's excess emissions and continuous monitoring system performance reports continually demonstrate that the source is in compliance with the relevant standard;

(B) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the relevant standard; and

(C) The Administrator does not object to a reduced frequency of reporting for the affected source, as provided in paragraph (e)(3)(iii) of this section.

(iii) The frequency of reporting of excess emissions and continuous monitoring system performance (and summary) reports required to comply with a relevant standard may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the 5-year recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iv) As soon as CMS data indicate that the source is not in compliance with any emission limitation or operating parameter specified in the relevant standard, the frequency of reporting shall revert to the frequency specified in the relevant standard, and the owner or operator shall submit an excess emissions and continuous monitoring system performance (and summary) report for the noncomplying emission points at the next appropriate reporting period following the noncomplying event. After demonstrating ongoing compliance with the relevant standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard, as provided for in paragraphs (e)(3)(ii) and (e)(3)(iii) of this section.

(v) *Content and submittal dates for excess emissions and monitoring system performance reports.* All excess emissions and monitoring system performance reports and all summary reports, if required, shall be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate. Written reports of excess emissions or exceedances of process or control system parameters shall include all the information required in paragraphs (c)(5) through (c)(13) of this section, in §§ 63.8(c)(7) and 63.8(c)(8), and in the relevant standard, and they shall contain the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no excess emissions or exceedances of a parameter have occurred, or a CMS has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

(vi) *Summary report.* As required under paragraphs (e)(3)(vii) and (e)(3)(viii) of this section, one summary report shall be submitted for the hazardous air pollutants monitored at each affected source (unless the relevant standard specifies that more than one summary report is required, e.g., one summary report for each hazardous air pollutant monitored). The summary report shall be entitled "Summary Report - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" and shall contain the following information:

- (A) The company name and address of the affected source;
- (B) An identification of each hazardous air pollutant monitored at the affected source;
- (C) The beginning and ending dates of the reporting period;
- (D) A brief description of the process units;
- (E) The emission and operating parameter limitations specified in the relevant standard(s);
- (F) The monitoring equipment manufacturer(s) and model number(s);
- (G) The date of the latest CMS certification or audit;
- (H) The total operating time of the affected source during the reporting period;
- (I) An emission data summary (or similar summary if the owner or operator monitors control system parameters), including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes;
- (J) A CMS performance summary (or similar summary if the owner or operator monitors control system parameters), including the total CMS downtime during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of CMS downtime expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total CMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, nonmonitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes;
- (K) A description of any changes in CMS, processes, or controls since the last reporting period;
- (L) The name, title, and signature of the responsible official who is certifying the accuracy of the report; and
- (M) The date of the report.

(vii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is less than 1 percent of the total operating time for the

reporting period, and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report shall be submitted, and the full excess emissions and continuous monitoring system performance report need not be submitted unless required by the Administrator.

(viii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, both the summary report and the excess emissions and continuous monitoring system performance report shall be submitted.

(4) *Reporting continuous opacity monitoring system data produced during a performance test.* The owner or operator of an affected source required to use a COMS shall record the monitoring data produced during a performance test required under § 63.7 and shall furnish the Administrator a written report of the monitoring results. The report of COMS data shall be submitted simultaneously with the report of the performance test results required in paragraph (d)(2) of this section.

(f) *Waiver of recordkeeping or reporting requirements.*

(1) Until a waiver of a recordkeeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Recordkeeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator's judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of recordkeeping or reporting is made, the application shall accompany the request for an extension of compliance under § 63.6(i), any required compliance progress report or compliance status report required under this part (such as under §§ 63.6(i) and 63.9(h)) or in the source's title V permit, or an excess emissions and continuous monitoring system performance report required under paragraph (e) of this section, whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements under this paragraph when he/she -

- (i) Approves or denies an extension of compliance; or
- (ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or
- (iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any recordkeeping or reporting requirement granted under this paragraph may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.11 Control device and work practice requirements.

(a) Applicability.

- (1) The applicability of this section is set out in § 63.1(a)(4).
- (2) This section contains requirements for control devices used to comply with applicable subparts of this part. The requirements are placed here for administrative convenience and apply only to facilities covered by subparts referring to this section.
- (3) This section also contains requirements for an alternative work practice used to identify leaking equipment. This alternative work practice is placed here for administrative convenience and is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(b) Flares.

- (1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.
- (2) Flares shall be steam-assisted, air-assisted, or non-assisted.
- (3) Flares shall be operated at all times when emissions may be vented to them.
- (4) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Test Method 22 in appendix A of part 60 of this chapter shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.
- (5) Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
- (6) An owner/operator has the choice of adhering to the heat content specifications in paragraph (b)(6)(ii) of this section, and the maximum tip velocity specifications in paragraph (b)(7) or (b)(8) of this section, or adhering to the requirements in paragraph (b)(6)(i) of this section.
 - (i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity $V_{\max}$, as determined by the following equation:

$$V_{\max} = (X_{H_2} - K_1) * K_2$$

Where:

$V_{\max}$ = Maximum permitted velocity, m/sec.

K_1 = Constant, 6.0 volume-percent hydrogen.

K_2 = Constant, 3.9(m/sec)/volume-percent hydrogen.

X_{H_2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 63.14).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(7)(i) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K = Constant =

$$1.740 \times 10^{-7} \left(\frac{1}{\text{ppmv}} \right) \left(\frac{\text{g-mole}}{\text{scm}} \right) \left(\frac{\text{MJ}}{\text{kcal}} \right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

C_i = Concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946-77 or 90 (Reapproved 1994) (incorporated by reference as specified in § 63.14).

H_i = Net heat of combustion of sample component i , kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in § 63.14) if published values are not available or cannot be calculated.

n = Number of sample components.

(7) (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60 of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, equal to or greater

than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, less than the velocity $V_{\max}$, as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, $V_{\max}$, for flares complying with this paragraph shall be determined by the following equation:

$$\text{Log}_{10}(V_{\max}) = (H_T + 28.8)/31.7$$

Where:

$V_{\max}$ = Maximum permitted velocity, m/sec.

28.8 = Constant.

31.7 = Constant.

H_T = The net heating value as determined in paragraph (b)(6) of this section.

(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity $V_{\max}$. The maximum permitted velocity, $V_{\max}$, for air-assisted flares shall be determined by the following equation:

$$V_{\max} = 8.71 + 0.708(H_T)$$

Where:

$V_{\max}$ = Maximum permitted velocity, m/sec.

8.71 = Constant.

0.708 = Constant.

H_T = The net heating value as determined in paragraph (b)(6)(ii) of this section.

(c) *Alternative work practice for monitoring equipment for leaks.* Paragraphs (c), (d), and (e) of this section apply to all equipment for which the applicable subpart requires monitoring with a 40 CFR part 60, appendix A-7, Method 21 monitor, except for closed vent systems, equipment designated as leakless, and equipment identified in the applicable subpart as having no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. An owner or operator may use an optical gas imaging instrument instead of a 40 CFR part 60, appendix A-7, Method 21 monitor. Requirements in the existing subparts that are specific to the Method 21 instrument do not apply under this section. All other requirements in the applicable subpart that are not addressed in paragraphs (c), (d), and (e) of this section continue to apply. For example, equipment specification requirements, and non-Method 21 instrument recordkeeping and reporting requirements in the applicable subpart continue to apply. The terms defined in paragraphs (c)(1) through (5) of this section have meanings that are specific to the alternative work practice standard in paragraphs (c), (d), and (e) of this section.

(1) *Applicable subpart* means the subpart in 40 CFR parts 60, 61, 63, and 65 that requires monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(2) *Equipment* means pumps, valves, pressure relief valves, compressors, open-ended lines, flanges, connectors, and other equipment covered by the applicable subpart that require monitoring with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(3) *Imaging* means making visible emissions that may otherwise be invisible to the naked eye.

(4) *Optical gas imaging instrument* means an instrument that makes visible emissions that may otherwise be invisible to the naked eye.

(5) *Repair* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak.

(6) *Leak* means:

(i) Any emissions imaged by the optical gas instrument;

(ii) Indications of liquids dripping;

(iii) Indications by a sensor that a seal or barrier fluid system has failed; or

(iv) Screening results using a 40 CFR part 60, appendix A-7, Method 21 monitor that exceed the leak definition in the applicable subpart to which the equipment is subject.

(d) The alternative work practice standard for monitoring equipment for leaks is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(1) An owner or operator of an affected source subject to 40 CFR parts 60, 61, 63, or 65 can choose to comply with the alternative work practice requirements in paragraph (e) of this section instead of using the 40 CFR part 60, appendix A-7, Method 21 monitor to identify leaking equipment. The owner or operator must document the equipment, process units, and facilities for which the alternative work practice will be used to identify leaks.

(2) Any leak detected when following the leak survey procedure in paragraph (e)(3) of this section must be identified for repair as required in the applicable subpart.

(3) If the alternative work practice is used to identify leaks, re-screening after an attempted repair of leaking equipment must be conducted using either the alternative work practice or the 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subparts to which the equipment is subject.

(4) The schedule for repair is as required in the applicable subpart.

(5) When this alternative work practice is used for detecting leaking equipment, choose one of the monitoring frequencies listed in Table 1 to subpart A of this part in lieu of the monitoring frequency specified for regulated equipment in the applicable subpart. Reduced monitoring frequencies for good performance are not applicable when using the alternative work practice.

(6) When this alternative work practice is used for detecting leaking equipment, the following are not applicable for the equipment being monitored:

(i) Skip period leak detection and repair;

(ii) Quality improvement plans; or

(iii) Complying with standards for allowable percentage of valves and pumps to leak.

(7) When the alternative work practice is used to detect leaking equipment, the regulated equipment in paragraph (d)(1)(i) of this section must also be monitored annually using a 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subpart. The owner or operator may choose the specific monitoring period (for example, first quarter) to conduct the annual monitoring. Subsequent monitoring must be conducted every 12 months from the initial period. Owners or operators must keep records of the annual Method 21 screening results, as specified in paragraph (i)(4)(vii) of this section.

(e) An owner or operator of an affected source who chooses to use the alternative work practice must comply with the requirements of paragraphs (e)(1) through (e)(5) of this section.

(1) *Instrument specifications.* The optical gas imaging instrument must comply with the requirements specified in paragraphs (e)(1)(i) and (e)(1)(ii) of this section.

(i) Provide the operator with an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check described in paragraph (e)(2) of this section. The detection sensitivity level depends upon the frequency at which leak monitoring is to be performed.

(ii) Provide a date and time stamp for video records of every monitoring event.

(2) *Daily instrument check.* On a daily basis, and prior to beginning any leak monitoring work, test the optical gas imaging instrument at the mass flow rate determined in paragraph (e)(2)(i) of this section in accordance with the procedure specified in paragraphs (e)(2)(ii) through (e)(2)(iv) of this section for each camera configuration used during monitoring (for example, different lenses used), unless an alternative method to demonstrate daily instrument checks has been approved in accordance with paragraph (e)(2)(v) of this section.

(i) Calculate the mass flow rate to be used in the daily instrument check by following the procedures in paragraphs (e)(2)(i)(A) and (e)(2)(i)(B) of this section.

(A) For a specified population of equipment to be imaged by the instrument, determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, within the distance to be used in paragraph (e)(2)(iv)(B) of this section, at or below the standard detection sensitivity level.

(B) Multiply the standard detection sensitivity level, corresponding to the selected monitoring frequency in Table 1 of subpart A of this part, by the mass fraction of detectable chemicals from the stream identified in paragraph (e)(2)(i)(A) of this section to determine the mass flow rate to be used in the daily instrument check, using the following equation.

$$E_{dic} = (E_{sds}) \sum_{i=1}^k x_i$$

Where:

E_{dic} = Mass flow rate for the daily instrument check, grams per hour

x_i = Mass fraction of detectable chemical(s) i seen by the optical gas imaging instrument, within the distance to be used in paragraph (e)(2)(iv)(B) of this section, at or below the standard detection sensitivity level, E_{sds} .

E_{sds} = Standard detection sensitivity level from Table 1 to subpart A, grams per hour

k = Total number of detectable chemicals emitted from the leaking equipment and seen by the optical gas imaging instrument.

(ii) Start the optical gas imaging instrument according to the manufacturer's instructions, ensuring that all appropriate settings conform to the manufacturer's instructions.

(iii) Use any gas chosen by the user that can be viewed by the optical gas imaging instrument and that has a purity of no less than 98 percent.

(iv) Establish a mass flow rate by using the following procedures:

(A) Provide a source of gas where it will be in the field of view of the optical gas imaging instrument.

(B) Set up the optical gas imaging instrument at a recorded distance from the outlet or leak orifice of the flow meter that will not be exceeded in the actual performance of the leak survey. Do not exceed the operating parameters of the flow meter.

(C) Open the valve on the flow meter to set a flow rate that will create a mass emission rate equal to the mass rate calculated in paragraph (e)(2)(i) of this section while observing the gas flow through the optical gas imaging instrument viewfinder. When an image of the gas emission is seen through the viewfinder at the required emission rate, make a record of the reading on the flow meter.

(v) Repeat the procedures specified in paragraphs (e)(2)(ii) through (e)(2)(iv) of this section for each configuration of the optical gas imaging instrument used during the leak survey.

(vi) To use an alternative method to demonstrate daily instrument checks, apply to the Administrator for approval of the alternative under § 63.177 or § 63.178, whichever is applicable.

(3) *Leak survey procedure.* Operate the optical gas imaging instrument to image every regulated piece of equipment selected for this work practice in accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and are subject to repair. All emissions visible to the naked eye are also considered to be leaks and are subject to repair.

(4) *Recordkeeping.* Keep the records described in paragraphs (e)(4)(i) through (e)(4)(vii) of this section:

(i) The equipment, processes, and facilities for which the owner or operator chooses to use the alternative work practice.

(ii) The detection sensitivity level selected from Table 1 to subpart A of this part for the optical gas imaging instrument.

(iii) The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, as specified in paragraph (e)(2)(i)(A) of this section.

(iv) The technical basis for the mass fraction of detectable chemicals used in the equation in paragraph (e)(2)(i)(B) of this section.

(v) The daily instrument check. Record the distance, per paragraph (e)(2)(iv)(B) of this section, and the flow meter reading, per paragraph (e)(2)(iv)(C) of this section, at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a time and date stamp for each daily instrument check. The video record must be kept for 5 years.

(vi) *Recordkeeping requirements in the applicable subpart.* A video record must be used to document the leak survey results. The video record must include a time and date stamp for each monitoring event. A video record can be used to meet the recordkeeping requirements of the applicable subparts if each piece of regulated equipment selected for this work practice can be identified in the video record. The video record must be kept for 5 years.

(vii) The results of the annual Method 21 screening required in paragraph (h)(7) of this section. Records must be kept for all regulated equipment specified in paragraph (h)(1) of this section. Records must identify the equipment screened, the screening value measured by Method 21, the time and date of the screening, and calibration information required in the existing applicable subparts.

(5) *Reporting.* Submit the reports required in the applicable subpart. Submit the records of the annual Method 21 screening required in paragraph (h)(7) of this section to the Administrator via e-mail to CCG-AWP@EPA.GOV.

§ 63.12 State authority and delegations.

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from -

(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;

(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals prior to initiating construction, reconstruction, modification, or operation of such source; or

(3) Requiring emission reductions in excess of those specified in subpart D of this part as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.

(b) (1) Section 112(l) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements pursuant to section 112 for stationary sources located in that State. Because of the unique nature of radioactive material, delegation of authority to implement and enforce standards that control radionuclides may require separate approval.

(2) Subpart E of this part establishes procedures consistent with section 112(l) for the approval of State rules or programs to implement and enforce applicable Federal rules promulgated under the authority

of section 112. Subpart E also establishes procedures for the review and withdrawal of section 112 implementation and enforcement authorities granted through a section 112(l) approval.

(c) All information required to be submitted to the EPA under this part also shall be submitted to the appropriate state agency of any state to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain federal or state reporting requirement. Any information required to be submitted electronically by this part via the EPA's CEDRI may, at the discretion of the delegated authority, satisfy the requirements of this paragraph. The Administrator may permit all or some of the information to be submitted to the appropriate state agency only, instead of to the EPA and the state agency with the exception of federal electronic reporting requirements under this part. Sources may not be exempted from federal electronic reporting requirements.

§ 63.13 Addresses of State air pollution control agencies and EPA Regional Offices.

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted to the appropriate Regional Office of the U.S. Environmental Protection Agency indicated in the following list of EPA Regional offices. If a request, report, application, submittal, or other communication is required by this part to be submitted electronically via the EPA's CEDRI then such submission satisfies the requirements of this paragraph (a).

EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont) Director, Enforcement and Compliance Assurance Division, U.S. EPA Region I, 5 Post Office Square - Suite 100 (04-2), Boston, MA 02109-3912, Attn: Air Compliance Clerk.

EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Air and Waste Management Division, 26 Federal Plaza, New York, NY 10278.

EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, 1650 Arch Street, Philadelphia, PA 19103.

EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Director, Air, Pesticides and Toxics Management Division, Atlanta Federal Center, 61 Forsyth Street, Atlanta, GA 30303-3104.

EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, 77 West Jackson Blvd., Chicago, IL 60604-3507.

EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas); Director; Enforcement and Compliance Assurance Division; U.S. Environmental Protection Agency, 1201 Elm Street, Suite 500, Mail Code 6ECD, Dallas, Texas 75270-2102.

EPA Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air and Waste Management Division, 11201 Renner Boulevard, Lenexa, Kansas 66219.

EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming) Director, Air and Toxics Technical Enforcement Program, Office of Enforcement, Compliance and Environmental Justice, Mail Code 8ENF-AT, 1595 Wynkoop Street, Denver, CO 80202-1129.

EPA Region IX (Arizona, California, Hawaii, Nevada; the territories of American Samoa and Guam; the Commonwealth of the Northern Mariana Islands; the territories of Baker Island, Howland Island, Jarvis

Island, Johnston Atoll, Kingman Reef, Midway Atoll, Palmyra Atoll, and Wake Islands; and certain U.S. Government activities in the freely associated states of the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau), Director, Air Division, 75 Hawthorne Street, San Francisco, CA 94105.

EPA Region X (Alaska, Idaho, Oregon, Washington), Director, Office of Air Quality, 1200 Sixth Avenue (OAQ-107), Seattle, WA 98101.

(b) All information required to be submitted to the Administrator under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The owner or operator of an affected source may contact the appropriate EPA Regional Office for the mailing addresses for those States whose delegation requests have been approved.

(c) If any State requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in this part, an owner or operator may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of this part for that communication.

§ 63.14 Incorporations by reference.

(a) The materials listed in this section are incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, a document must be published in the Federal Register and the material must be available to the public. All approved materials are available for inspection at the Air and Radiation Docket and Information Center (Air Docket) in the EPA Docket Center (EPA/DC) at Rm. 3334, EPA West Bldg., 1301 Constitution Ave. NW, Washington, DC. The EPA/DC Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number of the EPA/DC Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742. These approved materials are also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov or go to www.archives.gov/federal-register/cfr/ibr-locations.html. In addition, these materials are available from the following sources:

(b) American Conference of Governmental Industrial Hygienists (ACGIH), Customer Service Department, 1330 Kemper Meadow Drive, Cincinnati, Ohio 45240, telephone number (513) 742-2020.

(1) Industrial Ventilation: A Manual of Recommended Practice, 22nd Edition, 1995, Chapter 3, "Local Exhaust Hoods" and Chapter 5, "Exhaust System Design Procedure." IBR approved for §§ 63.843(b) and 63.844(b).

(2) Industrial Ventilation: A Manual of Recommended Practice, 23rd Edition, 1998, Chapter 3, "Local Exhaust Hoods" and Chapter 5, "Exhaust System Design Procedure." IBR approved for §§ 63.1503, 63.1506(c), 63.1512(e), Table 2 to subpart RRR, Table 3 to subpart RRR, and appendix A to subpart RRR, and § 63.2984(e).

(3) Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition, 2010. IBR approved for §§ 63.1503, 63.1506(c), 63.1512(e), Table 2 to subpart RRR, Table 3 to subpart RRR, and appendix A to subpart RRR, and § 63.2984(e).

(c) American Petroleum Institute (API), 1220 L Street NW., Washington, DC 20005.

(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition, February 1989, IBR approved for §§ 63.111, 63.1402, 63.2406 and 63.7944.

Note 1 to paragraph (c)(1):

API Publication 2517 available through reseller HIS Markit at <https://global.ihs.com/>

(2) API Publication 2518, Evaporative Loss from Fixed-roof Tanks, Second Edition, October 1991, IBR approved for § 63.150(g).

(3) API Manual of Petroleum Measurement Specifications (MPMS) Chapter 19.2 (API MPMS 19.2), Evaporative Loss From Floating-Roof Tanks, First Edition, April 1997, IBR approved for §§ 63.1251 and 63.12005.

(d) American Society of Heating, Refrigerating, and Air-Conditioning Engineers at 1791 Tullie Circle, NE., Atlanta, GA 30329 orders@ashrae.org.

(1) American Society of Heating, Refrigerating, and Air-Conditioning Engineers Method 52.1, *Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter* June 4, 1992; IBR approved for § 63.11516(d).

(2) ANSI/ASHRAE Standard 52.2-2017, *Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*, copyright 2017; IBR approved for § 63.11173(e).

(e) American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990, Telephone (800) 843-2763, <http://www.asme.org>; also available from HIS, Incorporated, 15 Inverness Way East, Englewood, CO 80112, Telephone (877) 413-5184, <http://global.ihs.com>.

(1) ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], issued August 31, 1981, IBR approved for §§ 63.309(k), 63.457(k), 63.772(e) and (h), 63.865(b), 63.997(e), 63.1282(d) and (g), and 63.1625(b), table 5 to subpart EEEE, §§ 63.3166(a), 63.3360(e), 63.3545(a), 63.3555(a), 63.4166(a), 63.4362(a), 63.4766(a), 63.4965(a), and 63.5160(d), table 4 to subpart UUUU, table 3 to subpart YYYY, §§ 63.7822(b), 63.7824(e), 63.7825(b), 63.8000(d), 63.9307(c), 63.9323(a), 63.9621(b) and (c), 63.11148(e), 63.11155(e), 63.11162(f), 63.11163(g), 63.11410(j), 63.11551(a), 63.11646(a), and 63.11945, and table 4 to subpart AAAAA, table 5 to subpart DDDDD, table 4 to subpart JJJJJ, table 4 to subpart KKKKK, table 4 to subpart SSSSS, tables 4 and 5 of subpart UUUUU, table 1 to subpart ZZZZZ, and table 4 to subpart JJJJJ.

(2) [Reserved]

(f) The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida 33830.

(1) Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991:

(i) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for § 63.606(f), § 63.626(f).

(ii) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P₂O₅ or Ca₃(PO₄)₂, Method A - Volumetric Method, IBR approved for § 63.606(f), § 63.626(f).

(iii) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P₂O₅ or Ca₃(PO₄)₂, Method B - Gravimetric Quimociac Method, IBR approved for § 63.606(f), § 63.626(f).

(iv) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus-P₂O₅ or Ca₃(PO₄)₂, Method C - Spectrophotometric Method, IBR approved for § 63.606(f), § 63.626(f).

(v) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P₂O₅, Method A - Volumetric Method, IBR approved for § 63.606(f), § 63.626(f), and (g).

(vi) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P₂O₅, Method B - Gravimetric Quimociac Method, IBR approved for § 63.606(f), § 63.626(f), and (g).

(vii) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P₂O₅, Method C - Spectrophotometric Method, IBR approved for § 63.606(f), § 63.626(f), and (g).

(2) [Reserved]

(g) Association of Official Analytical Chemists (AOAC) International, Customer Services, Suite 400, 2200 Wilson Boulevard, Arlington, Virginia 22201-3301, Telephone (703) 522-3032, Fax (703) 522-5468.

(1) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(2) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(3) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(4) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(5) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(6) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(7) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(h) ASTM International, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959, Telephone (610) 832-9585, <http://www.astm.org>; also available from ProQuest, 789 East Eisenhower Parkway, Ann Arbor, MI 48106-1346, Telephone (734) 761-4700, <http://www.proquest.com>.

(1) ASTM D95-05 (Reapproved 2010), Standard Test Method for Water in Petroleum Products and Bituminous Materials by Distillation, approved May 1, 2010, IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.

(2) ASTM D240-09 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, approved July 1, 2009, IBR approved for table 6 to subpart DDDDD.

- (3) ASTM Method D388-05, Standard Classification of Coals by Rank, approved September 15, 2005, IBR approved for §§ 63.7575, 63.10042, and 63.11237.
- (4) ASTM Method D396-10, Standard Specification for Fuel Oils, including Appendix X1, approved October 1, 2010, IBR approved for § 63.10042.
- (5) ASTM D396-10, Standard Specification for Fuel Oils, approved October 1, 2010, IBR approved for §§ 63.7575 and 63.11237.
- (6) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for § 63.782.
- (7) ASTM D975-11b, Standard Specification for Diesel Fuel Oils, approved December 1, 2011, IBR approved for § 63.7575.
- (8) ASTM D1193-77, Standard Specification for Reagent Water, IBR approved for appendix A to part 63: Method 306, Sections 7.1.1 and 7.4.2.
- (9) ASTM D1193-91, Standard Specification for Reagent Water, IBR approved for appendix A to part 63: Method 306, Sections 7.1.1 and 7.4.2.
- (10) ASTM D1331-89, Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents, IBR approved for appendix A to part 63: Method 306B, Sections 6.2, 11.1, and 12.2.2.
- (11) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for appendix A to subpart II.
- (12) ASTM D1475-13, Standard Test Method for Density of Liquid Coatings, Inks, and Related Products, approved November 1, 2013, IBR approved for §§ 63.3151(b), 63.3941(b) and (c), 63.3951(c), 63.4141(b) and (c), 63.4551(c), 63.4741(b) and (c), 63.4751(c), and 63.4941(b) and (c).
- (13) ASTM Method D1835-05, Standard Specification for Liquefied Petroleum (LP) Gases, approved April 1, 2005, IBR approved for §§ 63.7575 and 63.11237.
- (14) ASTM D1945-03 (Reapproved 2010), Standard Test Method for Analysis of Natural Gas by Gas Chromatography, Approved January 1, 2010, IBR approved for §§ 63.670(j), 63.772(h), and 63.1282(g).
- (15) ASTM D1945-14, Standard Test Method for Analysis of Natural Gas by Gas Chromatography, Approved November 1, 2014, IBR approved for § 63.670(j).
- (16) ASTM D1946-77, Standard Method for Analysis of Reformulated Gas by Gas Chromatography, IBR approved for § 63.11(b).
- (17) ASTM D1946-90 (Reapproved 1994), Standard Method for Analysis of Reformulated Gas by Gas Chromatography, 1994, IBR approved for §§ 63.11(b), 63.987(b), and 63.1412.
- (18) ASTM D1963-85 (Reapproved 1996), Standard Test Method for Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25 °C, approved November 29, 1985, IBR approved for § 63.3360(c).
- (19) ASTM D2013/D2013M-09, Standard Practice for Preparing Coal Samples for Analysis, (Approved November 1, 2009), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (20) ASTM D2099-00, Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester, IBR approved for § 63.5350.

- (21) ASTM D2111-10 (Reapproved 2015), Standard Test Methods for Specific Gravity and Density of Halogenated Organic Solvents and Their Admixtures, approved June 1, 2015, IBR approved for §§ 63.3360(c), 63.3951(c), 63.4141(b) and (c), 63.4551(c), and 63.4741(a).
- (22) ASTM D2216-05, Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass, IBR approved for the definition of "Free organic liquids" in § 63.10692.
- (23) ASTM D2234/D2234M-10, Standard Practice for Collection of a Gross Sample of Coal, approved January 1, 2010, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (24) ASTM D2369-93, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A to subpart II.
- (25) ASTM D2369-95, Standard Test Method for Volatile Content of Coatings, IBR approved for appendix A to subpart II.
- (26) ASTM D2369-10 (Reapproved 2015)e1, Standard Test Method for Volatile Content of Coatings, approved June 1, 2015, IBR approved for §§ 63.3151(a), 63.3360(c), 63.3961(j), 63.4141(a) and (b), 63.4161(h), 63.4321(e), 63.4341(e), 63.4351(d), 63.4541(a), and 63.4561(j), appendix A to subpart PPPP, and §§ 63.4741(a), 63.4941(a) and (b), 63.4961(j), and 63.8055(b).
- (27) ASTM D2382-76, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for § 63.11(b).
- (28) ASTM D2382-88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for § 63.11(b).
- (29) ASTM D2697-86 (Reapproved 1998), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for §§ 63.3521(b), and 63.5160(c).
- (30) ASTM D2697-03 (Reapproved 2014), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, approved July 1, 2014, IBR approved for §§ 63.3161(f), 63.3360(c), 63.3941(b), 63.4141(b), 63.4741(a) and (b), 63.4941(b), and 63.8055(b).
- (31) ASTM D2879-83, Standard Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, Approved November 28, 1983, IBR approved for §§ 63.111, 63.1402, 63.2406, 63.7944, and 63.12005.
- (32) ASTM D2879-96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, (Approved 1996), IBR approved for §§ 63.111, and 63.12005.
- (33) ASTM D2908-74, Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved June 27, 1974, IBR approved for § 63.1329(c).
- (34) ASTM D2908-91, Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved December 15, 1991, IBR approved for § 63.1329(c).
- (35) ASTM D2908-91(Reapproved 2001), Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved December 15, 1991, IBR approved for § 63.1329(c).

- (36) ASTM D2908-91(Reapproved 2005), Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved December 1, 2005, IBR approved for § 63.1329(c).
- (37) ASTM D2908-91(Reapproved 2011), Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography, Approved May 1, 2011, IBR approved for § 63.1329(c).
- (38) ASTM D2986-95A, "Standard Practice for Evaluation of Air Assay Media by the Monodisperse DOP (Diethyl Phthalate) Smoke Test," approved September 10, 1995, IBR approved for section 7.1.1 of Method 315 in appendix A to this part.
- (39) ASTM D3173-03 (Reapproved 2008), Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, (Approved February 1, 2008), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (40) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for § 63.786(b).
- (41) ASTM D3370-76, Standard Practices for Sampling Water, Approved August 27, 1976, IBR approved for § 63.1329(c).
- (42) ASTM D3370-95a, Standard Practices for Sampling Water from Closed Conduits, Approved September 10, 1995, IBR approved for § 63.1329(c).
- (43) ASTM D3370-07, Standard Practices for Sampling Water from Closed Conduits, Approved December 1, 2007, IBR approved for § 63.1329(c).
- (44) ASTM D3370-08, Standard Practices for Sampling Water from Closed Conduits, Approved October 1, 2008, IBR approved for § 63.1329(c).
- (45) ASTM D3370-10, Standard Practices for Sampling Water from Closed Conduits, Approved December 1, 2010, IBR approved for § 63.1329(c).
- (46) ASTM D3588-98 (Reapproved 2003), Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels, (Approved May 10, 2003), IBR approved for §§ 63.772(h) and 63.1282(g).
- (47) ASTM D3695-88, Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography, IBR approved for § 63.365(e).
- (48) ASTM D3792-91, Standard Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for appendix A to subpart II.
- (49) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.
- (50) ASTM D3960-98, Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings, approved November 10, 1998, IBR approved for §§ 63.3360(c) and 63.8055(b).

- (51) ASTM D4006-11, Standard Test Method for Water in Crude Oil by Distillation, including Annex A1 and Appendix X1, (Approved June 1, 2011), IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.
- (52) ASTM D4017-81, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A to subpart II.
- (53) ASTM D4017-90, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A to subpart II.
- (54) ASTM D4017-96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for appendix A to subpart II.
- (55) ASTM D4057-06 (Reapproved 2011), Standard Practice for Manual Sampling of Petroleum and Petroleum Products, including Annex A1, (Approved June 1, 2011), IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.
- (56) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for § 63.782.
- (57) ASTM D4084-07, Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method), (Approved June 1, 2007), IBR approved for table 6 to subpart DDDDD.
- (58) ASTM D4177-95 (Reapproved 2010), Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, including Annexes A1 through A6 and Appendices X1 and X2, (Approved May 1, 2010), IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.
- (59) ASTM D4208-02 (Reapproved 2007), Standard Test Method for Total Chlorine in Coal by the Oxygen Bomb Combustion/Ion Selective Electrode Method, approved May 1, 2007, IBR approved for table 6 to subpart DDDDD.
- (60) ASTM D4239-14e1, "Standard Test Method for Sulfur in the Analysis Sample of Coal and Coke Using High-Temperature Tube Furnace Combustion," approved March 1, 2014, IBR approved for § 63.849(f).
- (61) ASTM D4256-89, Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.
- (62) ASTM D4256-89 (Reapproved 94), Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.
- (63) ASTM D4282-15, Standard Test Method for Determination of Free Cyanide in Water and Wastewater by Microdiffusion, Approved July 15, 2015, IBR approved for § 63.1103(g).
- (64) ASTM D4606-03 (Reapproved 2007), Standard Test Method for Determination of Arsenic and Selenium in Coal by the Hydride Generation/Atomic Absorption Method, (Approved October 1, 2007), IBR approved for table 6 to subpart DDDDD.
- (65) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for § 63.11(b).
- (66) ASTM D4840-99 (Reapproved 2018)^e, Standard Guide for Sampling Chain-of-Custody Procedures, approved August 15, 2018, IBR approved for appendix A to part 63.

- (67) ASTM D4891-89 (Reapproved 2006), Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion, (Approved June 1, 2006), IBR approved for §§ 63.772(h) and 63.1282(g).
- (68) ASTM D5066-91 (Reapproved 2017), Standard Test Method for Determination of the Transfer Efficiency Under Production Conditions for Spray Application of Automotive Paints-Weight Basis, approved June 1, 2017, IBR approved for § 63.3161(g).
- (69) ASTM D5087-02, Standard Test Method for Determining Amount of Volatile Organic Compound (VOC) Released from Solventborne Automotive Coatings and Available for Removal in a VOC Control Device (Abatement), IBR approved for § 63.3165(e) and appendix A to subpart IIII.
- (70) ASTM D5192-09, Standard Practice for Collection of Coal Samples from Core, (Approved June 1, 2009), IBR approved for table 6 to subpart DDDDD.
- (71) ASTM D5198-09, Standard Practice for Nitric Acid Digestion of Solid Waste, (Approved February 1, 2009), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (72) ASTM D5228-92, Standard Test Method for Determination of Butane Working Capacity of Activated Carbon, (Reapproved 2005), IBR approved for § 63.11092(b).
- (73) ASTM D5291-02, Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants, IBR approved for appendix A to subpart MMMM.
- (74) ASTM D5790-95 (Reapproved 2012), Standard Test Method for Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry, Approved June 15, 2012, IBR approved for § 63.2485(h) and Table 4 to subpart UUUU.
- (75) ASTM D5864-11, Standard Test Method for Determining Aerobic Aquatic Biodegradation of Lubricants or Their Components, (Approved March 1, 2011), IBR approved for table 6 to subpart DDDDD.
- (76) ASTM D5865-10a, Standard Test Method for Gross Calorific Value of Coal and Coke, (Approved May 1, 2010), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (77) ASTM D5954-98 (Reapproved 2006), Test Method for Mercury Sampling and Measurement in Natural Gas by Atomic Absorption Spectroscopy, (Approved December 1, 2006), IBR approved for table 6 to subpart DDDDD.
- (78) ASTM D5965-02 (Reapproved 2013), Standard Test Methods for Specific Gravity of Coating Powders, approved June 1, 2013, IBR approved for §§ 63.3151(b) and 63.3951(c).
- (79) ASTM D6053-00, Standard Test Method for Determination of Volatile Organic Compound (VOC) Content of Electrical Insulating Varnishes, IBR approved for appendix A to subpart MMMM.
- (80) ASTM D6093-97 (Reapproved 2003), Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for §§ 63.3521 and 63.5160(c).
- (81) ASTM D6093-97 (Reapproved 2016), Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, approved December 1, 2016, IBR approved for §§ 63.3161(f), 63.3360(c), 63.3941(b), 63.4141(b), 63.4741(a) and (b), and 63.4941(b).

- (82) ASTM D6196-03 (Reapproved 2009), Standard Practice for Selection of Sorbents, Sampling, and Thermal Desorption Analysis Procedures for Volatile Organic Compounds in Air, Approved March 1, 2009, IBR approved for appendix A to this part: Method 325A and Method 325B.
- (83) ASTM D6266-00a (Reapproved 2017), Standard Test Method for Determining the Amount of Volatile Organic Compound (VOC) Released from Waterborne Automotive Coatings and Available for Removal in a VOC Control Device (Abatement), approved July 1, 2017, IBR approved for § 63.3165(e).
- (84) ASTM D6323-98 (Reapproved 2003), Standard Guide for Laboratory Subsampling of Media Related to Waste Management Activities, (Approved August 10, 2003), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (85) ASTM D6348-03, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, Approved October 1, 2003, IBR approved for §§ 63.457(b), 63.997(e), and 63.1349, table 4 to subpart DDDD, table 5 to subpart EEEE, table 4 to subpart UUUU, table 4 subpart ZZZZ, and table 8 to subpart HHHHHH.
- (86) ASTM D6348-03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, Approved October 1, 2010, IBR approved for §§ 63.1571(a), 63.4751(i), 63.4752(e), 63.4766(b), 63.7142(a) and (b), tables 4 and 5 to subpart JJJJ, tables 4 and 6 to subpart KKKK, tables 1, 2, and 5 to subpart UUUUU and appendix B to subpart UUUUU.
- (87) ASTM D6348-12e1, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, Approved February 1, 2012, IBR approved for §§ 63.997(e), 63.1571(a), and 63.2354(b), table 5 to subpart EEEE, table 4 to subpart UUUU, §§ 63.7142(a) and (b) and 63.8000(d), and table 4 to subpart SSSS.
- (88) ASTM D6350-98 (Reapproved 2003), Standard Test Method for Mercury Sampling and Analysis in Natural Gas by Atomic Fluorescence Spectroscopy, (Approved May 10, 2003), IBR approved for table 6 to subpart DDDDD.
- (89) ASTM D6357-11, Test Methods for Determination of Trace Elements in Coal, Coke, and Combustion Residues from Coal Utilization Processes by Inductively Coupled Plasma Atomic Emission Spectrometry, (Approved April 1, 2011), IBR approved for table 6 to subpart DDDDD.
- (90) ASTM D6376-10, "Standard Test Method for Determination of Trace Metals in Petroleum Coke by Wavelength Dispersive X-Ray Fluorescence Spectroscopy," Approved July 1, 2010, IBR approved for § 63.849(f).
- (91) [Reserved]
- (92) ASTM D6420-99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for §§ 63.5799 and 63.5850.
- (93) ASTM D6420-99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (Approved October 1, 2004), IBR approved for §§ 63.457(b), 63.772(a), 63.772(e), 63.1282(a) and (d), and table 8 to subpart HHHHHH.

- (94) ASTM D6420-99 (Reapproved 2010), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, Approved October 1, 2010, IBR approved for §§ 63.670(j), Table 4 to subpart UUUU, 63.7142(b), and appendix A to this part: Method 325B.
- (95) ASTM D6420-18, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, approved November 1, 2018, IBR approved for §§ 63.987(b), 63.997(e), and 63.2354(b), table 5 to subpart EEEE, and §§ 63.2450(j) and 63.8000(d).
- (96) ASTM D6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for § 63.9307(c).
- (97) ASTM D6522-00 (Reapproved 2005), Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, (Approved October 1, 2005), IBR approved for table 4 to subpart ZZZZ, table 5 to subpart DDDDDD, table 4 to subpart JJJJJ, and §§ 63.772(e) and (h)) and 63.1282(d) and (g).
- (98) ASTM D6522-11 Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, Approved December 1, 2011, IBR approved for § 63.1961(a) and table 3 to subpart YYYY.
- (99) ASTM D6721-01 (Reapproved 2006), Standard Test Method for Determination of Chlorine in Coal by Oxidative Hydrolysis Microcoulometry, (Approved April 1, 2006), IBR approved for table 6 to subpart DDDDD.
- (100) ASTM D6722-01 (Reapproved 2006), Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by the Direct Combustion Analysis, (Approved April 1, 2006), IBR approved for Table 6 to subpart DDDDD and Table 5 to subpart JJJJJ.
- (101) ASTM D6735-01 (Reapproved 2009), Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources - Impinger Method, IBR approved for § 63.7142(b), tables 4 and 5 to subpart JJJJ, and tables 4 and 6 to subpart KKKKK.
- (102) ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, (Approved July 15, 2011), IBR approved for §§ 63.7575 and 63.11237.
- (103) ASTM D6784-02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), Approved April 1, 2008; IBR approved for §§ 63.2465(d); 63.11646(a); and 63.11647(a) and (d); and tables 1, 2, 5, 11, 12t, 13, 14, and 15 to subpart DDDDD; tables 4 and 5 to subpart JJJJ; tables 4 and 6 to subpart KKKKK; table 5 to subpart UUUUU; appendix A to subpart UUUUU; and table 4 to subpart JJJJJ.
- (104) ASTM D6784-16, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), Approved March 1, 2016, IBR approved for table 4 to subpart SSSSS.

(105) ASTM D6883-04, Standard Practice for Manual Sampling of Stationary Coal from Railroad Cars, Barges, Trucks, or Stockpiles, (Approved June 1, 2004), IBR approved for table 6 to subpart DDDDD.

(106) ASTM D6886-18, Standard Test Method for Determination of the Weight Percent Individual Volatile Organic Compounds in Waterborne Air-Dry Coatings by Gas Chromatography, approved October 1, 2018, IBR approved for § 63.2354(c).

(107) ASTM D7237-18, Standard Test Method for Free Cyanide and Aquatic Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection, Approved December 1, 2018, IBR approved for § 63.1103(g).

(108) ASTM D7430-11ae1, Standard Practice for Mechanical Sampling of Coal, (Approved October 1, 2011), IBR approved for table 6 to subpart DDDDD.

(109) ASTM D7520-16, Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere, approved April 1, 2016; IBR approved for §§ 63.1625(b); table 3 to subpart LLLLL; 63.7823(c) through (e), 63.7833(g); 63.11423(c).

(110) [Reserved]

(111) ASTM E145-94 (Reapproved 2001), Standard Specification for Gravity-Convection and Forced-Ventilation Ovens, IBR approved for appendix A to subpart PPPP.

(112) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for § 63.786(b).

(113) ASTM E260-91, General Practice for Packed Column Gas Chromatography, IBR approved for §§ 63.750(b) and 63.786(b).

(114) ASTM E260-96, General Practice for Packed Column Gas Chromatography, IBR approved for §§ 63.750(b) and 63.786(b).

(115) ASTM E515-95 (Reapproved 2000), Standard Test Method for Leaks Using Bubble Emission Techniques, IBR approved for § 63.425(i).

(116) ASTM E711-87 (Reapproved 2004), Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter, (Approved August 28, 1987), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(117) ASTM E776-87 (Reapproved 2009), Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel, (Approved July 1, 2009), IBR approved for table 6 to subpart DDDDD.

(118) ASTM E871-82 (Reapproved 2006), Standard Test Method for Moisture Analysis of Particulate Wood Fuels, (Approved November 1, 2006), IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(119) ASTM UOP539-12, Refinery Gas Analysis by GC, Copyright 2012 (to UOP), IBR approved for § 63.670(j).

(i) Bay Area Air Quality Management District (BAAQMD), 939 Ellis Street, San Francisco, California 94109, <http://www.arb.ca.gov/DRDB/BA/CURHTML/ST/st30.pdf>.

(1) "BAAQMD Source Test Procedure ST-30 - Static Pressure Integrity Test, Underground Storage Tanks," adopted November 30, 1983, and amended December 21, 1994, IBR approved for § 63.11120(a).

(2) [Reserved]

(j) British Standards Institute, 389 Chiswick High Road, London W4 4AL, United Kingdom.

(1) BS EN 1593:1999, Non-destructive Testing: Leak Testing - Bubble Emission Techniques, IBR approved for § 63.425(i).

(2) BS EN 14662-4:2005, Ambient air quality standard method for the measurement of benzene concentrations - Part 4: Diffusive sampling followed by thermal desorption and gas chromatography, Published June 27, 2005, IBR approved for appendix A to this part: Method 325A and Method 325B.

(k) California Air Resources Board (CARB), 1001 I Street, P.O. Box 2815, Sacramento, CA 95812-2815, Telephone (916) 327-0900, <http://www.arb.ca.gov/>.

(1) Method 310, "Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds (ROC) in Aerosol Coating Products," amended May 25, 2018, IBR approved for § 63.8055(b).

(2) Method 428, "Determination Of Polychlorinated Dibenzo-P-Dioxin (PCDD), Polychlorinated Dibenzofuran (PCDF), and Polychlorinated Biphenyle Emissions from Stationary Sources," amended September 12, 1990, IBR approved for § 63.849(a)(13) and (14).

(3) Method 429, Determination of Polycyclic Aromatic Hydrocarbon (PAH) Emissions from Stationary Sources, Adopted September 12, 1989, Amended July 28, 1997, IBR approved for § 63.1625(b).

(4) California Air Resources Board Vapor Recovery Test Procedure TP-201.1 - "Volumetric Efficiency for Phase I Vapor Recovery Systems," adopted April 12, 1996, and amended February 1, 2001 and October 8, 2003, IBR approved for § 63.11120(b).

(5) California Air Resources Board Vapor Recovery Test Procedure TP-201.1E - "Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves," adopted October 8, 2003, IBR approved for § 63.11120(a).

(6) California Air Resources Board Vapor Recovery Test Procedure TP-201.3 - "Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities," adopted April 12, 1996 and amended March 17, 1999, IBR approved for § 63.11120(a).

(l) Composite Panel Association, 19465 Deerfield Avenue, Suite 306, Leesburg, VA 20176, Telephone (703)724-1128, and www.compositepanel.org.

(1) ANSI A135.4-2012, Basic Hardboard, approved June 8, 2012, IBR approved for § 63.4781.

(2) [Reserved]

(m) Environmental Protection Agency. Air and Radiation Docket and Information Center, 1200 Pennsylvania Avenue NW., Washington, DC 20460, telephone number (202) 566-1745.

(1) *California Regulatory Requirements Applicable to the Air Toxics Program*, November 16, 2010, IBR approved for § 63.99(a).

(2) New Jersey's *Toxic Catastrophe Prevention Act Program*, (July 20, 1998), IBR approved for § 63.99(a).

(3) Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, Accidental Release Prevention Regulation, sections 1 through 5 and sections 7 through 14, effective January 11, 1999, IBR approved for § 63.99(a).

(4) State of Delaware Regulations Governing the Control of Air Pollution (October 2000), IBR approved for § 63.99(a).

(5) Massachusetts Department of Environmental Protection regulations at 310 CMR 7.26(10)-(16), Air Pollution Control, effective as of September 5, 2008, corrected March 6, 2009, and 310 CMR 70.00, Environmental Results Program Certification, effective as of December 28, 2007. IBR approved for § 63.99(a).

(6)

(i) New Hampshire Regulations at Env-Sw 2100, Management and Control of Asbestos Disposal Sites Not Operated after July 9, 1981, effective February 16, 2010 (including a letter from Thomas S. Burack, Commissioner, Department of Environmental Services, State of New Hampshire, to Carol J. Holahan, Director, Office of Legislative Services, dated February 12, 2010, certifying that the enclosed rule, Env-Sw 2100, is the official version of this rule), IBR approved for § 63.99(a).

(ii) New Hampshire Code of Administrative Rules: Chapter Env-A 1800, Asbestos Management and Control, effective as of May 5, 2017 (certified with June 23, 2017 letter from Clark B. Freise, Assistant Commissioner, Department of Environmental Services, State of New Hampshire), as follows: Revision Notes #1 and #2; Part Env-A 1801-1807, excluding Env-A 1801.02(e), Env-A 1801.07, Env-A 1802.02, Env-A 1802.04, Env-A 1802.07-1802.09, Env-A 1802.13, Env-A 1802.15-1802.17, Env-A 1802.25, Env-A 1802.31, Env-A 1802.37, Env-A 1802.40, Env-A 1802.44, and Env-A 1803.05-1803.09; and Appendices B, C, and D; IBR approved for § 63.99(a).

(7) Maine Department of Environmental Protection regulations at Chapter 125, Perchloroethylene Dry Cleaner Regulation, effective as of June 2, 1991, last amended on June 24, 2009. IBR approved for § 63.99(a).

(8) California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989," IBR approved for §§ 63.11173(e) and 63.11516(d).

(9) California South Coast Air Quality Management District's "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002," Revision 0, IBR approved for §§ 63.11173(e) and 63.11516(d).

(10) Rhode Island Department of Environmental Management regulations at Air Pollution Control Regulation No. 36, Control of Emissions from Organic Solvent Cleaning, effective April 8, 1996, last amended October 9, 2008, IBR approved for § 63.99(a).

(11) Rhode Island Air Pollution Control, General Definitions Regulation, effective July 19, 2007, last amended October 9, 2008. IBR approved for § 63.99(a).

(12) Alaska Statute 42.45.045. Renewable energy grant fund and recommendation program, available at <http://www.legis.state.ak.us/basis/folio.asp>, IBR approved for § 63.6675.

(13) Vermont Air Pollution Control Regulations, Chapter 5, Air Pollution Control, section 5-253.11, Perchloroethylene Dry Cleaning, effective as of December 15, 2016. Incorporation by reference approved for § 63.99(a).

(n) U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW., Washington, DC 20460, (202) 272-0167, <http://www.epa.gov>.

(1) EPA-453/R-08-002, Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat, published September 2008, IBR approved for §§ 63.3130(c), 63.3161(d) and (g), 63.3165(e), and appendix A to subpart IIII.

(2) EPA-453/R-01-005, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants - Background Information for Proposed Standards, Final Report, January 2001, IBR approved for § 63.7491(g).

(3) [Reserved]

(4) EPA-454/R-98-015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=2000D5T6.PDF>; IBR approved for §§ 63.548(e); 63.864(e); 63.7525(j); 63.8450(e); 63.8600(e); 63.9632(a); 63.9804(f); 63.11224(f); 63.11423(e).

(5) EPA-454/R-99-005, Office of Air Quality Planning and Standards (OAQPS), Meteorological Monitoring Guidance for Regulatory Modeling Applications, February 2000, IBR approved for appendix A to this part: Method 325A.

(6) EPA/600/R-12/531, EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards, May 2012, IBR approved for § 63.2163(b).

(7) EPA-625/3-89-016, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989. IBR approved for § 63.1513(d).

(8) SW-846-0011, Sampling for Selected Aldehyde and Ketone Emissions from Stationary Sources, Revision 0, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 4 to subpart DDDD.

(9) SW-846-3020A, Acid Digestion of Aqueous Samples And Extracts For Total Metals For Analysis By GFAA Spectroscopy, Revision 1, July 1992, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

(10) SW-846-3050B, Acid Digestion of Sediments, Sludges, and Soils, Revision 2, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.

- (11) SW-846-5030B, Purge-And-Trap For Aqueous Samples, Revision 2, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for § 63.2492(b) and (c).
- (12) SW-846-5031, Volatile, Nonpurgeable, Water-Soluble Compounds by Azeotropic Distillation, Revision 0, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for § 63.2492(b) and (c).
- (13) SW-846-7470A, Mercury In Liquid Waste (Manual Cold-Vapor Technique), Revision 1, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (14) SW-846-7471B, Mercury In Solid Or Semisolid Waste (Manual Cold-Vapor Technique), Revision 2, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD and table 5 to subpart JJJJJ.
- (15) SW-846-8015C, Nonhalogenated Organics by Gas Chromatography, Revision 3, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for §§ 63.11960, 63.11980, and table 10 to subpart HHHHHH.
- (16) SW-846-8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 2, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for §§ 63.1107(a), 63.11960, 63.11980, and table 10 to subpart HHHHHH.
- (17) SW-846-8260D, Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry, Revision 4, June 2018, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for § 63.2492(b) and (c).
- (18) SW-846-8270D, Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for §§ 63.1107(a), 63.11960, 63.11980, and table 10 to subpart HHHHHH.
- (19) SW-846-8315A, Determination of Carbonyl Compounds by High Performance Liquid Chromatography (HPLC), Revision 1, December 1996, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for §§ 63.11960 and 63.11980, and table 10 to subpart HHHHHH.
- (20) SW-846-5050, Bomb Preparation Method for Solid Waste, Revision 0, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition IBR approved for table 6 to subpart DDDDD.
- (21) SW-846-6010C, Inductively Coupled Plasma-Atomic Emission Spectrometry, Revision 3, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

- (22) SW-846-6020A, Inductively Coupled Plasma-Mass Spectrometry, Revision 1, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.
- (23) SW-846-7060A, Arsenic (Atomic Absorption, Furnace Technique), Revision 1, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.
- (24) SW-846-7740, Selenium (Atomic Absorption, Furnace Technique), Revision 0, September 1986, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.
- (25) SW-846-9056, Determination of Inorganic Anions by Ion Chromatography, Revision 1, February 2007, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.
- (26) SW-846-9076, Test Method for Total Chlorine in New and Used Petroleum Products by Oxidative Combustion and Microcoulometry, Revision 0, September 1994, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.
- (27) SW-846-9250, Chloride (Colorimetric, Automated Ferricyanide AAI), Revision 0, September 1986, in EPA Publication No. SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.
- (28) Method 200.8, Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma - Mass Spectrometry, Revision 5.4, 1994, IBR approved for table 6 to subpart DDDDD.
- (29) Method 1631 Revision E, Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Absorption Fluorescence Spectrometry, Revision E, EPA-821-R-02-019, August 2002, IBR approved for table 6 to subpart DDDDD.
- (o) International Standards Organization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, + 41 22 749 01 11, <http://www.iso.org/iso/home.htm>.
- (1) ISO 6978-1:2003(E), Natural Gas - Determination of Mercury - Part 1: Sampling of Mercury by Chemisorption on Iodine, First edition, October 15, 2003, IBR approved for table 6 to subpart DDDDD.
- (2) ISO 6978-2:2003(E), Natural gas - Determination of Mercury - Part 2: Sampling of Mercury by Amalgamation on Gold/Platinum Alloy, First edition, October 15, 2003, IBR approved for table 6 to subpart DDDDD.
- (3) ISO 16017-2:2003(E): Indoor, ambient and workplace air - sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography - Part 2: Diffusive sampling, May 15, 2003, IBR approved for appendix A to this part: Method 325A and Method 325B.
- (p) National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P.O. Box 133318, Research Triangle Park, NC 27709-3318 or at <http://www.ncasi.org>.
- (1) NCASI Method DI/MEOH-94.03, Methanol in Process Liquids and Wastewaters by GC/FID, Issued May 2000, IBR approved for §§ 63.457 and 63.459.

(2) NCASI Method CI/WP-98.01, Chilled Impinger Method For Use At Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol, 1998, Methods Manual, IBR approved for table 4 to subpart DDDD.

(3) NCASI Method DI/HAPS-99.01, Selected HAPs In Condensates by GC/FID, Issued February 2000, IBR approved for § 63.459(b).

(4) NCASI Method IM/CAN/WP-99.02, Impinger/Canister Source Sampling Method for Selected HAPs and Other Compounds at Wood Products Facilities, January 2004, Methods Manual, IBR approved for table 4 to subpart DDDD.

(5) NCASI Method ISS/FP A105.01, Impinger Source Sampling Method for Selected Aldehydes, Ketones, and Polar Compounds, December 2005, Methods Manual, IBR approved for table 4 to subpart DDDD and §§ 63.4751(i) and 63.4752(e).

(q) National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000 or (800) 553-6847; or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800.

(1) Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for § 63.1303(e).

(2) "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, Third Edition. (A suffix of "A" in the method number indicates revision one (the method has been revised once). A suffix of "B" in the method number indicates revision two (the method has been revised twice).

(i) Method 0023A, "Sampling Method for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofuran Emissions from Stationary Sources," Revision 2, dated August 2018, IBR approved for § 63.1208(b).

(ii) Method 9071B, "n-Hexane Extractable Material (HEM) for Sludge, Sediment, and Solid Samples," dated April 1998, IBR approved for § 63.7824(e).

(iii) Method 9095A, "Paint Filter Liquids Test," dated December 1996, IBR approved for §§ 63.7700(b) and 63.7765.

(iv) Method 9095B, "Paint Filter Liquids Test," (revision 2), dated November 2004, IBR approved for the definition of "Free organic liquids" in §§ 63.10692, 63.10885(a), and the definition of "Free liquids" in § 63.10906.

(v) SW-846 74741B, Revision 2, "Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique)," February 2007, IBR approved for § 63.11647(f).

(3) National Institute of Occupational Safety and Health (NIOSH) test method compendium, "NIOSH Manual of Analytical Methods," NIOSH publication no. 94-113, Fourth Edition, August 15, 1994.

(i) NIOSH Method 2010, "Amines, Aliphatic," Issue 2, August 15, 1994, IBR approved for § 63.7732(g).

(ii) [Reserved]

(r) North American Electric Reliability Corporation, 1325 G Street, NW., Suite 600, Washington, DC 20005-3801, <http://www.nerc.com>, http://www.nerc.com/files/EOP0002-3_1.pdf.

(1) North American Electric Reliability Corporation Reliability Standard EOP-002-3, Capacity and Energy Emergencies, adopted August 5, 2010, IBR approved for § 63.6640(f).

(2) [Reserved]

(s) Technical Association of the Pulp and Paper Industry (TAPPI), 15 Technology Parkway South, Norcross, GA 30092, (800) 332-8686, <http://www.tappi.org>.

(1) TAPPI T 266, Determination of Sodium, Calcium, Copper, Iron, and Manganese in Pulp and Paper by Atomic Absorption Spectroscopy (Reaffirmation of T 266 om-02), Draft No. 2, July 2006, IBR approved for table 6 to subpart DDDDD.

(2) [Reserved]

(t) Texas Commission on Environmental Quality (TCEQ) Library, Post Office Box 13087, Austin, Texas 78711-3087, telephone number (512) 239-0028, http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp_ado.pdf.

(1) "Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources," Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, January 31, 2003, IBR approved for §§ 63.654(c) and (g), 63.655(i), 63.1086(e), 63.1089, 63.2490(d), 63.2525(r), and 63.11920.

(2) [Reserved]

Editorial Note

Editorial Note: For Federal Register citations affecting § 63.14, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.govinfo.gov.

§ 63.15 Availability of information and confidentiality.

(a) Availability of information.

(1) With the exception of information protected through part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.

(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) Confidentiality.

(1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.

(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

§ 63.16 Performance Track Provisions.

- (a) Notwithstanding any other requirements in this part, an affected source at any major source or any area source at a Performance Track member facility, which is subject to regular periodic reporting under any subpart of this part, may submit such periodic reports at an interval that is twice the length of the regular period specified in the applicable subparts; provided, that for sources subject to permits under 40 CFR part 70 or 71 no interval so calculated for any report of the results of any required monitoring may be less frequent than once in every six months.
- (b) Notwithstanding any other requirements in this part, the modifications of reporting requirements in paragraph (c) of this section apply to any major source at a Performance Track member facility which is subject to requirements under any of the subparts of this part and which has:
- (1) Reduced its total HAP emissions to less than 25 tons per year;
 - (2) Reduced its emissions of each individual HAP to less than 10 tons per year; and
 - (3) Reduced emissions of all HAPs covered by each MACT standard to at least the level required for full compliance with the applicable emission standard.
- (c) For affected sources at any area source at a Performance Track member facility and which meet the requirements of paragraph (b)(3) of this section, or for affected sources at any major source that meet the requirements of paragraph (b) of this section:
- (1) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using add-on control technology, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is meeting the emission standard by continuing to use that control technology. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).
 - (2) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using pollution prevention, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions to levels at or below those required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).
 - (3) If the emission standard to which the affected source is subject is based on pollution prevention, and the affected source complies by using pollution prevention and reduces emissions by an additional 50 percent or greater than required by the applicable emission standard, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions by an additional 50 percent or greater

than required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and recordkeeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(4) Notwithstanding the provisions of paragraphs (c)(1) through (3), of this section, for sources subject to permits under 40 CFR part 70 or 71, the results of any required monitoring and recordkeeping must be reported not less frequently than once in every six months.

Table 1 to Subpart A of Part 63 - Detection Sensitivity Levels (grams per hour)

Monitoring frequency per subpart ^a	Detection sensitivity level
Bi-Monthly	60
Semi-Quarterly	85
Monthly	100

^a When this alternative work practice is used to identify leaking equipment, the owner or operator must choose one of the monitoring frequencies listed in this table, in lieu of the monitoring frequency specified in the applicable subpart. Bi-monthly means every other month. Semi-quarterly means twice per quarter. Monthly means once per month.

Appendix M. 40 CFR Part 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

§63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

§63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

- (a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.
- (b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.
- (c) An area source of HAP emissions is a source that is not a major source.
- (d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.
- (e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.
- (f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).
 - (1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate for the purpose specified in § 63.6640(f)(4)(ii).
 - (2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate for the purpose specified in § 63.6640(f)(4)(ii).
 - (3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

§63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.*

(i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.*

(i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.*

(1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

- (5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;
- (6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
- (7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

§63.6595 When do I have to comply with this subpart?

(a) Affected sources.

- (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.
- (2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.
- (3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.
- (4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.
- (5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.
- (6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

Emission and Operating Limitations

§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

§63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

§63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

- (i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.
- (ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.
- (iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

- (1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement.
- (2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.
- (3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.
- (4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in §63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in §63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart IIII instead of the emission limitations and other requirements that would otherwise

apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

§63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 1090.305 for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates for the purpose specified in § 63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in [40 CFR 1090.305](#) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c)[reserved]

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2), or are on offshore vessels that meet §63.6603(c) are exempt from the requirements of this section.

General Compliance Requirements

§63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results,

review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

Testing and Initial Compliance Requirements

§63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

- (a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).
- (b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).
- (c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).
- (d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.
 - (1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.
 - (2) The test must not be older than 2 years.
 - (3) The test must be reviewed and accepted by the Administrator.
 - (4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.
 - (5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

§63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of

greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

- (a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).
- (b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.
 - (1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.
 - (2) The test must not be older than 2 years.
 - (3) The test must be reviewed and accepted by the Administrator.
 - (4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

§63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§63.6620 What performance tests and other procedures must I use?

- (a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.
- (b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

- (1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.
- (2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.
- (3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.
- (4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

C_i = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

C_o = concentration of CO, THC, or formaldehyde at the control device outlet, and

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2 concentration is measured in lieu of oxygen concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

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

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3/J ($\text{dscf}/106 \text{ Btu}$).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3/J ($\text{dscf}/106 \text{ Btu}$)

(ii) Calculate the CO₂ correction factor for correcting measurement data to 15 percent O₂, as follows:

$$X_{CO_2} = \frac{5.9}{F_O} \quad (\text{Eq. 3})$$

Where:

X_{CO2} = CO₂ correction factor, percent.

5.9 = 20.9 percent O₂—15 percent O₂, the defined O₂ correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O₂ using CO₂ as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 4})$$

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O₂.

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{CO2} = CO₂ correction factor, percent.

%CO₂ = Measured CO₂ concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

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

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

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

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.*, operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.*, wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O₂ or CO₂ according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable

performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO₂ concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (*e.g.*, thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

- (c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.
- (d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.
- (e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:
- (1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;
 - (2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;
 - (3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;
 - (4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;
 - (5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;
 - (6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.
 - (7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
 - (8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
 - (9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and
 - (10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.
- (f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.
- (g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either

paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet §63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the

engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

- (a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.
- (b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.
- (c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.
- (d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.
- (e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:
 - (1) The compliance demonstration must consist of at least three test runs.
 - (2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.
 - (3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.
 - (4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.
 - (5) You must measure O₂ using one of the O₂ measurement methods specified in Table 4 of this subpart. Measurements to determine O₂ concentration must be made at the same time as the measurements for CO or THC concentration.
 - (6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O₂ emissions simultaneously at the inlet and outlet of the control device.

Continuous Compliance Requirements

§63.6635 How do I monitor and collect data to demonstrate continuous compliance?

- (a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.
- (b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
- (c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

- (a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.
- (b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.
- (c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:
 - (1) The compliance demonstration must consist of at least one test run.
 - (2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.
 - (3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.
 - (4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O₂ using one of the O₂ measurement methods specified in Table 4 of this subpart. Measurements to determine O₂ concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O₂ emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4), is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

- (1) There is no time limit on the use of emergency stationary RICE in emergency situations.
- (2) You may operate your emergency stationary RICE for 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 paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
 - (i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
 - (ii) [reserved]
 - (iii) [reserved]
- (3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- (4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
 - (i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.
 - (ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

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

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

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

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

Notifications, Reports, and Records

§63.6645 What notifications must I submit and when?

- (a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;
- (1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.
 - (2) An existing stationary RICE located at an area source of HAP emissions.
 - (3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
 - (4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.
 - (5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.
- (b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004, or no later than 120 days after the source becomes subject to this subpart, whichever is later.
- (c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.
- (d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than

July 16, 2008, or no later than 120 days after the source becomes subject to this subpart, whichever is later.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in §63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in §63.6603(d) and identifying the state or local regulation that the engine is subject to.

§63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

- (2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.
 - (3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
 - (4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.
 - (5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.
 - (6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.
 - (7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.
 - (8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.
 - (9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.
- (c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.
- (1) Company name and address.
 - (2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
 - (3) Date of report and beginning and ending dates of the reporting period.
 - (4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.
 - (5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

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

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

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

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

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

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

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40

CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates for the purpose specified in § 63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

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

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

(iii) Engine site rating and model year.

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

(v) [reserved]

(vi) [reserved]

(vii) Hours spent for operation for the purpose specified in §63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in §63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in §63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

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

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §63.13.

§63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

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

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

- (1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.
- (2) An existing stationary emergency RICE.
- (3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purpose specified in § 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

- (1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.
- (2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

§63.6660 In what form and how long must I keep my records?

- (a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).
- (b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
- (c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

Other Requirements and Information

§63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an

existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

§63.6670 Who implements and enforces this subpart?

- (a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.
- (b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.
- (c) The authorities that will not be delegated to State, local, or tribal agencies are:
 - (1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).
 - (2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.
 - (3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.
 - (4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.
 - (5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

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

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see §63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101-549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

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

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
- (3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless of whether or not such failure is permitted by this subpart.
- (4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO₂.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with

the requirements specified in § 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in § 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

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

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 63.6640(f)(4)(i) or (ii).

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO₂.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:

- (1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;
- (2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;
- (3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and
- (4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_x) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_x, CO, and volatile organic compounds (VOC) into CO₂, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located

within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8 .

Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_x (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart P of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ¹
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O ₂	

¹ Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O ₂ and using NSCR;	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F. ¹
2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O ₂ and not using NSCR.	

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O ₂ . If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O ₂ until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ¹
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O ₂	

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O ₂	

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F. ¹
2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and
	b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F. ¹
3. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.
New and reconstructed 2SLB and CI stationary RICE >500 HP located at a	

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥ 250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	
existing CI stationary RICE > 500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤ 500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤ 500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first. ² b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ³
2. Non-Emergency, non-black start stationary CI RICE < 100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first. ² b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	
3. Non-Emergency, non-black start CI	Limit concentration of CO in the	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
stationary RICE $100 \leq \text{HP} \leq 300$ HP	stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2 .	
4. Non-Emergency, non-black start CI stationary RICE $300 < \text{HP} \leq 500$	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2 ; or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE > 500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2 ; or b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE. ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ² b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	
7. Non-Emergency, non-black start stationary SI RICE < 100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ² b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. ³	
8. Non-Emergency, non-black start 2SLB stationary SI RICE < 100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; ² b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary. ³	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O ₂ .	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O ₂ .	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O ₂ .	
12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O ₂ .	

¹If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

²Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

³Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	first; ¹ b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE. ²	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ¹	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ¹ ; b. Inspect spark plugs every	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
or less per calendar year. ²	1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	
10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary	Install NSCR to reduce HAP	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹ b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

¹Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

²If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually. ¹
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually. ¹
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually. ¹

For each . . .	Complying with the requirement to . . .	You must . . .
4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.

¹After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. reduce CO emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For CO and O ₂ 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 Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure the O ₂ at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005) ^{a c} (heated probe not necessary)	(b) Measurements to determine O ₂ must be made at the same time as the measurements for CO concentration.
		iii. Measure the CO at the	(1) ASTM D6522-00	(c) The CO concentration must be at 15

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		inlet and the outlet of the control device	(Reapproved 2005) ^{a b c} (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4	percent O ₂ , dry basis.
2. 4SRB stationary RICE	a. reduce formaldehyde emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For formaldehyde, O ₂ , 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 Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.
		ii. Measure O ₂ at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005) ^a (heated probe not necessary)	(a) Measurements to determine O ₂ concentration must be made at the same time as the measurements for formaldehyde or THC concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 ^a	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03 ^a , provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. If demonstrating	(1) Method 25A, reported	(a) THC concentration must be at 15

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	as propane, of 40 CFR part 60, appendix A-7	percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and		(a) For formaldehyde, CO, O ₂ , 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 Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O ₂ concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005) ^a (heated probe not necessary)	(a) Measurements to determine O ₂ concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 ^a	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03 ^a , provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or	(a) Formaldehyde concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
			equal to 130	
		v. measure CO at the exhaust of the station-ary RICE	(1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005) ^{a,c} , Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 ^a	(a) CO concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

^aYou may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

^bYou may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $\geq$ 250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $\geq$ 250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O ₂ or CO ₂ at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O ₂ or CO ₂ at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O ₂ , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O ₂ , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
11. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
12. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O ₂ , dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O ₂ ;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.
14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O ₂ , or the average reduction of emissions of THC is 30 percent or more;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		the engine if the catalyst inlet temperature exceeds 1250 °F.

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved ^a ; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved ^a ; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, and	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
existing non-emergency stationary CI RICE >500 HP		required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent. ^a
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit ^a ; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
	catalyst or NSCR	ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit ^a ; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O ₂ ; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.
15. Existing non-emergency 4SRB stationary RICE >500	a. Install NSCR	i. Conducting annual compliance demonstrations

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year		as specified in §63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O ₂ , or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

^aAfter you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	i. Semiannually according to the requirements in §63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.
		b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during	i. Semiannually according to the requirements in §63.6650(b).

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
		which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or	
		c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).	i. Semiannually according to the requirements in §63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.
3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Compliance report	a. The results of the annual compliance demonstration, if conducted during the reporting period.	i. Semiannually according to the requirements in §63.6650(b)(1)-(5).
4. Emergency stationary RICE that operate for the purposes specified in § 63.6640(f)(4)(ii)	Report	a. The information in §63.6650(h)(1)	i. annually according to the requirements in §63.6650(h)(2)-(3).

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	No	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)-(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)-(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.9(k)	Electronic reporting procedures	Yes	Only as specified in §63.9(j).
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§63.10(b)(2)(i)-(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)-(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)-(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

Appendix A to Subpart ZZZZ of Part 63—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 Scope and Application. What is this Protocol?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O₂) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O₂).

Analyte	CAS No.	Sensitivity
Carbon monoxide (CO)	630-08-0	Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.
Oxygen (O ₂)	7782-44-7	

1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O₂, or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 Summary of Protocol

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O₂ gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 Definitions

3.1 Measurement System. The total equipment required for the measurement of CO and O₂ concentrations. The measurement system consists of the following major subsystems:

3.1.1 Data Recorder. A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 Electrochemical (EC) Cell. A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 Interference Gas Scrubber. A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 Moisture Removal System. Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 Sample Interface. The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 Nominal Range. The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 Calibration Gas. A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 Zero Calibration Error. The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 Up-Scale Calibration Error. The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 Interference Check. A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 Repeatability Check. A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 Sample Flow Rate. The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 Sampling Run. A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O₂ and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 Sampling Day. A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check. The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

3.12 Performance-Established Configuration. The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 Interferences.

When present in sufficient concentrations, NO and NO₂ are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 Safety. [Reserved]

6.0 Equipment and Supplies.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 Sample Probe. A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 Sample Line. Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 Calibration Assembly (optional). A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 Particulate Filter (optional). Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 Sample Pump. A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 Sample Flow Rate Monitoring. An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 Sample Gas Manifold (optional). A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 EC cell. A device containing one or more EC cells to determine the CO and O₂ concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 Data Recorder. A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O₂; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

6.2.12 Interference Gas Filter or Scrubber. A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

7.1 Calibration Gases. CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O₂. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ± 5 percent of the label value. Dry ambient air (20.9 percent O₂) is acceptable for calibration of the O₂ cell. If needed, any lower percentage O₂ calibration gas must be a mixture of O₂ in nitrogen.

7.1.1 Up-Scale CO Calibration Gas Concentration. Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 Up-Scale O₂ Calibration Gas Concentration.

Select an O₂ gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O₂. When the average exhaust gas O₂ readings are above 6 percent, you may use dry ambient air (20.9 percent O₂) for the up-scale O₂ calibration gas.

7.1.3 Zero Gas. Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO₂).

8.0 Sample Collection and Analysis

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the “sample conditioning phase” once per minute until constant readings are obtained. Then begin the “measurement data phase” and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the “measurement data phase” readings to calculate the average stack gas CO and O₂ concentrations.

8.3 EC Cell Rate. Maintain the EC cell sample flow rate so that it does not vary by more than ± 10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check.

Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ± 3 percent, as instructed by the EC cell manufacturer.

9.0 Quality Control (Reserved)

10.0 Calibration and Standardization

10.1 Pre-Sampling Calibration. Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

10.1.1 Zero Calibration. For both the O₂ and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

10.1.2 Zero Calibration Tolerance. For each zero gas introduction, the zero level output must be less than or equal to ± 3 percent of the up-scale gas value or ± 1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ± 0.3 percent O₂ for the O₂ channel.

10.1.3 Up-Scale Calibration. Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this "sample conditioning phase" once per minute until readings are constant for at least two minutes. Then begin the "measurement data phase" and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

10.1.4 Up-Scale Calibration Error. The mean of the difference of the "measurement data phase" readings from the reported standard gas value must be less than or equal to ± 5 percent or ± 1 ppm for CO or ± 0.5 percent O₂, whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single "measurement data phase" reading must be less than or equal to ± 2 percent or ± 1 ppm for CO or ± 0.5 percent O₂, whichever is less restrictive, respectively.

10.2 Post-Sampling Calibration Check. Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O₂ concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the “measurement data phase”.

13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

13.1 Measurement Data Phase Performance Check. Calculate the mean of the readings from the “measurement data phase”. The maximum allowable deviation from the mean for each of the individual readings is ± 2 percent, or ± 1 ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than ± 2 percent or ± 1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed).

13.2 Interference Check. Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO₂ gas standards that are generally recognized as representative of diesel-fueled engine NO and NO₂ emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 Interference Response. The combined NO and NO₂ interference response should be less than or equal to ± 5 percent of the up-scale CO calibration gas concentration.

13.3 Repeatability Check. Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

13.3.1 Repeatability Check Procedure. Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

13.3.2 Repeatability Check Calculations. Determine the highest and lowest average “measurement data phase” CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ± 3 percent or ± 1 ppm of the up-scale gas value, whichever is less restrictive.

14.0 Pollution Prevention (Reserved)

15.0 Waste Management (Reserved)

16.0 Alternative Procedures (Reserved)

17.0 References

- Table 1: Appendix A—Sampling Run Data.**

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Permit Expires: January 4, 2029

Page 707 of 707

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