Statement of Basis

Tier I Operating Permit No. T1-2014.0023
Project ID 61363

Clearwater Paper Corp. – PPD & CPD
Lewiston, Idaho

Facility ID 069-00001

Final

February 19, 2016
Dan Pitman, P.E.
Permit Writer

The purpose of this Statement of Basis is to set forth the legal and factual basis for the Tier I operating permit terms and conditions, including references to the applicable statutory or regulatory provisions for the terms and conditions, as required by IDAPA 58.01.01.362

1. ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

acfm	actual cubic feet per minute
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CL	Chip Line
CMS	continuous monitoring systems
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gases
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
MRRR	Monitoring, Recordkeeping and Reporting Requirements
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O_2	oxygen
PC	permit condition
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PPD	Pulp and Paper Division
ppm	parts per million

ppmv	parts per million by volume
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
PW	process weight rate
RICE	reciprocating internal combustion engines
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SIP	State Implementation Plan
SL	Sawdust Line
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T1	Tier I operating permit
T2	Tier II operating permit
TAP	toxic air pollutants
TODP	tons of oven dried pulp
ULSD	ultra low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compound

2. INTRODUCTION AND APPLICABILITY

The purpose of this memorandum is to explain the legal and factual basis for this Tier I operating permit renewal in accordance with IDAPA 58.01.01.362.

The Department of Environmental Quality (DEQ) has reviewed the information provided by Clearwater Paper Corporation regarding the operation of its facility located in Lewiston. This information was submitted based on the requirements to submit a Tier I operating permit application in accordance with IDAPA 58.01.01.369. Clearwater Paper Corporation's Pulp and Paper Division and the Consumer Products Division are considered one single Tier I major facility. The Clearwater Paper Corporation Tier I permit is issued in two sections, one section is for the Pulp and Paper Division and the other section is for the Consumer Products Division. This Statement of Basis is for the Pulp and Paper Division section of the Tier I permit. The issuance of multiple permits to one facility was challenged. The EPA administrator did not find that any aspects of the air rules had been omitted by issuing these permits and the objection to the permit was denied. See Order Responding to Petitioners' Request that the Administrator Object to Issuance of State Operating Permits, May 7, 2007, Stephen L. Johnson, Administrator, EPA.

Clearwater Paper Corporation, Idaho Pulp and Paperboard Division operates a kraft pulp mill in Lewiston, Idaho. The mill produces bleached kraft pulp, which is processed in three different areas. Uncoated and coated paperboard is produced in the paper machine area; market pulp is dried on the pulp dryer in the finishing area; and slurried pulp stock is pumped to the Clearwater Paper Corporation Consumer Product Division, which is adjacent to the Idaho Pulp and Paperboard Division. IDAPA 58.01.01.362 requires that as part of its review of the Tier I application, DEQ shall prepare a technical memorandum (i.e. statement of basis) that sets forth the legal and factual basis for the Tier I operating permit terms and conditions including reference to the applicable statutory provisions. This document provides the basis for the Tier I operating permit for Clearwater Paper Corporation.

The format of this Statement of Basis follows that of the permit with the exception of the facility's information is discussed first. That discussion is followed by the scope, the applicable requirements and permit shield, and finally the general provisions.

The Tier I operating permit is organized into sections. They are as follows:

Section 2 - Tier I Operating Permit Scope

The scope describes this permitting action.

Section 3 - Facility-Wide Conditions

The Facility-wide Conditions section contains the applicable requirements (permit conditions) that apply facility-wide. Where required, monitoring, recordkeeping and reporting requirements sufficient to assure compliance with each permit condition follows the permit condition.

Sections 4 through 24 – Source Specific Requirements

The emissions unit-specific sections of the permit contain the applicable requirements that specially apply to each regulated emissions unit. Some requirements that apply to an emissions unit (e.g. opacity limits) may be contained in the facility-wide conditions. As with the facility-wide conditions, monitoring, recordkeeping and reporting requirements sufficient to assure compliance with each applicable requirement immediately follows the applicable requirement.

Section 25 - Insignificant Activities

As requested by the applicant, this section lists emissions units and activities determined to be insignificant activities based on size or production as allowed by IDAPA 58.01.01.317.01.b.

Section 26 - General Provisions

The final section of the permit contains standard terms and conditions that apply to all major facilities subject to IDAPA 58.01.01.300. This section is the same for all Tier I sources. These conditions have been reviewed by EPA and contain all terms required by IDAPA 58.01.01 et al as well as requirements from other air quality laws and regulations. Each general provision has been paraphrased so it is more easily understood by the general public; however, there is no intent to alter the effect of the requirement. Should there be a discrepancy between a paraphrased general provision in this statement of basis and the rule or permit, the rule or permit shall govern.

3. FACILITY INFORMATION

3.1 Facility Description

The mill produces bleached kraft pulp from sawdust and wood chips. The mill consists of digesters, pulp preperation activities (washers and bleaching), and chemical recovery processes (e.g. recovery furnaces and lime kilns). The pulp is processed in three different areas. Uncoated and coated paperboard is produced in the paper machine area; market pulp is dried on the pulp dryer in the finishing area; and slurried pulp stock is pumped to the Clearwater Paper Corporation, Consumer Product Division

3.2 Facility Permitting History

Tier I Operating Permit History - Previous 5-year permit term January 1, 2010 to January 1, 2015

The following information is the permitting history of this Tier I facility during the previous five-year permit term. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

Date	Permit Number	Project	Status
January 1, 2010	T1-2007.0106	Tier I renewal	S
April 1, 2010	T1-2010.0030	Add CEM requirements	S
February 22, 2012	T1-2010.0030	Admin. Amendment to add kiln PTC	S
July 20, 2012	T1-2010.0030	Admin Amendment to reflect rule change	E

Underlying Permit History - Includes every underlying permit issued to this facility

The following information is the comprehensive permitting history of all underlying applicable permits issued to this Tier I facility. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A), superseded (S), or cancelled (C).

Date	Permit Number	Project	Status
December 6, 1973	069-00001	#1 Recovery, #4 Kiln, Digester, Stock Washer	A
September 20, 1978	N/A - letter	#4 Power Boiler	A
July 5, 1979	13-1140-0003-00 (9 pg)	SIP Air Pollution Source Permit	A
July 5, 1979	13-1140-00001-001 (19 pg)	SIP Air Pollution Source Permit	A
September 30, 1980	PSD X80-18	EPA PTC - #4 Power Boiler	A
May 6, 1983	1140-0001	#5 Recovery Boiler	A
July 26, 1983	13-1140-0001-00 (19 pg)	Amendment to 1979 SIP Air Pollution Source Permit	E
August 22, 1984	1140-0001	Air Pollution Source Permit	E
December 3, 1984	PSD -X84-01	#5 Recovery Furnace	A
July 3, 1985	1140-0001-315	Trash Hog	S
August 19, 1985	1140-00001	Air Pollution Source Permit Mod - Trash Hog	E
September 15, 1986	1140-0001	Air Pollution Source Permit Mod - Kilns	S
October 29, 1986	1140-0001	Air Pollution Source Permit Mod - Kilns	S
September 9, 1988	1140-0001	Lime Slaking and Handling	S
May 25, 1989	PSD-X84-01	EPA PTC amend - #5 Recovery	S
July 3, 1990	1140-0001	Chlorine Dioxide	S
August 14, 1990	1140-0001	Oxygen Delignification	S
December 11, 1990	1140-0001	PTC Mod - Oxygen Delignification	S
April 30, 1993	069-00001	NCG Incinerator	S
June 22, 1994	069-00001	Chlorine Dioxide	S
September 6, 1994	069-00001	PTC Mod - Oxygen Delignification	S
September 6, 1994	069-00001	PTC amend - Chlorine Dioxide	S
October 17, 1994	PSD-X84-01	EPA PTC amend - #5 Recovery	A
March 2, 1995	069-00001	PSD permit mod	S
March 16, 1995	069-00001	PSD permit mod - letter	A
March 15, 1995	069-00001	NCG Incinerator	S
May 8, 1995	069-00001	#4 & #5 Saltcake	S
August 7, 1995	069-00001	#4 & #5 Saltcake	S
December 18, 1995	069-00001	Chlorine Dioxide	S
January 31, 1996	069-00001	PTC amend - Chlorine Dioxide	S
September 16, 1996	069-00001	Oxygen Delignification	S
January 29, 1997	069-00001	#4 & #5 Saltcake	C
March 21, 1997	069-00001	PTC amend - NCG Incinerator	S
April 30, 1997	069-00001	PTC amend - NCG	S

August 29, 1997	069-00001	NCG Incinerator	S
September 3, 1998	069-00001	Temporary Boilers	S
November 6, 1998	069-00001	Temporary Boilers	A
April 28, 1999	069-00001	Chlorine Dioxide Plant	S
September 22, 1999	069-00001	Chlorine Dioxide Plant	A
February 14, 2000	069-00001	PTC amend - Chlorine Dioxide	A
August 31, 2001	069-00001	Thermocompressor	A
February 26, 2002	069-00001	#3 & #4 Lime Kilns	S
May 31, 2002	069-00001	#3 & #4 Lime Kilns	S
June 24, 2002	069-00001	#3 & #4 Lime Kilns	S
December 17, 2002	069-00001	Initial Tier I permit	S
February 27, 2003	069-00001	Lime Kilns, incorporates PTC issued 6/24/02	S
November 9, 2006	P-050208	Package Boilers	S
February 21, 2007	T1-050216		S
May 25, 2007	P-060209	PTC amend - NCG Incinerator	S
August 17, 2007	P-2007.0056	Oxygen Delignification	A
August 27, 2007	T1-2007.0057	Tier I	S
April 24, 2008	P-2008.0009	PTC amend - Package Boilers	A
April 13, 2009	P-2009.0020	PTC amend - Lime Handling	A
January 1, 2010	T1-2007.0106	Tier I newal	S
February 2, 2012	P-2011.0101	Changes to lime kiln permits	A
October 4, 2012	P-2012.0046	Changes to reflect rule changes	A
April 1, 2010	T1-2010.0030	Add CEM requirements	S
February 22, 2012	T1-2010.0030	Admin. Amendment to add kiln PTC	S
July 20, 2012	T1-2010.0030	Admin Amendment to reflect rule change	E
September 3, 2015	P-2015.0007	Pulp Optimization Project	A

4. APPLICATION SCOPE AND APPLICATION CHRONOLOGY

4.1 Application Scope

This permit is the renewal of the facility's currently effective Tier I operating permit. There are 3 newly applicable requirements added to the permit: the major source boiler MACT (40 CFR 63 Subpart DDDDD); the MACT requirements for reciprocating internal combustion engines (RICE- 40 CFR 63 Subpart ZZZZ); and the permit to construct for the pulp optimization project (PTC No. 2015.0007).

4.2 Application Chronology

May 1, 2014	DEQ received an application.
June 30, 2014	DEQ determined that the application was complete.

October 5, 2015	DEQ made available the draft permit and statement of basis for peer and regional office review.
October 13, 2015	DEQ made available the draft permit and statement of basis for applicant review.

5. EMISSIONS UNITS, PROCESS DESCRIPTION(S), AND EMISSIONS INVENTORY

This section lists the emissions units, describes the production or manufacturing processes, and provides the emissions inventory for this facility. The information presented was provided by the applicant in its permit application. Also listed in this section are the insignificant activities based on size or production rate.

5.1 Package Boilers and Power Boilers No. 1, 2 and 3

Table 5.1 lists the emissions units and control devices associated with Package Boilers and Power Boilers No. 1, 2 and 3.

TABLE 5.1 EMISSIONS UNITS AND EMISSIONS CONTROL DEVICES

Emission Point ID	Emissions Units(s)/Process(es)	Emission Control Device
240	Power boiler No. 1, oil- or natural gas-fired	None
253	Power boiler No. 2, oil- or natural gas-fired or Replacement Package Boiler, natural gas-fired	None
254	Power boiler No. 3, natural gas-fired or Replacement Package Boiler, natural gas-fired	None

The Package and Power Boilers provide steam to the paper making process.

5.2 Temporary Boilers

Table 5.2 lists the emissions units and control devices associated with temporary boilers.

Table 5.2 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emissions Units(s)/Process(es)	Emission Control Device
82, 83	Natural gas-fired boilers (2)	None

Clearwater may operate 2 natural gas fired boilers for up to 30 days per any consecutive 12-month period, and any time that one or more of the permanent boilers are shut down. The boilers produce steam for the paper making process.

5.3 Chemical Recovery Combustion Sources

Table 5.3 lists the emissions units and control devices associated with chemical recovery combustion sources.

Table 5.3 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emissions Unit Description	Control Device (if applicable)
#4 & #5 Recovery Furnace	ESP
#4 Smelt Tank	Wet Scrubber
#5 Smelt Tank	Wet Scrubber
#3 & #4 Lime Kiln	ESP

Chemicals used in the production of paper in the kraft pulp mill are recovered in a chemical recovery system. The chemical recovery system includes combustion sources that are regulated by the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The sources that are affected by the

NESHAP standards are the No. 4 and No. 5 recovery furnaces, the No. 4 and No. 5 smelt dissolving tanks, and Lime Kilns No. 3 and No. 4.

5.4 No. 4 Recovery Furnace and No. 4 Smelt Dissolving Tank

Table lists the emissions units and control devices associated with No. 4 Recovery Furnace and No. 4 Smelt Dissolving Tank.

Table 5.4 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emissions Units(s)/Process(es)	Emission Control Device
189	Babcock & Wilcox recovery furnace, started up November 1970	Electrostatic precipitator
157	Research Cottrell smelt-dissolving tank, started November 1970	High-efficiency wet scrubber

The recovery furnace and smelt-dissolving tank are part of the chemical recovery process of the pulping process. Black liquor from the pulp making process is combusted for heat recovery; combustion byproducts are recovered and smelted.

5.5 No. 5 Recovery Furnace

Table 5.5 lists the emissions units and control devices associated with No. 5 Recovery Furnace.

Table 5.5 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emission Units	Emission Control Device
721	Gotaverken Energy Systems recovery furnace, started up June 1987	Electrostatic precipitator rated at 99.7% efficiency

The recovery furnace is part of the chemical recovery process of the pulping process. Black liquor from the pulp making process is combusted for heat recovery; combustion byproducts are recovered and smelted.

5.6 No. 5 Smelt Dissolving Tank

Table 5.6 lists the emissions units and control devices associated with No. 5 Smelt Dissolving Tank.

Table 5.6 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emission Units	Emission Control Device
204	Gotaverken Energy Systems tank; started up June 1987	High efficiency wet scrubber

Smelt from the No. 5 Recovery furnace is dissolved in the No. 5 Smelt tank as part of the chemical recovery process.

5.7 No. 4 and 5 Recovery Furnace Saltcake Systems

Table 5.7 lists the emissions units and control devices associated with No. 4 and 5 Recovery Saltcake Systems.

Table 5.7 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emission Units	Emission Control Device
NA	Nos. 4 and 5 Salt-cake day silos	Baghouses

Particulate matter captured from the Recovery Furnaces by the ESP is referred to as salt cake. The No. 4 and No. 5 Recovery Furnace Salt-Cake Systems are used as part of the chemical recovery process. Saltcake is used as a makeup chemical in the pulping liquor cycle.

5.8 Lime Kilns Nos. 3 and 4

Table 5.8 lists the emissions units and control devices associated with Lime Kilns No. 3 and 4.

Table 5.8 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emission Units	Emission Control Device

Emission Point ID	Emission Units	Emission Control Device
511	No. 3 lime kiln, natural gas, oil, and coke-fired	Electrostatic precipitator
512	No. 4 lime kiln, natural gas, oil, and coke-fired	Electrostatic precipitator, packed-bed scrubber

The No.3 & No. 4 Lime Kilns are used as part of the chemical recovery process of the kraft pulping process. Calcium carbonate is precipitated in smelt tanks and then introduced to the lime kilns which convert the calcium carbonate to calcium oxide.

5.9 Lime Handling and Slaking

Table 5.9 lists the emissions units and control devices associated with Lime Handling and Slaking.

Table 5.9 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emission Units	Emission Control Device
43	Lime slaker	-
47	Lime handling	Baghouse

Lime is transferred from the lime kilns to a process to regenerate the liquor used in the kraft pulping process. Equipment includes pan conveyors, bucket elevators, feeders and slaker.

5.10 Noncondensable Gas Incinerator

Table 5.10 lists the emissions units and control devices associated with the Noncondensable Gas Incinerator.

Table 5.10 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emission Unit(s)/Process(es)	Emission Control Device
106	NCG Incinerator – Combusts LVHC gases from many sources, including the digesters and evaporators	Packed bed scrubber

Low volume, high concentration (LVHC) gases may be combusted in a non-condensable gas incinerator. Emissions from the incinerator are controlled by a packed bed scrubber. The low volume, high concentration gases combusted in the incinerator originate from the digesters, evaporators, turpentine system and foul condensate collection tank.

5.11 Oxygen Delignification Reactor

Table 5.11 lists the emissions units and control devices associated with the Oxygen Delignification Reactor.

Table 5.11 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emission Units	Emission Control Device
766	Oxygen delignification reactor	None

Pulp is delignified using oxygen in the Oxygen Delignification system.

5.12 Chlorine Dioxide Plant

Table 5.12 lists the emissions units and control devices associated with the Chlorine Dioxide Plant.

Table 5.12 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emission Units	Emission Control Device

Emission Point ID	Emission Units	Emission Control Device
69 and 67	Lurgi 134 and 234 HCl synthesis	Lurgi scrubber or Fiberline bleach plant scrubber

Chlorine is a used as a feed material in the chlorine dioxide generating plant. All emission limits in the underlying permit are solely for toxic air pollutant regulation and they are therefore state only permit conditions.

5.13 Micellaneous Process Sources

Table 5.13 lists the emissions units and control devices associated with some of the miscellaneous process sources.

Table 5.13 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emission Point ID	Emission Unit(s)/Process(es)	Emission Control Device
774, 775	Sawdust transfer cyclones	None
PM	No. 1 and No. 2 paper machines	None
513, 514	Pulp dryer	None
464, 465, 466	Dry additives handling	Baghouses (3)

5.14 Pulp and Paper MACT – 40 CFR 63 Subpart S

Tale 5.14- 5.17 lists the emissions units and control devices associated with 40 CFR 63 Subpart S.

Table 5.14 - 40 CFR 63 Subpart S –SUMMARY OF APPLICABLE REQUIREMENTS FOR LVHC SYSTEMS

Process Systems	Standards[a]	Control Devices	Monitoring
Digesters Turpentine Recovery Evaporators	1) Reduce HAP emissions by 98% by weight; or 2) Reduce HAP in a thermal oxidizer to 20 ppm by weight @ 10% O_2; or 3) Combust HAPs at 1,600 ° F for 0.75 sec.; or 5) Reduce HAPs by combusting in a boiler, lime kiln, or recovery furnace by introducing the HAP stream with the primary fuel; or 6) Introduce HAPs to a 150MMBtu or greater boiler or recovery furnace with combustion air	Thermal Oxidizer (NCG incinerator); or Lime Kiln	Thermal Oxidizer – continuous monitoring and recording of temperature immediately downstream from the firebox. Lime Kiln – no monitoring required.

Table 5.15 - 40 CFR 63 Subpart S –SUMMARY OF APPLICABLE REQUIREMENTS FOR HVLC SYSTEMS

HVLC System	Standards	Control Device	Monitoring
No. 2 Pre Oxygen Washer Feed Tank (CL) No. 1 Pre Oxygen Washer (CL) No. 1 Pre Oxygen Washer Filtrate Tank (CL) No. 2 Pre Oxygen Washer (CL)	1) Reduce HAP emissions by 98% by weight; or 2) Reduce HAP in a thermal oxidizer to 20 ppm by weight @ 10% O_2; or	Thermal Oxidizer (NCG incinerator); or Lime Kiln	Thermal Oxidizer – continuous monitoring and recording of temperature immediately downstream from the firebox.

No. 2 Pre Oxygen Washer Filtrate Tank (CL)	3) Combust HAPs at 1,600 ° F for 0.75 sec.; or 5) Reduce HAPs by combusting in a boiler, lime kiln, or recovery furnace by introducing the HAP stream with the primary fuel; or 6) Introduce HAPs to a 150MMBtu or greater boiler or recovery furnace with combustion air		Lime Kiln – no monitoring required.
Press Mixing Tank (CL)			
Oxygen Press North (CL)			
Pressate Receiver North (CL)			
Oxygen Press South (CL)			
Pressate Receiver South (CL)			
Pressate Storage Tank (CL)			
No. 1 Post Oxygen Wash Press (CL)			
No. 1 Post Oxygen Washer Press Dilution Conveyor (CL)			
No. 1 Post Oxygen Wash Press Level Tank (CL)			
No. 1 Post Oxygen Washer Filtrate Tank (CL)			
No. 2 Post Oxygen Washer Press Feed Tank (CL)			
Spill Collection Tank (CL)			
Soap Standpipe (CL)			
Oxygen Delignification Blow Tank	Clean Condensate Alternative Emission Limit – 519 pounds per day of methanol as an annual average from the aerated storage basin and O_2 blow tank combined	Wet Scrubber	Scrubber water temperature; and Scrubbing water flow
Brown Stock Washer Hood (SL)	Emissions are offset from reductions at other sources as part of the Clean Condensate Alternative	None	None
No. 1 Filtrate Tank (SL)			
No. 2 Filtrate Tank (SL)			
No. 3 Filtrate Tank (SL)			
No. 4 Filtrate Tank (SL)			
Soap Tank (SL)			
Foam Tank (SL)			
Oxygen Delignification Reactor Vent (CL)			
No. 2 Post Oxygen Wash Press (CL)			
No. 2 Post Oxygen Washer Press Level Tank (CL)			
No. 2 Post Oxygen Press Filtrate Tank (CL)			
No. 2 Post Oxygen Press Filtrate Dilution Conveyor (CL)			
Post Oxygen HD Storage Chest (CL)			
No. 3 Post Oxygen Wash Press Feed Tank (CL)			
No. 3 Post Oxygen Wash Press (CL)			
No. 3 Post Oxygen Level Tank (CL)			
No. 3 Post Oxygen Filtrate Tank (CL)			

Table 5.16 - 40 CFR 63 Subpart S –SUMMARY OF APPLICABLE REQUIREMENTS FOR BLEACHING SYSTEMS

Bleaching Systems	Standards	Control Device	Monitoring
Chip Line Systems: D-1 stage tower, washer hood, north and south filter tanks; and D-2 stage tower, washer hood, and filtrate tank	Use a control device to reduce chlorinated HAP emissions (excluding chloroform) to: 1) Reduce total chlorinated HAP mass by 99%; or 2) Achieve emissions of 10 ppm chlorinated HAP; or 3) Achieve chlorinated HAP	Chip line bleach plant scrubber	Continuous monitoring system (CMS) for determining scrubbing media pH, scrubbing media flow rate, and fan status (amperage?).
Sawdust Line Systems: D-1 stage tower, washer hood, and filtrate tank; and		Sawdust line bleach plant scrubber.	

D-2 stage tower, washer hood, and filtrate tank.	emissions of 0.002 pounds per of oven dried ton of pulp (At the time of permit renewal Clearwater indicated they would comply with number 2 above)		

Table 5.17 - 40 CFR 63 Subpart S –SUMMARY OF APPLICABLE REQUIREMENTS FOR PULPING CONDENSATES

Affected Process Systems	Standards	Control Device	Monitoring
Condensates from: 1. Digester systems 2. Turpentine recovery systems 3. Condensate from each evaporator system each stage where weak liquor is introduced; and each evaporator vacuum system for each stage where weak liquor is introduced. 4. Each HVLC system 5. Each LVHC system; or Condensates from 4 and 5 listed above plus other condensate streams that contain 65% of the HAPs that are contained in 1, 2 and 3 above; or Collect condensate streams from 1 through 5 listed above such that the total collected is 11.1 lb/TODP	Condensates shall be collected and conveyed in a closed collection system which meets the requirements of §§63.446(d) 1) Condensates shall be recycled to systems meeting the requirements for pulping system gas collection and treatment requirements of §§ 63.443; or 2) Discharge condensate below the liquid surface of a biological treatment system treating the condensates to: (a) Reduce or destroy 92% or more of the total HAPs ; or (b) Treat condensates to remove 10.2 lb/TODP or more of total HAPs, or achieve a total HAP concentration of 330 ppm or less by weight at the outlet of the control device. (at the time of submittal of the Tier I permit renewal application Clearwater indicated that they were electing to comply with 2(b) above)	Aerated Storage Basin	Daily monitoring of influent soluble COD loading or concentration, and total aerator horsepower. Quarterly testing within 45 days after the beginning of each quarter.

5.15 Paper and Web Coating MACT – 40 CFR 63 Subpart JJJJ

Table 5.18 lists the emissions units and requirements associated with 40 CFR 63 Subpart S.

Table 5.18 - 40 CFR 63 Subpart JJJJ –SUMMARY OF APPLICABLE REQUIREMENTS FOR PAPER COATING LINES

Process Systems	Standards	Compliance Demonstration	Record Keeping

Two paper coating lines	**40 CFR 63.3320** Organic HAP emissions must be limited to the level specified: 1) No more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources, and no more than 2 percent of the organic HAP applied for each month (98 percent reduction) at new affected sources; or 2) No more than 4 percent of the mass of coating materials applied for each month at existing affected sources, and no more than 1.6 percent of the mass of coating materials applied for each month at new affected sources; or 3) No more than 20 percent of the mass of coating solids applied for each month at existing affected sources, and no more than 8 percent of the coating solids applied for each month at new affected sources.	**40 CFR 63.3370** 1) Each coating material used at an existing affected source does not exceed 0.04 kg organic HAP per kg coating material, and each coating material used at a new affected source does not exceed 0.016 kg organic HAP per kg coating material as-purchased; or 2) Each coating material used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids, and each coating material used at a new affected source does not exceed 0.08 kg organic HAP per kg coating solids as-purchased.	**40 CFR 63.3410** The permittee shall maintain records on a monthly basis in accordance with the requirements of §63.10(b)(1) of: 1) Organic HAP content data for the purpose of demonstrating compliance in accordance with the requirements of §63.3360(c); or 2) Volatile matter and coating solids content data for the purpose of demonstrating compliance in accordance with the requirements of §63.3360(d); and 3) Material usage, organic HAP usage, volatile matter usage, and coating solids usage and compliance demonstrations using these data in accordance with the requirements of §63.3370(b), (c), and (d).

5.16 Compliance Assurance Monitoring – 40 CFR 64

Table 5.19 lists the emissions units and pollutants that are applicable to CAM and details the monitoring requirements for each emissions unit which the Permittee shall comply with.

Table 5.19 Summary of Compliance Assurance Monitoring

Emission Unit/Pollutant	Indicator - 40 CFR 64.6(c)(1)(i)	Monitoring Means/Device & Performance Requirements - 40 CFR 64.6(c)(1)(ii)
#4 Power Boiler/PM	Opacity	COMs , Install and operate using the methods and procedures in 40 CFR 60.13
#4 Recovery Furnace/PM	Opacity	COMs in accordance with 40 CFR 63.864(d)
#4 Smelt Dissolving Tank/PM	Pressure Drop & Scrubbing media flow rate	Continuous parameter monitoring (CPM) required by 40 CFR 63.864(e)(10) (Tier I permit Condition 5.8)
#5 Recovery Furnace/PM	Opacity	COMs in accordance with 40 CFR 63.864(d)
#5 Smelt Dissolving	Fan Load & Scrubbing media flow rate (See	Continuous parameter monitoring (CPM) required by 40

Tank/PM	Table 5.2)	CFR 63.864(e)(10) (Tier I permit Condition 5.8)
#3 Lime Kiln/PM	Opacity	COMs in accordance with 40 CFR 63.864(d)
#4 Lime Kiln/PM	Opacity	COMs in accordance with 40 CFR 63.864(d)
Dry Fuel Bin/PM	Opacity	Visual Observation (see/no see) once each calendar day
Non-condensable Gas Incinerator/SO_2	Scrubber Liquid pH & Scrubber Liquid Flow	Continuous pH sensor in recirculation line/ sensor accuracy shall be assessed once a month and shall be calibrated annually. pH recorded once per hour. Continuous magnetic flow sensor/shall be calibrated annually. Flow is recorded once per hour.

5.17 Boiler MACT – 40 CFR 63 Subpart DDDDD

Table 5.20 describes the existing affected boilers and associated control devices.

TABLE 5.20 EMISSIONS UNITS AND EMISSIONS CONTROL DEVICES

Emission Unit(s)/Process(es)	Emission Control Device
Power Boiler No. 1 Fuel: Natural Gas Rated Capacity: 376 MMBtu/hr Constructed: 1950	None
Power Boiler No. 2 Fuel: Natural Gas Rated Capacity: 336 MMBtu/hr Constructed: 1952	None
Power Boiler No. 3 Fuel: Natural Gas Rated Capacity: 250 MMBtu/hr Constructed: 1973	None
Power Boiler No. 4 Fuel: wood waste, natural gas, and fuel oil (as listed in underlying permits) Rated Capacity: 1,048 MMBtu/hr Constructed: 1980	Electrostatic Precipitator (ESP)

5.18 Reciprocating Internal Combustion Engines (RICE) – 40 CFR 63 Subpart ZZZZ

Table 5.21 lists the RICE associated with Clearwater's PPD.

Table 5.21 EMISSION UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emissions Unit Description	Control Device Description
Pony Motor #3 &#4 Lime Kilns –Spark Ignition (2) Manufacturer – Wisconsin HP – 37 Installed – 1995 & 1998 Fuel - Gasoline	None - Subject to 40 CFR 63 Subpart ZZZZ
Lurgi North &South Standby - Compression Ignition (2) Manufacturer – Caterpillar HP – 587 Installed – 1991 Fuel - Diesel	None and Not Subject to 40 CFR 63 Subpart ZZZZ
Lift Pumps Emergency Generator - Compression Ignition Manufacturer – Caterpillar HP – 1180 Installed – 2004 Fuel - Diesel	None and only subject to the initial notification requirements of 40 CFR 63 Subpart ZZZZ
No. 3 & No. 4 Turbine Standby Generator – Compression Ignition	None and

Manufacturer – Caterpillar HP – 587 Installed – 1990 Fuel – Diesel	Not Subject to 40 CFR 63 Subpart ZZZZ
Fire Water Pump No.1 , No. 2, No. 3 & No. 4 – Compression Ignition (4) Manufacturer – Detroit HP –170 Model Year – 1963 Fuel – Diesel	None- Subject to 40 CFR 63 Subpart ZZZZ
North Mud Storage Emergency Generator – Spark Ignition Manufacturer – Wisconsin HP – 37 Model Year – 1987 Fuel - Propane	None- Subject to 40 CFR 63 Subpart ZZZZ
South Mud Storage Emergency Generator – Spark Ignition Manufacturer – Wisconsin HP – 37 Model Year – 1987 Fuel - Propane	None- Subject to 40 CFR 63 Subpart ZZZZ

Pulp Optimization Project

Table 5.22 lists new emission units associated with the Pulp Optimization Project.

Table 5.22 EMISSION UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Source	Control Equipment
Continuous Chip Digester Capacity: 1,450 ADTUBP/Day	Existing Lime Kiln, Existing NCG Incinerator, existing Recovery Furnace
Bleached High Density Pulp Tank Manufacturer: TBD Capacity: 1,000 Tons	None
Polysulfide Generator Manufacturer: TBD Capacity: 1,200 gpm	Scrubber: Manufacturer: TBD (pressure drop and scrubbing media flowrate to be determined through source testing)

This section of the permit is for the addition of a polysulfide generator, addition of a new continuous digester that will replace the existing 12 batch digesters, addition of a new high density bleached pulp tank and a capacity increase of the existing pulp dryer.

Pulping yields will increase on both fiber lines as a result of the new continuous digester system and the use of polysulfide cooking liquor. Pulp processing equipment will realize a production increase but emissions will remain below allowable emission rates in existing permits.

5.19 Kraft Pulp Mill – 40 CFR 60 Subpart BBa

Table 5.23 lists new emission units and associated control equipment that is subject to 40 CFR 60 Subpart BBa.

Table 5.23 EMISSION UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Source	Control Equipment
Continuous Chip Digester Capacity: 1,400 ADTUBP/Day	Existing Lime Kiln, Existing NCG Incinerator, existing Recovery Furnace

5.20 Insignificant Emissions Units Based on Size or Production Rate

No emissions unit or activity subject to an applicable requirement may qualify as an insignificant emissions unit or activity. As required by IDAPA 58.01.01.317.01.b, insignificant emissions units (IEU's) based on size or production rate must be listed in the permit application. Table 5.24 lists the IEU's identified in the permit application.

Table 5.24 Insignificant activities.

Emission Point ID	Insignificant Activity IDAPA 58.01.01.317	Mill Area	Sub Area	Description
18	b19	Pulp Mill	Sawdust Fiberline	15% Caustic Tank
41a	b19	Pulp Mill	Caustic Plant	Sulfamic Acid Tank, Batch Tank
41b	b19	Pulp Mill	Caustic Plant	Sulfamic Acid Tank, Batch Tank
104	b19	Pulp Mill	CI2 Unloading	50% Caustic Tank
167	b30	Power & Recovery	No.4 Recovery	Condensate Air Heater
181	b19	Power & Recovery	No.4 Recovery	50% Caustic Tank
186	b19	Power & Recovery	No.4 Recovery	97% Sulfuric Acid Tank
187	b19	Power & Recovery	No.4 Recovery	97% Sulfuric Acid Tank
201	b30	Power & Recovery	No.5 Recovery	Primary Natural Gas Purge
214	b30	Power & Recovery	No.5 Recovery	Main Natural Gas purge Valve
221	b29	Power & Recovery	No.5 Recovery	Water Test Lab Hood
234	b3	Power & Recovery	No.5 Recovery	Light Oil Tank (Diesel)
255	b30	Power & Recovery	PB/Turbines	#1 Power Natural Gas Purge
268	b20	Power & Recovery	PB/Turbines	Fuel Oil Day Tank
272	b30	Power & Recovery	PB/Turbines	#2 Power Natural Gas line Purge
273	b30	Power & Recovery	PB/Turbines	#2 Power Main Gas Valve Purge
297	b30	Power & Recovery	PB/Turbines	#1 Power Gas Burner
313	b30	Power & Recovery	PB/Turbines	Hydrogen Gas
320	b30	Power & Recovery	No.4 Recovery	Natural Gas Purge
330	b19	Pulp Mill	CI2 Unloading	50% Caustic Tank
353	b30	Utilities	PB/Turbines	Natural Gas Line
378a	b19	Utilities	PB/Turbines	Sulfuric Acid Bulk Tank
378b	b19	Utilities	PB/Turbines	Sulfuric Acid Bulk Tank
379a	b19	Utilities	PB/Turbines	Caustic Soda Bulk Tank
379b	b19	Utilities	PB/Turbines	Caustic Soda Bulk Tank
380a	b20	Utilities	PB/Turbines	Fuel Oil Tank
380b	b20	Utilities	PB/Turbines	Fuel Oil Tank
384	b19	Utilities	Power Boiler	Sulfuric Acid Bulk Tank

Emission Point ID	Insignificant Activity IDAPA 58.01.01.317	Mill Area	Sub Area	Description
394	b30	Maintenance	Pulpmill Shop	Carpenter Shop Dust Collection System
408	b18	Maintenance	Pulpmill Shop	Hot Water Heater
412	b9	Maintenance	Papermill Shop	Welding Station Air Filter
421	b9	Maintenance	Papermill Shop	Ventilation Cyclone - Welding and Grinding
423	b9	Maintenance	Papermill Shop	Filter System for welding fumes
425	b30	Maintenance	Papermill Shop	Roll Grinding - Vacuum System
433	b9	Maintenance	Power/Rec. Shop	Welding Ventilation Filter (one mobile)
435	b2	Maintenance	Truck Shop	Gasoline, Unleaded, Storage Tank
464	b30	Finished Products	PM Additives	West Starch Storage Silo - Dust Collector
465	b30	Finished Products	PM Additives	Center Starch Storage Silo - Dust Collector
466	b30	Finished Products	PM Additives	East Starch Storage Silo - Dust Collector
498	b30	Maintenance	Misc.	Rubber Roll Grinding - Vacuum System
499	b30	Maintenance	Misc.	Roll Grinder Ventilation System
500	b26	Maintenance	Pulpmill Shop	Filler Washer Cleaner Unit
524	b5	Finished Products	Extruders	84" Extruder - Flame Pretreater
525	b5	Finished Products	Extruders	84" Extruder - Flame Pretreater
526	b30	Finished Products	Extruders	84" Extruder - Flame & Corona Postreaters
528	b5	Finished Products	Extruders	Air Makeup Unit - 4,000,000 btuh-Nat. Gas
530	b5	Finished Products	Extruders	Air Makeup Unit - 4,000,000 btuh-Mat. Gas
532	b30	Finished Products	Extruders	72" Extruder - Flame & Corona Postreaters
533	b5	Finished Products	Extruders	72" Extruder - Flame Pretreater
541	b5	Finished Products	Extruders	Air Makeup Unit - 4,000,000 btuh –Nat. Gas
545	b29	P&PD Division Wide Activities	Lab	Atomic Absorption Furnace - out wall
547	b29	P&PD Division Wide Activities	Lab	Flame Atomic Absorption Unit
548	b29	P&PD Division Wide Activities	Lab	North Fume Hood - Analytical Lab
549	b29	P&PD Division Wide Activities	Lab	AOX/Bacteria Lab Fume Hood
550	b29	P&PD Division Wide Activities	Lab	Dohrmann Fume Hood - out wall
553	b29	P&PD Division Wide Activities	Lab	Center Fume Hood - Analytical Lab
554	b29	P&PD Division Wide Activities	Lab	South Fume Hood - Analytical Lab
555	b29	P&PD Division Wide Activities	Lab	Lab Mixing Room Fume Hood
556	b29	P&PD Division Wide Activities	Lab	Lab Mixing Room
559	b29	P&PD Division Wide Activities	Lab	Digester Room Fume Hood
560	b29	P&PD Division Wide Activities	Lab	Digester Room: out wall
561	b29	P&PD Division Wide Activities	Lab	Refrigerator Room - out wall

Emission Point ID	Insignificant Activity IDAPA 58.01.01.317	Mill Area	Sub Area	Description
562	b29	P&PD Division Wide Activities	Lab	Recovery Tester/Environmental Fume Hoods
565	b29	P&PD Division Wide Activities	Lab	Coating Lab -out wall
567	b18	P&PD Division Wide Activities	Lab	Gas Water Heater - Lab
605	b30	Finished Products	#1 Papermachine	#1 PM Penthouse Burner – Nat. Gas
618	b30	Finished Products	#2 Papermachine	#2 PM Penthouse Burner –Nat. Gas
620	b29	Finished Products	PM Building	Test Station Fume Hood
716	b19	Pulp Mill	Caustic Plant	South Caustic Storage Tank
789	b30	Utilities	Power Boiler	Dry Ash Handling
790	b30	Utilities	Power Boiler	Dry Ash Pile
1008	b30	Utilities	Wastewater	Storm Water Pond
1013	b19	Utilities	Wastewater	97% Sulfuric Acid Bulk Tank-at Bleach Pump Sta.
1033	b20	Utilities	PB/Turbines	Fuel Oil Day Tank
1034	b20	Utilities	Wastewater	Main Fuel Oil Storage Tank
1052	b3	Utilities	Misc.	Diesel Fuel Tank
1053	b3	Utilities	Misc.	Diesel Fuel Tank
1054	b3	Utilities	Misc.	Diesel Fuel Tank
1055	b3	Utilities	Misc.	Diesel Fuel Tank
1056	b3	Utilities	Misc.	Diesel Fuel Tank
1057	b3	Utilities	Misc.	Diesel Fuel Tank
1075	b16	P&PD Division Wide Activities	Wastewater	Drinking Water Wellhead Bldg
1120	b30	Finished Products	PM Additives	Dry Clay Unloading - Dust Collector
1121	b30	Finished Products	PM Additives	Clay Makedown Tank - Dust Collector
1124	b3	Utilities	Hog Fuel Storage	Diesel Fuel Tank
1126	b30	Finished Products	Extruders	Extruder Air Makeup Unit - 11 MMBTUH
1131	b19	Finished Products	#1 Papermachine	Caustic Storage Tank
1132	b5	Finished Products	PM Additives	Air Makeup Unit - Natural Gas Fired
1141	b5	Finished Products	#1 Papermachine	IR Edge Dryer (1.4 MMBtu/hr)
1142	b5	Finished Products	#1 Papermachine	Pig Roaster IR Dryer (2.6 MMBtu/hr)
1143	b5	Finished Products	#1 Papermachine	Rod Coater IR Dryer (3.3MMBtu/hr)
1144	b5	Finished Products	#1 Papermachine	1st Coater IR Dryer (2.5 MMBtu/hr)
1145	b5	Finished Products	#1 Papermachine	1st Coater Air Cap (2.1 MMBtu/hr)
1146	b30	Finished Products	#1 Papermachine	C2T Marsden IR Dryer (5.3 MMBtu/hr)
1147	b5	Finished Products	#1 Papermachine	C2T Megtec Air Dryer (4.6 MMBtu/hr)
1148	b5	Finished Products	#2 Papermachine	#2 PM – IR Dryer (4.5 MMBtu/hr)
1150	b5	Finished Products	#2 Papermachine	#2 PM – IR Dryer (4.5 MMBtu/hr)
1153	b5	Finished Products	#1 Papermachine	2nd Coater IR Dryer (2.4 MMBtu/hr)
1154	b5	Finished Products	#1 Papermachine	2nd Coater Air Cap Dryer (2.1 MMBtu/hr)
1156	b3	Utilities	Fire Suppression	#1 Fire Pump Diesel Tank
1158	b3	Utilities	Fire Suppression	#2 Fire Pump Diesel Tank
1160	b3	Utilities	Fire Suppression	#3 Fire Pump Diesel Tank

Emission Point ID	Insignificant Activity IDAPA 58.01.01.317	Mill Area	Sub Area	Description
1162	b3	Utilities	Fire Suppression	#4 Fire Pump Diesel Tank

5.21 Non-applicable Requirements for Which a Permit Shield is Requested

Clearwater did not request a non-applicability determination.

5.22 Emissions Inventory

Table 5.24 summarizes the criteria air pollutant emissions inventory for this major facility. All values are expressed in units of tons-per-year and represent the facility's potential to emit. Potential to emit is defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hour 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 emission is state or federally enforceable. Total HAP emissions from the facility are 440 tons per year, the individual HAP with the maximum emission rate is methanol at 240 tons per year.

The documentation provided by the applicant for the emissions inventory and emission factors are provided as Appendix A of this statement of basis.

Table 5.24 EMISSIONS INVENTORY - POTENTIAL TO EMIT (T/yr)

Source Description	PM T/yr	PM_{10} T/yr	$PM_{2.5}$ T/yr	SO_2 T/yr	CO T/yr	NO_x T/yr	VOC T/yr	GHG CO_2e T/yr
Sawdust Handling	2.82	1.33	0.20	0	0	0	1.33	0
Sawdust Transfer Cyclones	25.9	18.1	7.65	0	0	0	0	0
Chip Handling	5.63	2.69	0.50	0	0	0	3.08	0
Sawdust Brownstock wash	0	0	0	0	0	0	56.33	0
O_2 Delignification	0	0	0	0	74.5	0	80.1	0
NCG Incinerator	7.19	7.19	7.19	20.0	6.21	13.4	2.29	4,715
Sawdust Bleach Plant	0	0	0	0	75.0	0	9.55	0
Chip Bleach Plant	0	0	0	0	174	0	22.1	0
Lurgi Synthesis 134	0	0	0	0	0	5.48	0	0
Lurgi Synthesis 234	0	0	0	0	0	5.48	0	0
No. 3 Lime Kiln	13.5	8.65	8.65	21.0	44.0	113	2.12	53,812
No. 4 Lime Kiln	13.5	8.65	8.65	15	44.0	113	2.12	46,125
Lime Slaker	7.53	7.53	7.53	0	0	0	10.52	0
Lime Handling	4.13	4.13	4.13	0	0	0	0	0
No. 1 Power Boiler	126.2	125.0	87.1	1,551	136	516	8.88	273,588
No. 2 Power Boiler	112.8	111.7	77.9	1,386	121	873	7.94	244,483
No. 3 Power Boiler	2.04	8.16	8.16	0.64	90.2	169	5.90	128,125
No. 1 Package Boiler	2.04	8.16	8.16	0.64	90.2	204	5.90	128,125
No. 2 Package Boiler	2.74	11.0	11.0	0.87	121	274	7.94	172,199
Temporary Boiler No. 1	0.81	3.23	3.23	0.26	35.7	42.5	2.34	50,737
Temporary Boiler No. 2	0.81	3.23	3.23	0.26	35.7	42.5	2.34	50,737
No. 4 Recovery Furnace	131	80.4	62.7	1.30	162	193	19.8	367,128
No. 4 Smelt Tank	26.3	27.9	27.9	1.92	1.72	4.34	8.62	0
No. 5 Recovery Furnace	254	181	100	490	3,850	700	60.9	1,125,859
No. 5 Smelt Tank	45.00	45.01	45.01	5.88	5.28	13.30	26.43	0
No. 4 Saltcake System	2.00	2.00	2.00	0	0	0	0	0
No. 5 Saltcake System	5.10	5.10	5.10	0	0	0	0	0
Wastewater Treatment	0	0	0	0	0	0	96	0
No. 4 Power Boiler	120	157	157	100	3,775	842	20.4	969,984
Hog Fuel System	5.27	2.49	0.38	0	0	0	3.32	0
No. 1 Paper Machine	0	0	0	0	0	0	7.56	0
No. 2 Paper Machine	0	0	0	0	0	0	8.37	0
Pulp Dryer	3.73	3.73	3.73	0	0	0	5.19	0
Pulp Dryer Gas Fired	0.31	1.24	1.24	0.10	13.7	16.3	0.90	19,475
Roads Fugitive	66.2	15.5	2.70	0	0	0	0	0
Effluent Pump Generator	0.21	0.21	0.21	0.60	1.76	6.61	0.19	338
Rice Subject to MACT (diesel)	1.32	1.32	1.32	1.24	3.63	18.84	1.54	699
Rice Subject to MACT (gasoline)	0.03	0.03	0.03	0.02	16.24	0.42	0.78	40.1
Total Emissions	988.11	851.68	652.6	3,596.73	8,876.84	4166.17	490.78	3,636,169.1

6. EMISSIONS LIMITS AND MRRR

This section contains the applicable requirements for this major facility. Where applicable, monitoring, recordkeeping and reporting requirements (MRRR) follow the applicable requirement and state how compliance with the applicable requirement is to be demonstrated.

This section is divided into several subsections. The first subsection lists the requirements that apply facility wide. The next subsection lists the emissions units- and emissions activities-specific applicable requirements. The final subsection contains the general provisions that apply to all major facilities subject to Idaho DEQ's Tier I operating permit requirements.

This section contains the following subsections:

- Facility-Wide Conditions;
- Package Boilers and Power Boilers No. 1,2, and 3;
- No. 4 Power Boiler;
- Temporary Boilers;
- 40 CFR 63 Subpart MM
- No. 4 Recovery Furnace and No. 4 Smelt Tank
- No. 5 Recovery Furnace
- No. 5 Smelt Tank
- No.4 & 5 Recovery Furnace Saltcake System
- Lime Kilns No. 3 & 4
- Lime Handling and Slaking
- Noncondensable Gas Incinerator
- Oxygen Delignification Reactor
- Chlorine Dioxide Plant
- Miscellaneous Process Sources
- Pulp and Paper MACT - 40 CFR 63 Subpart S
- Printing MACT -40 CFR 63 Subpart JJJJ
- Compliance Assurance Monitoring
- Boiler MACT - 40 CFR 63 Subpart DDDDD
- Reciprocating Internal Combustion Engines – 40 CFR 63 Subpart ZZZZ
- Pulp Optimization Project
- Kraft Pulp Mill – 40 CFR 60 Subpart BBa
- Insignificant Activities
- Tier I Operating Permit General Provisions.

MRRR

Immediately following each applicable requirement (permit condition) is the periodic monitoring regime upon which compliance with the underlying applicable requirement is demonstrated. A periodic monitoring regime consists of monitoring, recordkeeping and reporting requirements for each applicable requirement. If an applicable requirement does not include sufficient monitoring, recordkeeping and reporting to satisfy IDAPA 58.01.01.322.06, 07, and 08, then the permit must establish adequate monitoring, recordkeeping and reporting sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit. This is known as gap filling. In addition to the specific MRRR described under each permit condition, generally applicable facility-wide conditions and general provisions may also be required, such as monitoring, recordkeeping, performance testing, reporting, and certification requirements.

The discussion of each permit condition includes the legal and factual basis for the permit condition.

State Enforceability

A requirement that is not required by the federal CAA and has not been approved by EPA as a SIP-approved requirement is identified as a "State-only" requirement and is enforceable only under state law. State-only requirements are not enforceable by the EPA or citizens under the CAA. State-only requirements are identified in the permit within the citation of the legal authority for the permit condition.

Federal Enforceability

Unless identified as "State-only," all applicable requirements, including MRRR, are state and federally enforceable. It should be noted that while a violation of a MRRR is a violation of the permit, it is not necessarily a violation of the underlying applicable requirement (e.g. emissions limit).

To minimize the length of this document, the following permit conditions and MRRR have been paraphrased. Refer to the permit for the complete requirements.

6.1 Facility-Wide Conditions

Permit Condition 3.1 - Fugitive Dust

All reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.01.01.650-651.

[IDAPA 58.01.01.650-651, 3/30/07]

MRRR (Permit Conditions 3.2 through 3.4)

- Monitor and maintain records of the frequency and the methods used to control fugitive dust emissions;
- Maintain records of all fugitive dust complaints received and the corrective action taken in response to the complaint;
- Conduct facility-wide inspections of all sources of fugitive emissions. If any of the sources of fugitive dust are not being reasonably controlled, corrective action is required.

[IDAPA 58.01.01.322.06, 07, 08, 4/5/2000]

Permit Condition 3.5 - Odors

The permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution.

[IDAPA 58.01.01.775-776 (State-only), 5/1/94]

MRRR (Permit Condition 3.6)

- Maintain records of all odor complaints received and the corrective action taken in response to the complaint;
- Take appropriate corrective action if the complaint has merit, and log the date and corrective action taken.

[IDAPA 58.01.01.322.06, 07 (State only), 5/1/94]

Permit Condition 3.7 - Visible Emissions

The permittee shall not discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20%

opacity as determined by procedures contained in IDAPA 58.01.01.625. These provisions shall not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this section.

[IDAPA 58.01.01.625, 4/5/00]

MRRR (Permit Condition 3.8)

- Conduct facility-wide inspections of all emissions units subject to the visible emissions standards (or rely on continuous opacity monitoring);
- If visible emissions are observed, take appropriate corrective action and/or perform a Method 9 opacity test;
- Maintain records of the results of each visible emissions inspection.

[IDAPA 58.01.01.322.06, 07, 5/1/94]

Permit Conditions 3.9 - Excess Emissions

The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions. The provisions of IDAPA 58.01.01.130-136 shall govern in the event of conflicts between the excess emissions facility wide conditions and the regulations of IDAPA 58.01.01.130-136.

MRRR (Permit Conditions 3.9.1 through 3.9.5)

Monitoring, recordkeeping and reporting requirements for excess emissions are provided in Sections 131 through 136.

- Take appropriate action to correct, reduce, and minimize emissions from excess emissions events;
- Prohibit excess emissions during any DEQ Atmospheric Stagnation Advisory or Wood Stove Curtailment Advisory;
- Notify DEQ of each excess emissions event as soon as possible, including information regarding upset, breakdown, or safety events.
- Submit a report for each excess emissions event to DEQ;
- Maintain records of each excess emissions event.

Permit Conditions 3.10 - Performance Testing

If performance testing is required, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test or shorter time period as provided in a permit, order, consent decree, or by DEQ approval. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests such testing not be performed on weekends or state holidays.

All testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, prior to conducting any performance test, the permittee is encouraged to submit in writing to DEQ, at least 30 days in advance, the following for approval:

- The type of method to be used
- Any extenuating or unusual circumstances regarding the proposed test
- The proposed schedule for conducting and reporting the test

[IDAPA 58.01.01.157, 4/5/00; IDAPA 58.01.01.322.06, 08.a, 09, 5/1/94]

MRRR (Permit Conditions 3.10)

The permittee shall submit compliance test report(s) to DEQ following testing.

[IDAPA 58.01.01.157, 4/5/00; IDAPA 58.01.01.322.06, 08.a, 09, 5/1/94]

Permit Condition 3.11 - Monitoring and Recordkeeping

The permittee shall maintain sufficient records to assure compliance with all of the terms and conditions of this operating permit. Records of monitoring information shall include, but not be limited to, the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.322.06, 07, 5/1/94]

Permit Condition 3.12 - Reports and Certifications

This permit condition establishes generally applicable MRRR for submittal of reports, certifications, and notifications to DEQ and/or EPA as specified.

[IDAPA 58.01.01.322.08, 11, 5/1/94]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.13 – Fuel-Burning Equipment PM Standards

The permittee shall not discharge to the atmosphere from any fuel-burning equipment PM in excess of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume for gas, 0.050 gr/dscf of effluent gas corrected to 3% oxygen by volume for liquid, 0.050 gr/dscf of effluent gas corrected to 8% oxygen by volume for coal, and 0.080 gr/dscf of effluent gas corrected to 8% oxygen by volume for wood products.

[IDAPA 58.01.01.676-677, 5/1/94]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.14 - Sulfur Content Limits

The permittee shall not sell, distribute, use, or make available for use any of the following:

- Distillate fuel oil containing more than the following percentages of sulfur:
  - ASTM Grade 1 fuel oil, 0.3% by weight.
  - ASTM Grade 2 fuel oil, 0.5% by weight.
- Coal containing greater than 1.0% sulfur by weight.
- DEQ may approve an exemption from these fuel sulfur content requirements (IDAPA 58.01.01.725.01 725.04) if the permittee demonstrates that, through control measures or other means, SO_2 emissions are equal to or less than those resulting from the combustion of fuels complying with these limitations.

[IDAPA 58.01.01.725, 3/29/10]

MRRR - (Permit Condition 3.14.2)

The permittee shall maintain documentation of supplier verification of fuel sulfur content on an as received basis.

[IDAPA 58.01.01.322.06, 5/1/94]

Permit Condition 3.15 - Open Burning

The permittee shall comply with the *Rules for Control of Open Burning*, IDAPA 58.01.01.600-623.

[IDAPA 58.01.01.600-623, 5/08/09]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.16 - Asbestos

The permittee shall comply with all applicable portions of 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

[40 CFR 61, Subpart M]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.17 - Accidental Release Prevention

(a)

An owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, shall comply with the requirements of the Chemical Accident Prevention Provisions at 40 CFR 68 no later than the latest of the following dates:

- Three years after the date on which a regulated substance is present above a threshold quantity is first listed under 40 CFR 68.130.
- The date on which a regulated substance is first present above a threshold quantity in a process.

[40 CFR 68.10 (a)]

(b)

This facility is subject to 40 CFR Part 68 and shall certify compliance with all requirements of 40 CFR Part 68, including the registration and submission of the RMP, as part of the annual compliance certification required by 40 CFR 70.6(c)(5).

[40 CFR 68.215(a)(2); IDAPA 58.01.01.322.11, 4/6/05; 40 CFR 68.215(a)(ii)]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.18 - Recycling and Emissions Reductions

The permittee shall comply with applicable standards for recycling and emissions reduction of refrigerants and their substitutes pursuant to 40 CFR 82, Subpart F, Recycling and Emissions Reduction.

[40 CFR 82, Subpart F]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.19- NSPS General Provisions

This facility is subject to NSPS Subparts and is therefore required to comply with applicable General Provisions.

[40 CFR 60, Subpart A]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

6.2 Emissions Unit-Specific Emissions Limits and MRR

PACKAGE BOILERS AND POWER BOILERS NO. 1, 2, AND 3 – Tier I Permit Section 4.0

The Package and Power Boilers provide steam to the paper making process.

Following is a list of underlying permits which have requirements that are applicable to the package boilers and power boilers No. 1, 2, and 3:

- Permit to Construct, No. 069-00001, 8/31/01
- Permit to Construct, No P-2008.0009, 4/24/08

The existing Tier I permit conditions for the Package Boilers and Power Boiler No. 1, 2, and 3 remain unchanged from the underlying permit to construct with the exceptions that they have been renumbered.

Compliance with Applicable Requirements

Each applicable emission standard and operating requirement is listed below. Following each listed emission standard and operating requirement is the associated monitoring, recordkeeping, and/or reporting, or other means, of assuring compliance is described.

Tier I Permit Condition 4.1

This permit condition contains particulate matter grain loading standards for combustion sources. It is commonly known that using AP-42 emissions factors and combustion flow rate constants compliance is demonstrated with the particulate matter grain loading emissions standards when natural gas and distillate fuel oil is combusted in boilers without controls on emissions. Tier I Permit Condition limits fuel to natural gas and fuel oil exclusively. Therefore no further compliance demonstration (monitoring, recordkeeping or reporting) is needed in the permit. Table 6.1 gives the estimated PM grain loading emissions; the data in Table 6.1 shows that estimated emissions are well below the applicable emissions standards.

Table 6.1 Estimated Grain Loading Compared to Emissions Standards

Fuel Type	Grain Loading (AP-42 & Combustion F factors)	IDAPA 58.01.01.677 Standards
Natural Gas	0.001 gr/dscf @ 3% O_2	0.015 gr/dscf @ 3% O_2
#2 Fuel Oil	0.009 gr/dscf @ 3% O_2	0.050 gr/dscf @ 3% O_2

Tier I Permit Condition 4.2

This applicable requirement mandates the facility to comply with any applicable NSPS standard that may apply to the replacement boilers when they are installed. Applicability must be determined and submitted to DEQ in accordance with Permit Condition 4.12. A replacement boiler has been installed at the time of permit renewal.

Tier I Permit Condition 4.3

This applicable requirement limits the steam production from the boilers. This permit condition originates from an underlying permit to construct. Permit Condition 4.8 and 4.9 requires monitoring and recordkeeping to assure compliance with the steam production limit.

Tier I Permit Condition 4.4

This applicable requirement is directly from the PSD rules which state that if a "replacement" project is used to avoid PSD, and then the existing unit that has been replaced is proposed to be brought back into operation then it shall be considered new emissions units and shall be subject to permitting requirements. Permit Condition 4.12 requires reporting on all boiler replacement projects within 60 days of the change.

Tier I Permit Condition 4.5

This applicable requirement allows multiple replacement projects provided that the project does not result in a significant emission increase. Permit 4.10 requires source testing of all replacement units, Permit Condition 4.11 requires monitoring and recordkeeping of all project emissions to assure that the project does not result in a significant emission increase, and Permit Condition 4.12 requires reporting on all boiler replacement projects within 60 days of the change.

NO. 4 POWER BOILER– Tier I Permit Section 5.0

Power Boiler No. 4 provides steam to the paper making process. Following is a list of underlying permits which have requirements that are applicable to the No. 4 Power Boiler.

- EPA PSD approval, PSD-X80-18, 9/30/80
- PTC, 9/20/78

The September 20, 1978 PTC includes requirements for NOx, PM, and SO_2. The NOx requirements in this PTC have been superseded by the 1980 EPA PSD permit. The PM and SO_2 requirements of the September 20, 1978 PTC remain applicable requirements. Table 6.2 provides a summary of the status of the requirements of the 1978 PTC.

Table 6.2 Summary of PTC issued 9/20/78 for No. 4 Power Boiler.

Permit Requirement	Status
Additional design information shall be submitted for multiclone and ESP as soon as manufacturer is selected.	Obsolete permit conditions. Manufacturer was selected nearly 30 years ago.
Source shall conduct stack tests within 60 days of achieving maximum production, but not later than 180 days after startup.	Obsolete permit conditions. Startup was nearly 30 years ago.
SOx emission shall be monitored by regularly conducted analysis	Effective permit condition. The Tier I permit requires Clearwater to operate a SO_2 CEM
The source shall install a continuous opacity monitor	Effective permit condition. The Tier I permit requires continuous monitoring of opacity emissions.
Particulate Limits: 0.015 gdscf @ 12% CO_2 120 T/yr 20% Opacity	Effective permit condition. The Tier I permit includes these emissions limits.
Nitrogen Oxide Limits	Superseded by EPA PSD Permit, PSD-X80-18, 9/30/80
Kidwell Boiler Requirements	Obsolete permit conditions. Kidwell boilers are removed from the facility or are rendered inoperable.

The existing Tier I permit conditions for the Power Boiler are unchanged with the exception that they have been renumbered.

Compliance with Applicable Requirements

Tier I Permit Condition 5.1 & 5.2

These permit conidtions limit particulate matter emissions to 0.10 lb/MMBtu and 0.015 gr/dscf @ 12% CO_2 respectively. Compliance is determined by requiring a source test once during the permit term (Permit Condition 5.8) and by calculating annual emisison rates as required by Permit Condition 5.9.

Tier I Permit Condition 5.3

This permit condition limits opacity emissions. Compliance is determined by the COMS required in Permit Condition 5.11.

Tier I Permit Condition 5.4& 5.7

Limits SO_2 emissions. Compliance is determined by the use of a CEMS required in Permit Condition 5.11 & 5.12.

Tier I Permit Condition 5.5& 5.6

Limits NOx emissions. Compliance is determined by the use of a CEMS required in Permit Conditions 5.10 and 5.13.

TEMPORARY BOILERS – Tier I Permit Section 6.0

Clearwater may operate 2 natural gas fired boilers for up to 30 days per any consecutive 12-month period, and any time that one or more of the permanent boilers are shut down. The boilers produce steam for the paper making process.

Permit to Construct, PTC No. 069-00001, 11/6/98 is the only underlying permit that has applicable requirements for the two temporary boilers. All applicable requirements are included in the existing Tier I permit. The existing Tier I permit conditions for the temporary boilers have not been changed.

Table 6.3 lists each emissions standard and operating requirement for the temporary boilers. The table also references and/or describes the monitoring requirements that are included in the renewed Tier I permit to assure compliance with each standard or operating requirement.

Table 6.3 Applicable Requirements/Compliance Assurance Summary

Permit Condition	Requirement	Requirement Reference	Monitoring and Recordkeeping Requirements	Summary of Compliance Assurance Method
3.13	PM - 0.015 gr/dscf	IDAPA 58.01.01.676	NA	Tier I Permit Condition 6.1 limits the fuel type to natural gas exclusively. Combustion of natural gas inherently complies with the PM grain loading standard.
3.7	Opacity – 20%	40 CFR 60.42(a)(2)	3.8, 3.11	Inspect quarterly and record results of inspection
6.1	Combust Exclusively natural Gas	PTC No. 069-00001, 11/6/98	6.4	The permittee shall record the amounts of fuel combusted each day.
6.2	No more than 2 temporary boilers shall be used, and each shall be less than 100MMBtu/hr	PTC No. 069-00001, 11/6/98	6.5	For each temporary boiler, the permittee shall monitor and record the hours of operation, date of operation, and the operational status of all permanent boilers.
6.3	Boilers may be operated for unlimited hours, anytime one or more of the permanent boilers are shut down. The temporary boilers may also be operated concurrently with all of the permanent boilers for up to 30 days total operating time in any 12-month period.	PTC No. 069-00001, 11/6/98	6.5	For each temporary boiler, the permittee shall monitor and record the hours of operation, date of operation, and the operational status of all permanent boilers.

CHEMICAL RECOVERY COMBUSTION SOURCES – 40 CFR 63 Subpart MM – Tier I Permit Section 7.0

The No. 4 and No. 5 recovery furnaces, the No. 4 and No. 5 smelt dissolving tanks, and Lime Kilns No. 3 and No. 4 are emissions units affected by 40 CFR 63 Subpart MM for pulp mill chemical recovery combustion sources as defined by §63.860(b). All emissions units are "existing" emissions units and there are no "new" emissions units with a startup date after March 13, 2001. The No. 2 Lime Kiln has been removed from the facility. The purpose of this section of the permit is to incorporate and summarize the applicable requirements of 40 CFR 63 Subpart MM. There are additional applicable requirements for these sources included in other sections of this permit for the No. 4 and No. 5 recovery furnaces, the No. 4 and No. 5 smelt dissolving tanks, and Lime Kilns No. 3 and No. 4. The existing Tier I permit conditions remain unchanged with the exception that they were renumbered.

Every permit condition in Section 7 of the renewed Tier I permit is directly from 40 CFR 63 Subpart MM. Permit Condition 7.15 specifies that "Should there be a conflict between 40 CFR 63 and Permit Conditions in Section 7 of this permit then 40 CFR 63 shall govern including any applicable amendments to that regulation." The applicability and requirements of 40 CFR 63 Subpart MM is described in detail in regulatory section of this statement of basis.

NO. 4 RECOVERY FURNACE AND NO. 4 SMELT TANK – Tier I Permit Section 8.0

The recovery furnace and smelt-dissolving tank are part of the chemical recovery process of the pulping process. Black liquor from the pulp making process is combusted for heat recovery; combustion byproducts are recovered and smelted.

Air Pollution Source Permit, No. 13-1140-0001, issued July 5, 1979 is the only underlying permit that has applicable requirements for the No. 4 Recovery Furnace and No. 4 Smelt Dissolving tank. This permit is included in Idaho's state implementation plan (40 CFR 52.670).

Table 6.4 lists each emissions standard and operating requirement for the No. 4 Recovery Furnace and No. 4 Smelt Dissolving Tank. The table also references and/or describes the monitoring requirements that are included in the renewed Tier I permit to assure compliance with each standard or operating requirement.

Table 6.4 Applicable Requirements/Compliance Assurance Summary

Permit Condition	Requirement	Requirement Reference	Monitoring and Recordkeeping Requirements	Summary of Compliance Assurance Method
8.1	PM – Recovery Furnace - 0.040 gr/dscf	7/5/79 PTC	8.6 & CAM requirements of Section 20	Periodic Source testing is required by 8.6 and CAM monitoring requirement are included in Section 20. This soruce was tested once during the previous permit term. On 9/15/10 PM eisisons were measured 0.004 gr/dscf, which is 10 times less than the standard. Testing once during the permit term and the CAM requirements are sufficient to assure compliance.
8.2	TRS – Recovery Furnace - 15 ppm	7/5/79 PTC & IDAPA 58.01.01.816	8.5	TRS CEM in 8.5
8.3	PM – Smelt Tank 0.070 gr/dscf	7/5/79 PTC	8.6 & CAM requirements of Section 20	Periodic Source testing is required by 8.6 and CAM monitoring requirement are included in Section 20. This soruce was tested once during the previous permit term. On 9/15/10 PM eisisons were measured 0.01 gr/dscf, which 7 times less than the standard. Testing once during the permit term and the CAM requirements are sufficient to assure compliance.
8.4	40% Opacity – Recovery Furnace	IDAPA 58.01.01.625	3.8	Periodic Visible Emissions Observation

NO. 5 RECOVERY FURNACE– Tier I Permit Section 9.0

The recovery furnace is part of the chemical recovery process of the pulping process. Black liquor from the pulping process is combusted for heat recovery and to recover pulping chemicals.

Following is a list of underlying permits which have requirements that are applicable to the No. 5 Recovery Furnace:

Permit to Construct, No. 1140-0001, 5/6/83
EPA PSD Permit, X-84-01, 12/3/84
EPA Amendments to PSD Permit, X-84-01, 10/17/94

Existing Tier I permit conditions for the No. 5 Recovery Furnace remain unchanged except that they are renumbered and the source testing frequency was adjusted in consideration of previous source test results as described in Table 6.5.

Table 6.5 lists each emissions standard and operating requirement for the No. 5 Recovery Furnace. The table also references and/or describes the monitoring requirements that are included in the renewed Tier I permit to assure compliance with each standard or operating requirement.

Table 6.5 Applicable Requirements/Compliance Assurance Summary

Permit Condition	Requirement	Requirement Reference	Monitoring and Recordkeeping Requirements	Summary of Compliance Assurance Method
9.1	PM - 58 lb/hr or 0.03 gr/dscf	Permit to Construct, No. 1140-0001, 5/6/83	9.11 & CAM requirements of Section 20	Periodic Source testing is required by 9.11 and CAM monitoring requirement are included in Section 20. This soruce was tested once during the previous permit term. On 11/10/10 PM eisisons were measured 0.005 gr/dscf (~ 8 lb/hr), which 6 times less than the standard. Testing once during the permit term and the CAM requirements are sufficient to assure compliance.
9.2	PM - 0.044 gr/dscf @ 8% O_2	40 CFR 60.282	9.11 & CAM requirements of Section 20	Periodic Source testing is required by 9.11 and CAM monitoring requirement are included in Section 20. This soruce was tested once during the previous permit term. On 11/10/10 PM emissions were measured 0.004 gr/dscf, which 11 times less than the standard. Testing once during the permit term and the CAM requirements are sufficient to assure compliance.
9.3.1	35% Opacity	40 CFR 60.282	9.10	COMS is required by NSPS.
9.3.2	40% Opacity	IDAPA 58.01.01.625.02	9.10	COMS is required by NSPS.
9.4	CO- 880 lb/hr; 3,850 T/yr; 900 ppm	PSD permit X-84-01, 12/3/84	9.9	CEM for CO is required
9.5	SO_2 – 112 lb/hr; 490 T/yr; 50 ppm	PSD permit X-84-01, 12/3/84 revised 10/17/94	9.9	CEM for SO_2 is required
9.6	NOx - 160 lb/hr; 700 T/yr; 100 ppm	PSD permit X-84-01, 12/3/84 revised 10/17/94	9.11	Periodic emission testing. The source was tested twice during the previous permit term. Test results are: 3/15/12 – 94 lb/hr & 51ppm , and 9/3/13 – 107 lb/hr & 60 ppm. Test results are between 50% & 80% of the standard. Testing twice during the permit term is warranted.
9.7	PSD pollutants other than CO, NOx, SO_2 Less than significant	PSD permit X-84-01, 12/3/84	9.13	Periodic testing for PM is required and a CEM is required for TRS
9.8	TRS – 5 ppm	40 CFR 60.283	9.10	CEM for TRS is required

NO. 5 SMELT DISSOLVING TANK– Tier I Permit Section 10.0

The No. 5 Smelt Dissolving tank is associated with the No. 5 Recovery Furnace and is used as part of the chemical recovery process.

Permit to Construct No. 1140-0001 issued May 6, 1983 is the only underlying permit that has applicable requirements for the No. 5 Smelt Dissolving tank. That permit has only one emission standard for the No. 5 Smelt Dissolving tank and it is included in renewed Tier I Permit Condition 10.1 The source is also an affected facility in accordance with 40 CFR 60 Subpart BB.

Tier I Permit Condition 10.1

Limits PM emissions to 10.4 lb/hr and 45 tons per year from the No. 5 Smelt Tank. Compliance is assured by NSPS scrubber operating parameter monitoring requirements of Permit Condition 10.4, the source testing requirement of Permit Condition 10.5, and the CAM requirements included in Section 20.

Two PM performance tests were conducted during the previous permit term. The results are presented Table 6.6

Table 6.6 PM Test Results During Previous Permit Term

Emission Unit	Test Date	Limitation (lb/hr)	Measured Rate (lb/hr)	% of Limit
No. 5 Smelt Tank	9/25/10	10.4	9.51	91%
	12/2/12		4.8	46%

PM emission rates varied from 46% of the emission limit to 91% of the emission limit. Because of this variability two sources tests are also required in the renewed permit, one during the first 12 months of the permit term and once during the last 12 months of the permit term.

Tier I Permit Condition 10.2

Limits PM emissions to 0.20 lb/T of black liqour solids. Two tests were conducted during the permit term and emission were measured less than or equal to 50% of the emission limit. Since PM tests are required twice during the permit term for the 10.4 pound per hour limit, the same is required for the 0.20 lb/T of black liquor solids limit. Compliance is assured by NSPS scrubber operating parameter monitoring requirements of Permit Condition 10.4, the source testing requirement of Permit Condition 10.5, and the CAM requirements included in Section 20.

Tier I Permit Condition 10.3

Limits TRS emission are limited to 0.033 lb/T black liquor solids. Compliance is assured by NSPS scrubber operating parameter monitoring requirement of Permit Condition 10.4 and the source testing requirement of Permit Condition 10.6.

Five TRS source tests were conducted during the previous permit term. The source test results are given in Table 6.7.

Table 6.7 TRS Test Results during Previous Permit Term

Emission Unit	Test Date	Limitation (lb/T)	Measured Rate (lb/T)	% of Limit
No. 5 Smelt Tank	9/15/10	0.033	0.017	52
	11/14/11		0.016	48
	12/12/12		0.015	45
	9/4/13		0.022	67
	11/20/14		0.03	91

TRS emission rates varied from 41% of the emission limit to 91% of the emission limit. Because of this variability two sources tests are required in the renewed permit, one during the first 12 months of the permit term and once during the last 12 months of the permit term.

STANDARDS FOR MERCURY– Tier I Permit Section 11.0

The sole purpose of Section 11 of the permit is to include the applicable requirements of 40 CFR 61 Subpart E. Should there be a conflict between the permit and the CFR, the CFR shall govern. Clearwater incinerates wastewater sludge in the No. 4 Power Boiler and is therefore an affected source.

In accordance with 40 CFR 61.52(b) mercury emissions are limited to 7.1 pounds per 24 hour period. This limti is included at Permit Condition 11.1.

In accordance with 40 CFR 61.53(d) Clearwater has an option of either performing stack testing to determine murcury emission rates or performing sludge sampling to determine emission rates. Clearwater chose to perform sludge sampling.

This subpart required the source to collect sludge samples within 90 of startup (40 CFR 61.54(a)(2)) which for the No. 4 Power Boiler was several decades ago. Additional sludge testing is required only if the intial sample demonstrated emissions exceed 3.5 pounds per day (40 CFR 61.559a)). Clearwater certified in the application that they have analzyed sludge and emissions were determined to be less than 3.5 pounds per day, therefore no additional sampling is required.

In accordance with 40 CFR 61.54(e), no changes shall be made to the affect unit shall be made which would potentially increase 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 Administrator (i.e. DEQ because it has been delegated this subpart). This requirement is included at Permit Condition 11.2.

In accordance with 40 CFR 61.54(g), records of sludge sampling shall be retained at the source and made available for inspection, for a minimum of 2 years. It is noted that under the Tier I permitting requirements detailed at IDAPA 58.01.01.322.07 require records to be kept for 5 years. This requirement is included at Permit Condtion 11.3.

LIME KILNS NOS. 3 AND 4– Tier I Permit Section 12.0

There is one underlying permit to construct for the No. 3 and No. 4 Lime Kilns this is PTC No. P-2011.0101, issued February 2, 2013. The underlying permit is written to include the requirements for the No. 3 and No. 4 Lime Kilns in two different sections. The underlying permit conditions for each kiln are nearly identical; one notable exception is that the No. 4 Lime Kiln shall be equipped with a scrubber. Another exception is that when gases are not treated in the NCG incinerator they may be treated in the No. 4 Lime Kiln, and may only be treated in the No. 3 Lime Kiln when both the NCG incinerator and No. 4 Lime Kiln are not operational due to maintenance, repair, upset or breakdown.

PTC No. P-2011.0101, issued February 2, 2013

Underlying Permit Conditions 1.1 and 6.1 include identical emission rate limits for the lime kilns. These two permit conditions are combined and are included in Permit Condition 12.1 of the Tier I permit.

Underlying Permit Conditions 1.2 and 6.2 include TRS concentrations limits for the Lime Kilns. Lime Kiln No. 3 is limited to 40 ppm and Lime Kiln No. 4 is limited to 50 ppm monthly average. These two permit conditions are combined in Tier I Permit Condition 12.2. The permit language is identical to the underlying permit conditions with exception that they are combined into one condition for both kilns, each with its own TRS concentration limit.

Underlying Permit Conditions 1.3 and 6.3 limit opacity from the Lime Kilns. They are identical in language except that No. 3 Lime Kilns is limited to 25% opacity and No. 4 Lime Kiln is limited to 20% opacity. These two permit conditions are combined in Tier I Permit Condition 12.3, the language is identical to the underlying permit conditions except that each opacity limit is included in one condition.

Underlying Permit Condition 2.1 and 7.1 limit kiln throughput to 10.5 tons per hour, based on a 12-hour average. These two permit conditions are combined in Tier I Permit Condition 12.5. The language for the hourly restriction is identical to the underlying permit conditions.

Underlying Permit Condition 2.2 and 7.2 are identical and limit combined annual throughput of the kilns; it is included in Tier I Permit Condition 12.5 with the hourly througput restriction.

Underlying Permit Conditions 2.3 & 2.3.1 prioritizes NCG treatment and is included without change in Tier I Permit Condition 12.6 & 12.6.1.

Underlying Permit Conditions 2.3.2 & 7.3.2 requires that NCG gases be treated in a effective and efficient manner in each of the kilns, these permit condition are combined in Tier I Permit Condition 12.6.3. The substantive requirements remain unchanged.

Underlying permit Conditions 2.4 & 7.3.1 require the operation of an ESP to control emissions from the kilns. These permit conditions are combined in Tier I Operating Permit Condition 12.7.1.

Underlying Permit Conditon 2.6 & 7.6 limits residual fuel oil sulfur content to 1.75% by weight consistent with IDAPA 58.01.01.725.02. This requirement is included in Tier I Permit Condition 3.14.1.

Underlying Permit Condition 3.1 & 8.1 require PM and PM10 emisisons testing. The requirements are identical and are included in Tier I Permit Condition 12.8 without change. Tier I Permit Condition 12.8 also requires monitoring and recording of opacity during the test, and requires reporting of opacity in the test report, to compare to CAM requirements.

Underlying Permit Condition 3.3 & 8.4 require throughput monitoring. The requirements are identical and are included in Tier I Permit Condition 12.9 without change to the substantive requirements.

Underlying Permit Condition 3.4 & 8.5 require requires monitoring where NCG gases are treated. The requirements are identical and are included in Tier I Permit Condition 12.10 without change to the substantive requirements.

Underlying Permit Condition 3.5 & 8.6 require fuel use monitoring. The requirements are identical and are included in Tier I Permit Condition 12.11 without change to the substantive requirements.

Underlying Permit Conditions 3.6 & 8.7 requires the operation of a COMS on the kilns stacks. These permit conditions are combined in Tier I Permit Condition 12.12. The substantive requirements and regulatory language remain unchanged.

Underlying Permit Condition 3.7 & 8.8 requires the operation of a NOx CEM on the kilns stacks. These permit conditions are combined in Tier I Permit Condition 12.13. The substantive requirements remain unchanged. Underlying Permit Condition 8.9 (SO_2 CEMS requirements) includes the need to monitor in accordance with 40 CFR 60.13 for both Kilns. It is clearly the intent of the permit that all the CEMs meet all the substantive CEM requirements in the CFR. DEQ is adding this condition (the Requirement to meet 40 CFR 60.13) to all underlying permit conditions that require a CEM under the authority of IDAPA 58.01.01.322.06.

Underlying Permit Condition 3.8 & 8.9 requires the operation of a SO_2 CEM on the kilns stacks. These permit conditions are combined in Tier I Permit Condition 12.13. The substantive requirements remain unchanged. Underlying Permit Condition 3.8 and 8.9 are identical except that Permit Condition 8.9 specifies that the SO_2 CEM shall also meet the requirements of 40 CFR 60.13. Tier I Permit Condition 8.9 includes the need to monitor in accordance with 40 CFR 60.13 for both Kilns, it is clearly the intent of the permit that the CEMs meet all the substantive requirement of the CFR. DEQ is adding this condition (the Requirement to meet 40 CFR 60.13) to all underlying permit conditions that require a CEM under the authority of IDAPA 58.01.01.322.06.

Underlying Permit Condition 3.9 & 8.10 requires the operation of a TRS CEM on the kilns stacks. These permit conditions are combined in Tier I Permit Condition 12.14. The substantive requirements remain unchanged. Underlying Permit Condition 3.9 and 8.10 are identical except that Permit Condition 8.10 specifies that the TRS CEM shall also meet the requirements of 40 CFR 60.13. It is clearly the intent of the permit that the CEMs meet all the substantive requirement of the CFR. DEQ is adding this condition (the Requirement to meet 40 CFR 60.13) to all underlying permit conditions that require a CEM under the authority of IDAPA 58.01.01.322.06.

Underlying Permit Conditions 3.10 & 8.11require monitroing of oxygen in each of the kilns stacks. These permit conditions for each kiln are combined, without change to the regulatory requirements, in Tier I Permit Condition 12.15.

Underlying Permit Condtions 3.11 & 8.12 require monitoring exhaust gas flow rate from the kilns. The permit conditions are identical and are combined and included in Tier I Permit Condition 12.16.

Underlying Permit Condtions 3.12 & 8.13 require calculating NOx, SO_2 and TRS emisisons from the kilns. The permit conditions are identical and are combined and include in Tier I Permit Condition 12.17

Underlying Permit Condtions 4.1 & 9.1 require a PM and PM_{10} performcance test protocol the kilns. The permit conditions are identical and are combined and include in Tier I Permit Condition 12.19.

Underlying Permit Condtions 4.3 & 9.3 require semiannual CEMS reports on the kilns. The permit conditions are identical and are combined and include in Tier I Permit Condition 12.20.

Underlying Permit Condtions 4.4 & 9.4 require semiannual reports on the amount of time that the kilns treated NCG. The permit conditions are identical and are combined and include in Tier I Permit Condition 12.21.

Underlying Permit Condition 7.4.2 requires the installation of a scrubber to control emisisons from the No. 4 Lime Kiln. This requirement is included in Tier I Permit Condition 12.7.2

Underlying Permit Condition 6.4 limits SO_2 emissions from the No. 4 Lime Kiln to 20 ppmv at any time. The averaging period of the 20 ppmv concentration is not specifically included in the underlying permit. Interpreting the "at any time" statement to mean any instantaneous reading of 20 ppmv is overly stringent and is not consistent with the SO_2 pound per hour emission rate limits. The existing Tier I Permit Condition specifies the averaging period as a three hour average but does not specify whether this is a block or rolling average. In determining the intent of the 20 ppmv SO_2 emission limitation DEQ looked to the SO_2 pound per hour emission limitation in Table 3 of the underlying permit. Tha t pound per hour SO_2 limit is a 3 hour block average limitation, this then is how the averaging period for the 20 ppmv concentration limit is now expressed in Tier I Permit Condition 12.4. At the time of the original permit issuance the 3 hour averaging period was the shortest relevant averaging period and correlates to the 3-hr SO_2 NAAQS.

Table 6.9 lists each emissions standard and operating requirement for the No. 4 and No. 5 Lime Kilns. The table also references and/or describes the monitoring requirements that are included in the renewed Tier I permit to assure compliance with each standard or operating requirement.

TABLE 6.9 SUMMARY OF SECTION 12 OF THE RENEWED TIER I PERMIT

Permit Condition	Emission Limit/Operating Requirement	Compliance Method	Compliance Method Permit Condition
12.1	SO_2, NOx, TRS rate limits	CEM and flow rate based emission rate calculations	12.17
12.1	PM & PM_{10} rate limits	Periodic Emission Tests	12.8
12.1	CO rate limits	Source test once* during permit term	12.18
12.2	TRS Concentration limits	TRS CEM	12.14
12.3	Opacity Limits	COMS	12.12
12.4	SO_2 Concentration Limit	SO_2 CEMS	12.13
12.5	Throughput limits	Throughput Monitoring	12.9
12.6	NCG Treatment Requirements	NCG Treatment method monitoring	12.10

* Carbon monoxide was measured twice during the previous permit term from each kiln; tests were conducted 9/22/10 & 4/24/13. Measured rates were 4.92 & 35.2 lb/hr average from the No. 3 Lime Kiln, and 4.48 & 35.2 lb/hr average from the No. 4 Lime Kiln. All tests were less than 50% of the 80.4 lb/hr average emission rate limit on each kiln. Therefore testing once during the permit term is sufficient.

LIME HANDLING AND SLAKING – Tier I Permit Section 13.0

Lime is transferred from the lime kilns to regenerate the liquor used in the kraft pulping process. Equipment includes pan conveyors, bucket elevators, feeders and slaker.

There is one underlying permit to construct for the Lime Handling and Slaking operations. The renewed Tier I permit conditions 13.1 through 13.6 are exact quotes from underlying Permit to Construct No. P-2009.0020 issued April 13, 2009.

SUMMARY OF SECTION 13 OF THE RENEWED TIER I PERMIT

Table 6.10 lists each emission standard and operating requirement for the lime handling and slaking systems included in Section 13 of the permit. The table also references and/or describes the monitoring requirements that are included in the renewed Tier I permit to assure compliance with each standard or operating requirement.

Table 6.10 Applicable Requirements/Compliance Assurance Summary

Permit Condition	Requirement	Requirement Reference	Monitoring and Recordkeeping Requirements	Summary of Compliance Assurance Method
13.1 – 13.2	PM/PM_{10}, Emissions limits for Slaker Stack (1.72 lb/hr & 7.53 T/yr)	PTC No. 2009.0020, 4/13/09	13.6	Monthly visible emissions observations are required; maintenance is required if opacity exceeds thresholds.

NONCONDENSABLE GAS INCINERATOR – Tier I Permit Section 14.0

Emissions from the digesters, evaporators, turpentine system and foul condensate collection tank are collected and treated. These gases are also referred to as non-condensable gases. Emissions are either combusted in non-condensable gas (NCG) incinerator or in a lime kiln.

The digesters, evaporators, turpentine system and foul condensate collection tank are affected by several emissions standards:

All of the systems listed are affected by MACT Subpart S.
A subset of these systems (No. 9 Batch Digester and the No. 6 multiple affect evaporator) are affected by NSPS Subpart BB.
Additionally, a permit to construct (P-2012.0046, 10/4/12) has been issued for the NCG incinerator which is used to control emissions from all of these systems when they are not sent to a lime kiln to be combusted.

Permit to Construct, No. P-2012.0046, 10/4/12

Permit to Construct No. P-2012.0046 issued October 4, 2012 compiles MACT Subpart S standards, NSPS Subpart BB standards, along with standards established by the Permit to Construct. The permit also includes the requirements of compliance assurance monitoring (40 CFR 64) which have become applicable since Clearwater has opted to discontinue operating a SO_2 continuous emissions monitor. Following is a discussion on how each of these PTC provisions is incorporated into the renewed Tier I Operating Permit.

Underlying Permit Conditions 2.1 – 2.12

Underlying Permit Conditions 2.1 through 2.12 incorporate MACT Subpart S standards as they apply to the digesters, evaporators, turpentine system and foul condensate collection tank. MACT Subpart S contains standards for many other systems at the pulp mill, rather than have MACT Subpart S standards distributed in several sections of the permit they are all included in Section 18 of the renewed Tier I permit.

Underlying Permit Conditions 2.13 – 2.16

These permit conditions specify that the permittee must comply with the NSPS Subpart BB standards. These NSPS standards are included in the renewed Tier I permit without change from the existing Tier I permit except that they have been renumbered and Permit Condition 2.16 which specifies requirements for NSPS TRS testing is not included in the Tier I permit. In accordance with 40 CFR Subpart BB performance testing is not required to determine compliance with TRS standards when the facility has elected to combust gases that are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second which is the method Clearwater is using to achieve compliance.

The language of underlying permit condition 2.16 specifies: "In conducting the performance tests required in 40 CFR 60.8…" the owner or operator shall use as reference methods in appendix A. When the facility has elected to combust gases at a minimum temperature of 650 °C (1200 °F) for at least 0.5 second the compliance method required by the NSPS is to monitor the combustion temperature at the point of incineration 40 CFR 60.284(b)(1) and testing is not required. The language of the underlying permit is not wrong because it says when "…performing tests required…" by the NSPS the owner shall use reference methods…". Testing is not "required" when a facility uses the combustion option of achieving compliance as is the case for Clearwater. Though the language of the underlying permit is not wrong, it does leave the potential for confusion regarding whether testing is required. For that reason it is not repeated in the Tier I permit.

Underlying Permit Conditions 2.17 – 2.18

These permit conditions included all the requirements that were in the Rules for the Control of Air Pollution in Idaho for Kraft Pulping Mills digesters and evaporators. These Rules were deleted in 2012 and they are not included in the Tier I permit.

Underlying Permit Condition 2.19

This permit condition includes the excess emission requirements of IDAPA 58.01.01.818 and is repeated in the Tier I permit.

Underlying Permit Conditions 2.20

Permit Condition 2.20 limits sulfur dioxide emissions rates. The emission rate limits are included in the Tier I permit as exact quotes of the underlying permit conditions, except that have been renumbered. Periodic source testing is requirements, and compliance assurance monitoring requirements included in Section 20 of the renewed Tier I permit assure compliance with these limits.

Underlying Permit Conditions 2.21

Permit Condition 2.21 limits opacity to 20%. This permit condition is redundant with renewed Facility-Wide Permit Conditions and is not repeated in Section 14 of the renewed Tier I permit.

Underlying Permit Conditions 2.22

Underlying permit condition 2.22 requires operating and maintaining a packed bed scrubber in accordance with operating ranges established through the compliance assurance monitoring (CAM) requirements. Renewed Tier I permit Section 20 includes the applicable CAM requirements.

Underlying Permit Conditions 2.23

Underlying Permit Conditions 2.23 provided an option for Clearwater to stop operation of the SO_2 CEM that is installed on the packed bed scrubber stack. These permit conditions specified that if this option is exercised then the requirements of compliance assurance monitoring (CAM) would become applicable. Emissions units equipped with a CEM are exempt from CAM, upon ceasing of operation of the CEM the CAM requirements become applicable. Clearwater has exercised this option and has established operating ranges for the packed bed scrubber in accordance with the CAM requirements that are included in the Tier I operating permit.

Underlying Permit Conditions 2.2 4- 2.30

These permit conditions include CAM requirements. All of these CAM requirements are now included in Section 20 of the renewed Tier I permit. Operating ranges for the packed bed scrubber on the NCG incinerator were established through source testing conducted on August 7, 2013 while using soda ash instead of caustic soda. DEQ confirmed the operating ranges in a letter to Clearwater dated December 31, 2013. The scrubbing media flow rate was determined to be 394 gallons per minute 3-hr block average, and the pH was determined to be 8.5 also based a 3-hr block average. Tier I Permit Condition 14.6 specifies that the scrubber shall comply with the CAM requirements and that the scrubbing media solution shall be soda ash or caustic soda based solution. Clearwater requested that the pH operating requirement be changed to 8.5 when operating with soda ash (pH operating requirement remains 9.6 while operating with caustic soda); in this permitting action DEQ is approving that change. The formally approved scrubbing media flow rate remains the same at 326 gpm.

Underlying Permit Condition 2.26.6

This condition specified SO_2 source testing frequencies on the NCG incinerator scrubber stack. If emissions were measured in the initial test to be less than 75% of the emissions limits then emission testing once every five years is required to verify the validity of the operating ranges of the indicators which have been established to assurance of compliance. This initial test was conducted on September 25, 2007. Sulfur dioxide emissions were measured at 39% of the standard; therefore the testing frequency specified by the underlying permit is once every five years. Testing consistent with the intent of the underlying permit is included in renewed Tier Permit Condition 14.7 under the authority of IDAPA 58.01.01.322.09; it requires testing depending on close the most recent test is to the applicable standards. If the SO_2 measured during the most recent performance test is less than or equal to 50% of any respective SO_2 standard listed in Permit Condition 14.5, then the permittee shall conduct a performance test within five years from the most recent test date. If the SO_2 measured in the most recent performance test is between 50% and 80% of any respective SO_2 standard listed in Permit Condition 14.5, then the permittee shall conduct a performance test within three years from the most recent test date. If the most recent test exceeds 80% of the standard, a test shall be conducted with one year. This testing frequency remains unchanged from the previous Tier I operating permit.

Underlying Permit Conditions 2.31 - 2.36

These permit conditions included CEM requirements for SO_2. Clearwater ceased operation of the SO_2 CEM as described under the discussion of underlying Permit Condition 2.23. Consequently these permit conditions are not included in the Tier I permit (CAM requirements are applicable instead).

Permit Condition 2.36 required submitting an annual report listing the tons of SO_2 that was emitted for the year. This permit condition became obsolete when Clearwater exercised the option to cease operating the SO_2 CEM; therefore equipment is no longer installed to monitor the annual SO_2 emission rate.

OXYGEN DELINIFICATION REACTOR – Tier I Permit Section 15.0

Pulp is delignified using oxygen in the Oxygen Delignification system. Permit to Construct No. P-2007.0056 issued August 17, 2007 is the only underlying permit that has applicable requirements for the oxygen delignification system. The only emission rate limit included in this permit is for carbon monoxide emissions. Carbon monoxide emissions are uncontrolled. However, the permit does contain monitoring requirements to assure compliance with the emission rate limit. A source test is required to be conducted once every 5 years to determine the amount of carbon monoxide that is emitted per ton of throughput. The permit requires using a carbon monoxide emission factor developed through source testing, and monitored throughput to calculate annual carbon monoxide emission rates. The renewed Tier I permit conditions which originate from this underlying permit remain unchanged except that they have been renumbered.

Hazardous air pollutant emission rates are limited from the oxygen delignification system blow tank in accordance with the MACT Subpart S Clean Condensate Alternative that is included in Section 18 of the renewed Tier I permit. Under the Clean Condensate Alternative methanol emissions from the oxygen delignification blow tank and aerated storage basin combined shall not exceed 519 pounds per day as an annual average.

RENEWED TIER I OPERATING PERMIT SUMMARY

Table 6.11 lists each emission standard and operating requirement for the oxygen delignification system which is included in Section 15 of the permit. The table also references and/or describes the monitoring requirements that are included in the renewed Tier I permit to assure compliance with each standard or operating requirement.

Table 6.11 Applicable Requirements/Compliance Assurance Summary

Permit Condition	Requirement	Requirement Reference	Monitoring and Recordkeeping Requirements	Summary of Compliance Assurance Method
15.1	Carbon Monoxide – 74.5 T/yr	PTC No. 2007.0056, 8/17/07	15.2, 15.3,15.4	Source testing. Develop emissions factor and calculate CO emissions every day
18.6.2	Methanol – 519 lb/day (combined emissions from oxygen delig. blow tank and aerated storage basin)	MACT Subpart S	Section 18 of Permit	Source testing and MACT operating parameters for scrubbing media flow rate and scrubbing media temperature. Aerated storage basin sampling.

CHLORINE DIOXIDE PLANT – Tier I Permit Section 16.0

Permit to Construct No. 069-00001 issued September 22, 1999 for the Chlorine Dioxide Plant only has state toxic air pollutant emissions limitations. Permit conditions that are solely for regulating state toxic air pollutants are not applicable requirements as defined by IDAPA 58.01.01.008.03. This is because the toxic air pollutant rules are not included in the EPA approved state implementation plan. These permit conditions are included in the Tier I permit but are identified as "State Only" permit conditions in accordance with IDAPA 58.01.01.322.15.k. "State Only" permit condition are those that are not required under the Federal Clean Air Act or under any of its applicable requirements or provisions included in the approved State Implementation Plan (SIP).

Permit Conditions in Section 16 remain unchanged from the previous permit except that they have been renumbered.

MISCELLANEOUS PROCESS SOURCES– Tier I Permit Section 17.0

Section 17 of the renewed Tier I permit contains the process weight rate PM emission rate limitation of IDAPA 58.01.01.701&702 and the visible emissions standard. These permit conditions remain unchanged from the previous Tier I permit.

PULP AND PAPER MACT– Tier I Permit Section 18.0

The purpose of this section of the permit is to incorporate and summarize the applicable requirements of 40 CFR 63 Subpart S (Pulp and Paper MACT). Affected emissions units are the total of all HAP emission points in the pulping and bleaching systems. In addition to the following discussion the Pulp and Paper MACT is also discussed in Section 5.14 of this Statement of Basis.

Standards for the Pulping System Processes - 40 CFR 63.443

Permit Conditions 18.1-18.3 contain the HAP emissions standards for LVHC and HVLC gases from the pulping systems. All of LVHC gases must meet the standards specified in Permit Condition 18.3. Clearwater may choose to treat LVHC gases to meet any one of the 4 available emissions standards. At the time of permit renewal Clearwater indicated that the LVHC gases are treated in a thermal oxidizer to reduce HAP emissions to 20 ppm @ 10% O_2 , the backup system is to route the LVHC gases with the primary fuel into the flame zone of the lime kilns (Permit Condition 18.3(2) and 18.3(4)(i).

Clearwater has chosen to use the Clean Condensate Alternative (permit Conditions 18.5-18.6) for the HVLC gases which allows treating only a portion of the HVLC gases to meet the standards in 18.3. The systems that emit HVLC gases that are treated to meet the standards of Permit Condition 18.3 are listed in Table 18.5 of the permit.

Clean Condensate Alternative - 40 CFR 63.447

Permit Conditions 18.5 and 18.6 Contains the Clean Condensate Alternative (CCA) emissions limits. The CCA alternative is also described in Section 5.14 of this statement of basis. The CCA emission limits are given in Table 18.5 of the permit and in Permit Conditions 18.6.1 and 18.6.2.

Standards for the Bleaching System - 40 CFR 63.445

Standards for the bleaching system are included in Permit Conditions 18.7 – 18.10. Clearwater has the option of complying with one of 3 emissions standards listed in Permit Condition 18.9. At the time of permit renewal Clearwater indicated that they are choosing to comply with Permit Condition 18.9(2), which is the 10 ppm chlorinated HAP standard.

Standards for Kraft Pulping Process Condensates - 40 CFR 63.446

Standards for pulping process condensates are included in Permit Conditions 18.11 – 18.16. These standards provide options for determining which condensate streams are collected and treated as well as what standard they must be treated to. At the time of permit renewal Clearwater indicated that they have elected to collect condensate streams so that the total collected is 11.1 lb/TODP (this is combination #3 in Permit Condition 18.12). Permit Condition 18.14 contains the 3 treatment options that are available; Clearwater has indicated that they will Treat the pulping process condensates to reduce or destroy the total HAPs by at least 92 percent or more by weight; or treat the pulping process condensates to remove 5.1 kilograms or more of total HAP per megagram (10.2 pounds per ton) of ODP.

Standards for Enclosures and Closed-vent Systems – 40 CFR 63.450

Standards for enclosures and closed vent systems are in Permit Condition 18.17.

Monitoring Requirements – 40 CFR 63.453

Permit Conditions 18.18 – 18.28 establish monitoring requirements for continuous monitoring systems, requirements for establishing operating ranges, and requirements for maintaining copies of DEQ approved operating ranges and averaging periods, and describes what constitutes excess emissions. Requirements for monitoring of the operation of enclosures and closed vent systems are included in Permit Condition 18.23. Table 6.12 lists the systems which must have a continuous monitoring system, the operating parameters that are approved to be monitored at the time of permit issuance, and the operating ranges of the parameters. These limits may be changed during the permit term.

Table 6.12 Continuous Monitoring System Parameters and Parameter Limits

System	Parameter(s)	Parameter limit (respectively)[1]
Thermal Oxidizer	Temperature	1,311 F[3]
Chip Bleach System Scrubber	Upper stage Flow rate	175 gpm
	lower stage flow rate	303 gpm
	pH	10.6
	Fan Load	>25%
Sawdust Bleach Sys. Scrubber	Flow rate	289 gpm

	pH	11.1
	Fan Load	> 25%
Open Biological System	Soluble COD loading/total aerator horse power; or Soluble COD concentration/aerator horsepower	159.2 lb-SCODi1/day-HP2; or 0.536 mg-SCODi/liter –HP2[2]
O_2 Delignification Scrubber	Fluid Temperature	<= 82 F
	Flow rate	60 gpm
	Fan Load	> 25 amps

1) DEQ Maintains a data base of the approved parameter range in the TRIM electronic file management system – 2008AAI382 CLEARWATER PAPER-IPPD - Potlatch - MACT Test Data and Approved Operating Ranges, all gallon per minute thresholds are 3-hr block averages.
2) EPA approval letter from Jeff KenKnight, Federal and Delegated Air Programs Unit, to Frank Radle, Potlatch, September 5, 2002.
3) DEQ Letter from Teresa Hiebert to Rick Wilkinson, Clearwater, September 19, 2013 (TRIM 2013AAI2868) and approved as a threshold by this permit action.

PAPER AND WEB COATING MACT– Tier I Permit Section 19.0

Applicability – Clearwater is a Kraft Pulp and Paper Mill and is a major source of HAPs and and operates affected emission unit it is therefore affected by this regulation. Affected emissions units are those locations where a continuous layer of coating material is placed across the entire width or any portion of the width of a web substrate (including paper) and any associated curing/drying equipment between an unwind or feed station. Clearwater has two such paper coating lines.

The MACT includes emissions standards and requirements for determining compliance. Compliance may be achieved through the use of control devices or by using "as purchased" compliant coating materials. Clearwater has elected to determine compliance by the "as purchased" compliant coating method and does not use a control device to achieve compliance.

The provisions of the Paper and Web Coating MACT are included in Section 19 of the renewed Tier I permit. They are unchanged from the previous Tier I permit except they have been renumbered. A detailed review of the regulation is provided in Section 7.5 of this statement of basis.

Standards (40 CFR 63.3320)

Organic HAP emissions are limited to the level specified in paragraph (b)(1), (2), (3), or (4) of this section.

(1) No more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources, and no more than 2 percent of the organic HAP applied for each month (98 percent reduction) at new affected sources; or

(2) No more than 4 percent of the mass of coating materials applied for each month at existing affected sources, and no more than 1.6 percent of the mass of coating materials applied for each month at new affected sources; or

(3) No more than 20 percent of the mass of coating solids applied for each month at existing affected sources, and no more than 8 percent of the coating solids applied for each month at new affected sources.

(4) If you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) by compound on a dry basis is achieved and the efficiency of the capture system is 100 percent. *(Does not apply to Clearwater because they do not use an oxidizer to control emissions).*

(c) Compliance with this subpart is demonstrated by following the procedures in §63.3370.

Operating Limits (40 CFR 63.3321)

Operating limits only apply if a control device is used to comply with standards. Clearwater does not use a control device; therefore the operating limits do not apply.

Compliance Date (40 CFR 63.3330)

Clearwater has two existing paper coating machines; the compliance date is December 5, 2005.

General Provisions of 40 CFR 63 applicable to Subpart JJJJ (40 CFR 63.3280 –Table 2)

Table 2 of Subpart JJJJ includes the general requirements of Subpart A which apply, as well as a listing of those that do not apply to the facility. Table 18.2 is included in the permit as a summary of only those requirements that do apply; the requirements that do not apply are not included.

Control Device Monitoring (40 CFR 63.3350)

§63.3350 does not apply because Clearwater does not use a control device to meet emissions standards.

Performance Tests (40 CFR 63.3360)

The organic HAP content must be determined using the procedures in §63.3360(c) when demonstrating compliance by using "as purchased" compliant materials. HAP content may be determined by using the specified testing methods or by using manufacturer supplied formulation data.

Demonstration of Compliance (40 CFR 63.3370)

In demonstrating compliance using the "as purchased' compliant coating the procedures of §63.3370(b) must be followed each month. Monthly monitoring must show that each coating material used at an existing affected source does not exceed 0.04 kg organic HAP per kg coating material, or each coating material used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids. This is the compliance option that Clearwater indicated they intend to use.

The permittee may also demonstrate compliance using the option of as- applied "compliant' coating materials. Clearwater did not indicate that this option would be used, never-the-less this option was included in the permit. This section specifies how the allowable monthly emissions must be calculated and how the monthly emissions that actually occurred must be calculated. Compliance is demonstrated if the actual emissions are less than the allowable emissions.

Notifications and Reports – 40 CFR 63.3400

The permit has been written to summarize all the notification and reports that are required to be submitted. Many of the notifications listed in §63.3400 are not applicable to Clearwater because a control device is not used to demonstrate compliance. All of the notification and reporting requirements are included in the permit which is required for facilities that do not use a control device.

Recordkeeping – 40 CFR 63.3410

§63.410 specifies those records which must be kept by the permittee, including those required by General Provision 63.10(b)(2). Only those recordkeeping requirements that are applicable to facilities that use the "as purchased", or "as applied", compliant coating option of demonstrating compliance are included in the permit. A control device is not used to achieve compliance at this facility and those recordkeeping requirements applicable to control devices are not included in the permit. A continuous monitoring system (CMS) is not required if a control device is not used.

COMPLIANCE ASSURANCE MONITORING– Tier I Permit Section 20.0

The following changes were made to the CAM requirements:

- The section was renumbered from Section 19 to Section 20.
- The No. 2 Lime Kiln has been removed from the facility and the CAM requirements pertaining to the No. 2 Lime Kiln have been removed from the permit.
- Ownership of the Dry Fuel Bins changed from Clearwater Paper Corporation to another entity, as certified in the application, and the CAM requirements for the Dry Fuel Bin have been removed from the permit.
- Scrubbing media in the NCG system is soda ash or caustic soda and the operating pH is changed to 8.5 when operating with soda ash (it remains 9.6 on caustic soda), as approved by this permit action, consistent with DEQ's letter to Clearwater dated December 31, 2013 (TRIM record # 2013AAI3890). DEQ did not act to change the scrubbing media flowrate.

All other CAM provisions remain unchanged from the previous Tier I permit.

Section 20 of the renewed Tier I permit includes the requirements of CAM for all emissions units that are affected by this regulation. The applicability and requirements are discussed in detail in Section 7.6 of this Statement of Basis.

BOILER MACT– Tier I Permit Section 21.0

The sole purpose of Section 21 of the permit is to incorporate and summarize the applicable requirements of 40 CFR 63 Subpart DDDDD or the major source boiler MACT. Should there be a conflict between 40 CFR 63 and any of the permit conditions in Section 21 of this permit then 40 CFR 63 shall govern including any applicable amendments to that regulation.

A complete regulatory review of Subpart DDDDD is provided in Appendix B.

RICE MACT– Tier I Permit Section 22.0

The sole purpose of Section 22 of the permit is to incorporate and summarize the applicable requirements of 40 CFR 63 Subpart ZZZZ or the RICE MACT. Should there be a conflict between 40 CFR 63 and any of the permit conditions in Section 22 of this permit then 40 CFR 63 shall govern including any applicable amendments to that regulation.

A complete regulatory review of Subpart ZZZZ is provided in Appendix C.

PULP OPTIMIZATION PROJECT– Tier I Permit Section 23.0

This section of the permit includes the requirements of underlying Permit to Construct P-2015.0007, issued September 3, 2015. The requirements included in the Tier I permit are exact quotes of the underlying permit.

Tier I Permit Condition 23.1 includes a $PM_{2.5}$ emission limit from the pulp dryer. A source test is required to determine compliance with this emission limit.

Tier I Permit Condition 23.2 & 23.3 includes production limitations on the chip and sawdust digesters. The Tier I permit includes monitoring requirements sufficient to determine compliance with production limits.

Tier I Permit Condition requires the installation of a wet scrubber to control emissions from the polysulfide generator. Monitoring requirements are included in the permit assure the scrubber has been installed and is being operated.

The source obligation requirements of 40 CFR 52.21(PSD avoidance monitoring/reporting) are included in the permit. Should there be a conflict between what is written in the permit and 40 CFR 52.21(r)(6), 40 CFR 52.21(r)(6) shall govern.

KRAFT PULP MILL (40 CFR 60 SUBPART BBa) – Tier I Permit Section 24.0

The sole purpose of Section 24 of the permit is to incorporate and summarize the applicable requirements of 40 CFR 60 Subpart BBa or the Kraft Pulp Mill NSPS. Should there be a conflict between 40 CFR 63 and any of the permit conditions in Section 22 of this permit then 40 CFR 63 shall govern including any applicable amendments to that regulation.

A summary of applicable requirements is provided in Section 7.4 of this statement of basis and a detailed review of the application is provided in Appendix D.

6.3 General Provisions

Unless expressly stated, there are no MRRR for the general provisions.

General Compliance, Duty to Comply

The permittee must comply with the terms and conditions of the permit.

[IDAPA 58.01.01.322.15.a, 5/1/94; 40 CFR 70.6(a)(6)(i)]

General Compliance, Need to Halt or Reduce Activity Not a Defense

The permittee cannot use the fact that it would have been necessary to halt or reduce an activity as a defense in an enforcement action.

[IDAPA 58.01.01.322.15.b, 5/1/94; 40 CFR 70.6(a)(6)(ii)]

General Compliance, Duty to Supplement or Correct Application

The permittee must promptly submit such supplementary facts or corrected information upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application. The permittee must also provide information as necessary to address any new requirements that become applicable after the date a complete application has been filed but prior to the release of a draft permit.

[IDAPA 58.01.01.315.01, 5/1/94; 40 CFR 70.5(b)]

Reopening, Additional Requirements, Material Mistakes, Etc.

This term lists the instances when the permit must be reopened and revised, including times when additional requirements become applicable, when the permit contains mistakes, or when revision or revocation is necessary to assure compliance with applicable requirements.

[IDAPA 58.01.01.322.15.c, 5/1/94; IDAPA 58.01.01.386, 3/19/99; 40 CFR 70.7(f)(1), (2); 40 CFR 70.6(a)(6)(iii)]

Reopening, Permitting Actions

This term discusses modification, revocation, reopening, and/or reissuance of the permit for cause. If the permittee files a request to modify, revoke, reissue, or terminate the permit, the request does not stay any permit condition, nor does notification of planned changes or anticipated noncompliance.

[IDAPA 58.01.01.322.15.d, 5/1/94; 40 CFR 70.6(a)(6)(iii)]

Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

[IDAPA 58.01.01.322.15.e, 5/1/94; 40 CFR 70.6(a)(6)(iv)]

Information Requests

The permittee must furnish, within a reasonable time to DEQ, any information, including records required by the permit, that is requested in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

[Idaho Code §39-108; IDAPA 58.01.01.122, 4/5/00; IDAPA 58.01.01.322.15.f, 4/5/00; 40 CFR 70.6(a)(6)(v)]

Information Requests, Confidential Business Information

Upon request, the permittee must furnish to DEQ copies of records required to be kept by this permit. For information claimed to be confidential, the permittee may furnish such records along with a claim of confidentiality in accordance with Idaho Code §9-342A and applicable implementing regulations including IDAPA 58.01.01.128.

[IDAPA 58.01.01.322.15.g, 5/1/94; IDAPA 58.01.01.128, 4/5/00; 40 CFR 70.6(a)(6)(v)]

Severability

If any provision of the permit is held to be invalid, all unaffected provisions of the permit will remain in effect and enforceable.

[IDAPA 58.01.01.322.15.h, 5/1/94; 40 CFR 70.6(a)(5)]

Changes Requiring Permit Revision or Notice

The permittee may not commence construction or modification of any stationary source, facility, major facility, or major modification without first obtaining all necessary permits to construct or an approval under IDAPA 58.01.01.213, or complying with IDAPA 58.01.01.220 through 223. The permittee must comply with IDAPA 58.01.01.380 through 386 as applicable.

[IDAPA 58.01.01.200-223, 4/2/08; IDAPA 58.01.01.322.15.i, 3/19/99; IDAPA 58.01.01.380-386, 7/1/02; 40 CFR 70.4(b)(12), (14), (15), and 70.7(d), (e)]

Changes that are not addressed or prohibited by the Tier I operating permit require a Tier I operating permit revision if such changes are subject to any requirement under Title IV of the CAA, 42 U.S.C. Section 7651 through 7651c, or are modifications under Title I of the CAA, 42 U.S.C. Section 7401 through 7515. Administrative amendments (IDAPA 58.01.01.381), minor permit modifications (IDAPA 58.01.01. 383), and significant permit modifications (IDAPA 58.01.01.382) require a revision to the Tier I operating permit. IDAPA 58.01.01.502(b)(10) changes are authorized in accordance with IDAPA 58.01.01.384. Off permit changes and required notice are authorized in accordance with IDAPA 58.01.01.385.

[IDAPA 58.01.01.381-385, 7/1/02; IDAPA 58.01.01.209.05, 4/11/06; 40 CFR 70.4(b)(14) and (15)]

Federal and State Enforceability

All permit conditions are federally enforceable unless specified in the permit as a state or local only requirement. State and local only requirements are not required under the CAA and are not enforceable by EPA or by citizens.

[IDAPA 58.01.01.322.15.j, 5/1/94; IDAPA 58.01.01.322.15.k, 3/23/98; Idaho Code §39-108; 40 CFR 70.6(b)(1), (2)]

Inspection and Entry

Upon presentation of credentials, the facility shall allow DEQ or an authorized representative of DEQ to do the following:

- Enter upon the permittee's premises where a Tier I source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;
- Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
- Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
- As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108; IDAPA 58.01.01.322.15.l, 5/1/94; 40 CFR 70.6(c)(2)]

New Applicable Requirements

The permittee must continue to comply with all applicable requirements and must comply with new requirements on a timely basis.

[IDAPA 58.01.01.322.10, 4/5/00; IDAPA 58.01.01.314.10.a.ii, 5/1/94; 40 CFR 70.6(c)(3) citing 70.5(c)(8)]

Fees

The owner or operator of a Tier I source shall pay annual registration fees to DEQ in accordance with IDAPA 58.01.01.387 through IDAPA 58.01.01.397.

[IDAPA 58.01.01.387, 4/2/03; 40 CFR 70.6(a)(7)]

Certification

All documents submitted to DEQ shall be certified in accordance with IDAPA 58.01.01.123 and comply with IDAPA 58.01.01.124.

[IDAPA 58.01.01.322.15.o, 5/1/94; 40 CFR 70.6(a)(3)(iii)(A); 40 CFR 70.5(d)]

Renewal

The permittee shall submit an application to DEQ for a renewal of this permit at least six months before, but no earlier than 18 months before, the expiration date of this operating permit. To ensure that the term of the operating permit does not expire before the permit is renewed, the owner or operator is encouraged to submit a renewal application nine months prior to the date of expiration.

[IDAPA 58.01.01.313.03, 4/5/00; 40 CFR 70.5(a)(1)(iii)]

If a timely and complete application for a Tier I operating permit renewal is submitted, but DEQ fails to issue or deny the renewal permit before the end of the term of this permit, then all the terms and conditions of this permit including any permit shield that may have been granted pursuant to IDAPA 58.01.01.325 shall remain in effect until the renewal permit has been issued or denied.

[IDAPA 58.01.01.322.15.p, 5/1/94; 40 CFR 70.7(b)]

Permit Shield

Compliance with the terms and conditions of the Tier I operating permit, including those applicable to all alternative operating scenarios and trading scenarios, shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:

- Such applicable requirements are included and are specifically identified in the Tier I operating permit; or
  - DEQ has determined that other requirements specifically identified are not applicable and all of the criteria set forth in IDAPA 58.01.01.325.01(b) have been met.
- The permit shield shall apply to permit revisions made in accordance with IDAPA 58.01.01.381.04 (administrative amendments incorporating the terms of a permit to construct), IDAPA 58.01.01.382.04 (significant modifications), and IDAPA 58.01.01.384.03 (trading under an emissions cap).
- Nothing in this permit shall alter or affect the following:
  - Any administrative authority or judicial remedy available to prevent or terminate emergencies or imminent and substantial dangers;
  - The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
  - The applicable requirements of the acid rain program, consistent with 42 U.S.C. Section 7651(g)(a); and
  - The ability of EPA to obtain information from a source pursuant to Section 114 of the CAA; or the ability of DEQ to obtain information from a source pursuant to Idaho Code §39-108 and IDAPA 58.01.01.122.

**[Idaho Code §39-108 and 112; IDAPA 58.01.01.122, 4/5/00;
IDAPA 58.01.01.322.15.m, 325.01, 5/1/94; IDAPA 58.01.01.325.02, 3/19/99;
IDAPA 58.01.01.381.04, 382.04, 383.05, 384.03, 385.03, 3/19/99; 40 CFR 70.6(f)]**

Compliance Schedule and Progress Reports

- For each applicable requirement for which the source is not in compliance, the permittee shall comply with the compliance schedule incorporated in this permit.
- For each applicable requirement that will become effective during the term of this permit and that provides a detailed compliance schedule, the permittee shall comply with such requirements in accordance with the detailed schedule.
- For each applicable requirement that will become effective during the term of this permit that does not contain a more detailed schedule, the permittee shall meet such requirements on a timely basis.
- For each applicable requirement with which the permittee is in compliance, the permittee shall continue to comply with such requirements.

**[IDAPA 58.01.01.322.10, 4/5/00; IDAPA 58.01.01.314.9, 5/1/94; IDAPA 58.01.01.314.10, 4/5/00;
40 CFR 70.6(c)(3) and (4)]**

Periodic Compliance Certification

The permittee shall submit compliance certifications during the term of the permit for each emissions unit to DEQ and the EPA as specified.

- Compliance certifications for all emissions units shall be submitted annually unless otherwise specified;
- All original compliance certifications shall be submitted to DEQ and a copy of all compliance certifications shall be submitted to the EPA.

**[IDAPA 58.01.01.322.11, 4/6/05; 40 CFR 70.6(c)(5)(iii) as amended,
62 Fed. Reg. 54900, 54946 (10/22/97); 40 CFR 70.6(c)(5)(iv)]**

False Statements

The permittee may not make any false statement, representation, or certification in any form, notice, or report required under this permit, or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

No Tampering

The permittee may not render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Semiannual Monitoring Reports.

In addition to all applicable reporting requirements identified in this permit, the permittee shall submit reports of any required monitoring at least every six months as specified.

[IDAPA 58.01.01.322.15.q, 3/23/98; IDAPA 58.01.01.322.08.c, 4/5/00; 40 CFR 70.6(a)(3)(iii)]

Reporting Deviations and Excess Emissions

Each and every applicable requirement, including MRRR, is subject to prompt deviation reporting. Deviations due to excess emissions must be reported in accordance Sections 130-136. All instances of deviation from Tier I operating permit requirements must be included in the deviation reports. The reports must describe the probable cause of the deviation and any corrective action or preventative measures taken. Deviation reports must be submitted at least every six months unless the permit specifies a different time period as required by IDAPA 58.01.01.322.08.c. Examples of deviations include, but are not limited to, the following:

- Any situation in which an emissions unit fails to meet a permit term or condition

- Emission control device does not meet a required operating condition
- Observations or collected data that demonstrate noncompliance with an emissions standard
- Failure to comply with a permit term that requires a report

[IDAPA 58.01.01.322.15.q, 3/23/98; IDAPA 58.01.01.135, 4/11/06; 40 CFR 70.6(a)(3)(iii)]

Permit Revision Not Required, Emissions Trading

No permit revision will be required, under any approved, economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in the permit.

[IDAPA 58.01.01.322.05.b, 4/5/00; 40 CFR 70.6(a)(8)]

Emergency

In accordance with IDAPA 58.01.01.332, an "emergency" as defined in IDAPA 58.01.01.008, constitutes an affirmative defense to an action brought for noncompliance with such technology-based emissions limitation if the conditions of IDAPA 58.01.01.332.02 are met.

[IDAPA 58.01.01.332.01, 4/5/00; 40 CFR 70.6(g)]

7. REGULATORY REVIEW

7.1 Attainment Designation (40 CFR 81.313)

The facility is located in Lewiston, Nez Perce County, Idaho, which is designated as unclassifiable/attainment for all regulated criteria pollutants (i.e., PM_{10}, CO, NO_X, SO_2, lead, and ozone). There is not a Class I area within 10 kilometers of the facility. This facility is located in Air Quality Control Region (AQCR) 62 and Universal Transverse Mercator (UTM) Zone 11.

7.2 Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

This facility is a major facility as defined by IDAPA 58.01.01.008.10 because it emits or has the potential to emit regulated air pollutants (SO_2, NOx, CO, PM_{10}, VOC, and HAPs) in amounts greater than or equal to major facility threshold(s) listed in Subsection 008.10. Refer to Section 5.22 of this document for a complete emissions inventory of the air pollutants emitted by this facility.

7.3 PSD Classification (40 CFR 52.21)

This facility is a designated facility as defined by IDAPA 58.01.01.006.30 – Kraft Pulp Mills

This facility is a major facility as defined by IDAPA 58.01.01.205 because it emits or has the potential to emit a regulated criteria air pollutant in amounts greater than or equal to 100 tons per year.

7.4 NSPS Applicability (40 CFR 60)

40 CFR 60 Subpart D (60.40) – Fossil-Fuel-Fired Steam Generators

Applicability – NSPS Subpart D is applicable to fossil fuel and wood fired boilers, or fossil fuel fired boiler over 250 MMBtu/hr constructed or modified after August 17, 1971. The affected source is the1048 MMBtu/hr No. 4 Power Boiler installed 1980 (Multiple Fuels).

Standards (§60.42, §60.43, §60.44) :

PM – 0.10 lb per million Btu (fossil fuel and wood)

SO_2 - 0.80 lb per million Btu (liquid fossil fuel and wood)

NO_2 – 0.20 lb per million Btu (gaseous fossil fuels)

NO_2 – 0.30 lb per million Btu (liquid fossil fuel, liquid or gaseous fossil fuel and wood)

Opacity – 20%

Monitoring (§60.45):

COM required for Opacity

NOx CEM

CEM or fuel based monitoring required for SO_2

CMS required for Oxygen or Carbon monoxide

One time source test for PM and opacity

Clearwater has not demonstrated that a NOx CEM is not required per 40 CFR 60.45(a) and (b). According to the CFR a NOx CEM and associated oxygen or carbon monoxide monitoring is not required if it can be demonstrated that the initial performance test was less than 70% of the applicable standards of 40 CFR 60.44.

During the two public comment periods that were held on the drat permit Clearwater had referred to source test results submitted on September 11, 1981. These results are for a test that was conducted on July 29, 1981 and Clearwater asserts that they are the initial test results. In accordance with NSPS Subpart D, an initial source test is required not later than 180 days after initial startup unless a waiver is been granted by EPA. Since Clearwater has not provided the date of initial startup DEQ reviewed the facilities source files to see if they included documentation of the date of initial startup. DEQ could not determine the boilers actual initial startup date from a review of the source files. However, DEQ did find a February 27, 1981 letter from Potlatch to the Idaho Department of Health and Welfare which included a statement that the boiler "first came on wood fuel on September 30, 1980" (February 27, 1981 letter from Jack Anderson, Potlatch Corporation to William Damworth, Idaho Department of Health and Welfare.). From this information it can be concluded that the boiler initial startup date was on or before September 30, 1980.

NSPS Subpart D requires initial source testing no later than 180 days after startup. If the date that the boiler initially fired on wood fuel (September 30, 1980) is used as the date of initial startup, in accordance with NSPS the initial test would have to be conducted not later with 180 days of September 30, 1980. The July 29, 1981 test data provided by Clearwater is well in excess of 180 days of initial startup. Clearwater has not provided, nor could DEQ find in the source files, documentation of an EPA approved extension to the NSPS testing schedule. The July 19, 1981 test does not meet the criteria to qualify as an initial source test for NSPS purposes and can not be used to justify that emission were less than 70% of the standard during the initial test.

The content of Potlatch's February 27, 1981 letter (referenced above) warrants further discussion. This letter includes a summary of NOx test conducted on a February 5, 1981. This test predates the July 29, 1981 test that has been asserted as the initial test. Additionally, this test was conducted within 180 days of the boiler firing on wood fuel *may* qualify as the initial source test for NSPS purposes. However, this letter implies that NOx test results were greater than 70% of the standard. The letter states that, "The level of nitrogen oxides is the only parameter that is presently right at or over the permit condition. Proper air distribution for NOx control is not possible At (sic) this time". It should be noted that none of the emissions data presented with this letter are documented sufficiently to determine if the tests were conducted using the appropriate test methods, procedures, and fuel types to qualify as a valid NSPS test.

In summary, Clearwater has not provided initial source test data proving that NOx emissions were less than 70% of the standards. In absence of this demonstration a CEM is required in accordance with 40 CFR 60.45(a) and (b).

40 CFR 60 Subpart Dc (60.40c) – Small Industrial-Commercial-Institutional Steam Generating Units

Applicability – NSPS Subpart Dc is applicable to boiler with input capacities between 10.0 and 100.0 MMBtu/hr which construction, modification or reconstruction is commenced after June 9, 1989. Potentially affected permitted sources are (these boilers are not installed at this time):

Temporary Boiler No. 1 (Natural Gas Exclusively)
Temporary Boiler No. 2 (Natural Gas Exclusively)

Standards:

There are no emission standards for boilers that combust natural gas exclusively. However there are fuel usage monitoring requirements.

PTC No. 069-00001, 11/6/98 allows Clearwater to install and operate two temporary boilers, each of a capacity less than 100 MMBtu/hr. According to the Tier I renewal application the boilers are not installed at this time (the boilers construction date and input capacity are unknown); therefore the applicability of NSPS Dc can not be determined with certainty. However it is probable that the boilers will be affected emissions units and the NSPS has been included in the permit (and is only applicable if the boilers have a rated input capacity of between 10.0 and 100.0 MMBtu/hr and were constructed after June 9, 1989). The only applicable NSPS Subpart Dc requirement is to monitor the amount of fuel combusted each day.

40 CFR 60 Subpart BB (60.280) – Kraft Pulp Mills

Applicability – NSPS Subpart BB is applicable to: digester systems, brown stock washer systems, multiple-effect evaporator systems, recovery furnaces, smelt dissolving tanks, lime kilns and condensate stripper systems that commenced construction or modification after September 24, 1976. Affected sources at the Clearwater facility are:

No. 5 Recovery Furnace
No. 5 Smelt Tank
No. 9 Batch Digester
Chip PreOx Brown Stock Washers
No. 6 Multiple-effect Evaporators

Following is a discussion regarding the applicable NSPS standards and monitoring requirements.

PM Standards (40 CFR 60.282):

- Recovery furnace emissions shall not contain gases that contain particulate in excess of 0.044 gr/dscf @ 8% O_2.
- Recovery furnace emissions shall not exhibit greater than 35% opacity.

  Clearwater has two recovery furnaces in operation. Recovery Furnace No. 5 was installed in 1985 and is an affected emissions unit. Recovery Furnace No. 4 was installed in 1970 and is not an affected emissions unit.

- Smelt dissolving tank PM emissions shall not exceed 0.02 lb/ton of black liquor solids (dry weight).

  Clearwater has two smelt dissolving tanks in operation. Smelt Tank No. 5 was installed in 1985 and is an affected emissions unit. Smelt Tank No. 4 was installed in 1970 and is not an affected emissions unit.

- The NSPS has lime kiln PM emissions standards; however they are not applicable to any of the kilns at the Clearwater facility. Lime Kilns No. 3 & No. 4 are not affected emissions units because they have not been constructed or modified after the September 24, 1976 applicability date, and Lime Kiln No. 2 has been removed from the facility.

TRS Standards (40 CFR 60.283):

1) Emissions from affected units No. 9 batch digester, Chip preox brown stock washers, No. 6 multiple-effect evaporator shall comply with the following (40 CFR 60.283(a)(1)):

TRS emissions shall not exceed 5 ppm by volume at 10% oxygen unless the following conditions are met:

Gases combusted in a NSPS affected lime kiln are subject to a TRS limit of 8 ppm by volume at 10% oxygen, or
Gases are combusted in a NSPS affected recovery furnace subject to an emission limit of 5 ppm by volume at 10% oxygen, or
Gases are combusted in an incinerator or lime kiln at 1,200 Fahrenheit with a residence time of at least 0.5 seconds.

> *Clearwater has elected to comply with these standards by combusting the gases in an incinerator or lime kiln at 1,200 Fahrenheit with a residence time of at least 0.5 seconds (40 CFR 60.283(a)(1)(iii).*

2) Gases from the kraft recovery furnace shall not have TRS emissions in excess of 5 ppm (40 CFR 60.283(a)(2)).

> *Clearwater has two recovery furnaces in operation. Recovery Furnace No. 5 was installed in 1985 and is an affected emissions unit. Recovery Furnace No. 4 was installed in 1970 and is not an affected emissions unit.*

3) Gases from smelt dissolving tanks shall not have TRS emissions in excess of 0.033 pounds per ton of black liquor solids as H_2S (40 CFR 60.283(a)(4)).

> *Clearwater has two smelt dissolving tanks in operation. Smelt Tank No. 5 was installed in 1985 and is an affected emissions unit. Smelt Tank No. 4 was installed in 1970 and is not an affected emissions unit.*

4) The NSPS has lime kiln TRS emissions standards, however they are not applicable to any of the kilns at the Clearwater facility.

> *Lime Kilns No. 3 & No. 4 are not affected emissions units because they were constructed prior to the September 24, 1976 applicability date, and Lime Kiln No. 2 is not affected because it does not process lime mud from the kraft process.*

Monitoring (40 CFR 60.284)

40 CFR 60.284(a)(1) – Continuous opacity monitoring is required on No. 5 Recovery Furnace

40 CFR 60.284(a)(2) – Continuous TRS and oxygen monitoring is required from the No. 5 Recovery Furnace. Continuous TRS and oxygen monitoring is not required from the No. 9 batch digester, chip preox brown stock washer and No. 6 multiple-effect evaporator because Clearwater has elected to treat emissions in an incinerator or lime kiln at 1,200 Fahrenheit with a residence time of at least 0.5 seconds (40 CFR 60.283(a)(1)(iii).

40 CFR 60.284(b)(1) – a monitoring device that measures and records the combustion temperature at the point of incineration is required on the incinerator. The device shall be accurate to within plus or minus one percent of the temperature being monitored.

40 CFR 60.284(b)(2) – The No. 5 Smelt Tank shall be equipped with a monitoring device for the scrubbing media liquid pressure and pressure loss across the scrubber. Pressure drop measurement is to be accurate within plus or minus 2 inches of water; scrubbing liquid pressure monitoring is to be accurate within plus or minus 15 percent of the design scrubbing liquid supply pressure.

40 CFR 60.284(c)(1)-(3) – 12-hour average concentration of TRS and oxygen from the No. 5 Recovery Furnace shall be calculated, recorded and corrected to 10% oxygen per 40 CFR 60.284(c)(1)-(3).

40 CFR 60.284(c)(4) - Temperature shall be recorded once per shift from measurements obtained from the continuous temperature monitor required to be installed and operated on the incinerator.

40 CFR 60.284(d) – Semiannual excess emissions reporting requirements

40 CFR 60.284(d)(1)(i) – excess emissions from the No. 5 recovery furnace are all 12-hour average TRS emissions above 5ppm.

40 CFR 60.284(d)(1)(ii) – excess emissions from the No. 5 recovery furnace are all 6-minute average opacities that exceed 35 percent.

40 CFR 60.284(d)(2) – does not apply because there are no NSPS affected lime kilns

40 CFR 60.284(d)(3) – excess emissions from No. 9 Batch Digester, Chip PreOx Brown Stock Washers, and the No. 6 Multiple-effect Evaporators are all periods in excess of 5 minutes during which the temperature of the incinerator is less than 1,200 °F.

These NSPS requirements were included in the following sections of the renewed Tier I permit:

Section 6 – No. 5 Recovery Furnace
Section 7 – No. 5 Smelt Tank
Section 12 – No. 9 Batch digester, Chip preox brown stock washers, No. 6 multiple effect evaporator

40 CFR 60 Subpart BBa (60.280) – Kraft Pulp Mills

Clearwater proposes to construct, after May 23, 2013, a new continuous digester system on the chip fiberline as part of the "pulp optionization project". The new continuous digester system will replace the existing batch digester systems and will be subject to NSPS subpart BBa.

Clearwater proposes to add a new diffusion washer to the chip fiberline brownstock washer system. As noted in the definition of brownstock washer system in the NSPS, diffusion washers are specifically excluded from the affected facility under NSPS. Therefore, the chip fiberline brownstock washer system will not be modified as that term (modification) is defined in 40 CFR 60.14.

A summary of applicable requirements follows, and acomplete regulatory review of this subpart is provided in Appendix D.

§60.280a Applicability and designation of affected facility.

In accordance with §60.280a(a) & (b) digester systems that commence construction after May 23, 2013 are affected sources. Clearwater has not installed the new digesters at the time of permit issuance but will become affected upon commencement of construction. Brownstock washers are also defined as affected sources with the exception that diffusion washers are excluded. Clearwater has certified that the proposed washer is a diffusion washer and is therefore not subject to the standard. The only affected emisison unit is the proposed new digesters.

§60.282a Standard for filterable particulate matter.

Standards for particulate matter do not apply to digesters which is the only affected source.

§60.283a Standard for total reduced sulfur (TRS).

Digester systems are subject to a 5 ppmv emission standard and the LVHC gases and HVLC gases must be collected in a closed vent system meeting the requirements of §63.450 and combusted with other waste gases in an incinerator or other device, or combusted in a lime kiln or recovery furnace not subject to the provisions of this subpart (or subpart BB of this part), and are subjected to a minimum temperature of 650 °C (1200 14 °F) for at least 0.5 second.

§60.284a Monitoring of emissions and operations.

Any owner or operator subject to the provisions of this subpart must install, calibrate, maintain, and operate the following continuous parameter monitoring devices for any incinerator, a monitoring device for the continuous measurement of the combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple effect evaporator system, or condensate stripper system where the provisions of §60.283a(a)(1)(iii) apply. The monitoring device is to be certified by the manufacturer to be accurate within ±1 percent of the temperature being measured.

The owner or operator shall Record at least once each successive 5-minute period all measurements obtained from the continuous monitoring devices installed under paragraph (b)(1) of this section. Calculate 3-hour block averages from the recorded measurements of incinerator temperature. Temperature measurements recorded when no TRS emissions are fired in the incinerator (e.g., during incinerator warm-up and cool-down periods when no TRS emissions are generated or an alternative control device is used) may be omitted from the block average calculation.

The owner or operator must operate the continuous monitoring systems required in paragraphs (a) and (b) of this section to collect data at all required intervals at all times the affected facility is operating except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments.

The owner or operator may not use data recorded during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating limits. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required quality monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements.

Excess emisisons are defined as follows:

- All 3-hour block averages during which the combustion temperature at the point of incineration is less than 650 °C (1200 14 °F), where the provisions of §60.283a(a)(1)(iii) apply and an incinerator is used as the combustion device.
- All times when gases are not routed through the closed-vent system to one of the control devices specified in §60.283a(a)(1)(i) through (iii) and (v).

The Administrator will not consider periods of excess emissions reported under §60.288a(a) to be indicative of a violation of the standards provided the criteria in paragraphs (e)(1) and (2) of this section are met.

(1) The percent of the total number of possible contiguous periods of excess emissions in the semiannual reporting period does not exceed:

vi) For closed-vent systems delivering gases to one of the control devices specified in §60.283a(a)(1)(i) through (iii) and (v), the time of excess emissions divided by the total process operating time in the semiannual reporting period does not exceed:

(A) One percent for LVHC closed-vent systems; or

(B) Four percent for HVLC closed-vent systems or for HVLC and LVHC closed-vent systemscombined.

(2) The Administrator determines that the affected facility, including air pollution control equipment, ismaintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.

§60.287a Recordkeeping.

For each continuous monitoring system, the owner or operator must maintain records of the following information, as applicable:

Records of the incinerator combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple effect evaporator system, or condensate stripper system where the provisions of §60.283a(a)(1)(iii) apply and an incinerator is used as the combustion device.

Records of excess emissions as defined in §60.284a(d).

(c) For each malfunction, the owner or operator must maintain records of the following information:

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

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with §60.11(d), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

§60.288a Reporting.

For the purpose of reports required under §60.7(c), any owner or operator subject to the provisions of this subpart must report semiannually periods of excess emissions defined in §60.284a(d).

(d) If a malfunction occurred during the reporting period, you must submit a report that contains the following:

(1) 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.

(2) A description of actions taken by an owner or operator during a malfunction of an affected facility to minimize emissions in accordance with §60.11(d), including actions taken to correct a malfunction.

7.5 NESHAP Applicability (40 CFR 61)

40 CFR 61 Subpart E (61.50) – National Emission Standard for Mercury

Clearwater is an affected facility because wastewater sludge is incinerated in the No. 4 Power Boiler.

A summary of applicable requirements follows, and a complete regulatory review of this subpart is provided in Appendix E.

§61.50 Applicability

The provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge.

Clearwater incinerates wastewater sludge in the No. 4 Power Boiler and is therefore an affected source.

§61.52(b) Emission standard

Emissions to the atmosphere from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period.

This standard has been added to the Tier I permit.

§61.53(d) Stack Sampling

Sludge incineration and drying plants. (1) Unless a waiver of emission testing is obtained under §61.13, each owner or operator of a source subject to the standard in §61.52(b) shall test emissions from that source. Such tests shall be conducted in accordance with the procedures set forth either in paragraph (d) of this section or in §61.54.

40 CFR 61.53(a)-(c) are not applicable because Clearwater does not have the type of process that these section describe appliability for, the source is applicable to 40 CFR 61.53(d). This provision allows for either stack testing or sampling of the sludge in accordance with §61.54 to determine mercury emissions. Clearwater has utilized the sludge sampling method of compliance (§61.54).

§61.54 Sludge Sampling

Clearwater was required by 40 CFR 61.54(a)(2) to collect a sludge sample within 90 days of startup. Clearwater certified in the application that they collected this sample. It should be noted that Clearwater started the No. 4 Power Boiler several decades ago. The specific requirements (40 CFR 51.54(b)-(d) for collecting and analzying sludge for mercury emissions are not repeated in the permit becuause, as explained in the following section, ongoing testing is not required.

§61.55 Monitoring of emissions and operations

(a) Wastewater treatment plant sludge incineration and drying plants. All the sources for which mercury emissions exceed 1.6 kg (3.5 lb) per 24-hour period, demonstrated either by stack sampling according to §61.53 or sludge sampling according to §61.54, shall monitor mercury emissions at intervals of at least once per year by use of Method 105 of appendix B or the procedures specified in §61.53 (d) (2) and (4). The results of monitoring shall be reported and retained according to §61.53(d) (5) and (6) or §61.54 (f) and (g).

Clearwater certified in the application that the results of the initial sludge sampling was that mecrucy emissions are less than 3.5 pounds per day. Therefore, ongoing sampling is not required.

40 CFR 51.54(e) specifies that no changes to the system shall be made after the most recent sample was collected that have the potential to increase mercury emissions unless the source estimates emissions and submits the results to DEQ. This requirement is included in the Tier I permit.

40 CFR 51.54(g) specifies that records of sludge sampling shall be kept for 2 years. However, as a general requirement of Tier I permit results of sampling must be kept for a period of 5 years(Facility-Wide Permit Condition 3.11). This requirement is included in the Tier I permit.

7.6 MACT Applicability (40 CFR 63)

40 CFR 63 Subpart S (63.440) – Pulp and Paper Industry

Applicability – Clearwater is a Kraft Pulp and Paper Mill and is a major source of HAPs. Affected emissions units are the total of all HAP emission points in the pulping and bleaching systems.

The pulping systems are all process equipment beginning with the digester, and up to and including the last piece of pulp conditioning equipment prior to the bleaching system.

The bleaching systems are all process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final bleaching stage.

Clearwater operates two pulping lines; the chip fiberline and the sawdust fiberline. The chip fiber line uses batch digesters and the sawdust fiberline uses continuous digesters.

***Standards for the pulping system*:**

40 CFR 63.443 contains HAP treatment requirements for kraft pulping systems. These treatment standards apply to the following pulping systems:

Low Volume High Concentration Systems (LVHC) - 40CFR 63.443(a)(1)(i)

Digesters
Turpentine recovery
Evaporators
Any other equipment serving the same function as those listed above
Clearwater routes the LVHC gases to a thermal oxidizer to reduce HAP emissions to 20 ppm @ 10% O_2, the backup system is to route the LVHC gases with the primary fuel into the flame zone of the lime kilns.

Other Named Streams - 40 CFR 63.443(a)(1)(ii – v) (HVLC)

Knotter systems with emissions greater than or equal to 0.1 pound HAP per ton of oven dried pulp (ODP).The knotter system equipment includes the knotter, knot drainer tanks, ancillary tanks, and any other equipment serving the same function as those previously listed.

Clearwater's sawdust line does not have a knotter.

The chip line has knotter systems which are all enclosed with one exception, the knotter rejects tank on the chip system vents to the atmosphere. The knotter rejects tank on the chip system was found to emit less than 0.1 lb MeOh/ODST and is exempt from collection and control.

Screens systems with emissions greater than or equal to 0.2 pound HAP per ton of ODP.

Clearwater's sawdust line screening operation is totally enclosed and is not vented to the atmosphere, therefore the sawdust screening operations does not meet the applicability criteria, there is no venting- it follows that emissions are below 0.2 HAP *pound per ton of ODP and is exempt from collection.*

Clearwater's chip line has 4 screens that are collected and treated in a thermal oxidizer or one of two *lime kilns*

Knotter and screen systems with emissions greater than or equal to 0.3 pound HAP per ton of ODP.

Clearwater's sawdust line does not have a knotter; therefore there is not a "knotter and screen" system.

Clearwater's chip line has a knotting and screening operation that has only one vent (knotter rejects tank) and emissions were found to be less than 0.1 lb methanol/ODS and is therefore exempt from collection and treatment

Decker systems that use process water or water that has HAPs greater than 400 ppm by weight. Decker systems are defined as all equipment used to thicken the pulp slurry or reduce its liquid content after the pulp washing system and prior to high-density pulp storage.

Clearwater uses clean hot water in the sawdust line decker system and is therefore exempt from collection.

Clearwater dewaters the pulp in the chip line using 5 presses. The application did not provide a discussion regarding the concentration of HAP in the wash water -therefore the presumption is that HAP concentrations are greater than 400 ppm.

Each pulp washing system. Pulp washing systems includes all equipment used to wash pulp and separate spent cooking chemicals following the digester system and prior to the bleaching system, oxygen delignification system, or paper machine system.

Oxygen delignification systems. Oxygen delignification systems include: systems that uses oxygen to remove lignin from pulp, blow tanks, washers, filtrate tanks, and any interstage pulp storage.

Clearwater's sawdust line does not have an oxygen delignification system

Clearwater's chip line has an oxygen delignification system.

Pulping Systems Emissions Standards (40 CFR 63.443)

Pulping systems shall be enclosed and vented to a closed-vent system that is routed to a control device.

Treatment standards must have been achieved for LVHC systems by April 16, 2001 (40 CFR 60.440(d)).

Treatment standards for all HVLC systems must have been achieved by April 17, 2006 (40 CFR 60.440(d)(1)).

Treatment standards for all systems are listed below (40 CFR 63.443(d)(1)-(4)):

Reduce total HAP emissions by 98% or more by weight, or
Reduce total HAP emissions using a thermal oxidizer to 20 ppm or less, or
Reduce total HAP emissions in a thermal oxidizer operating at 1,600 °F with a minimum residence time of 0.75 seconds, or
Reduce HAP emissions by one of the following:
1) Use a boiler, lime kiln, or recovery furnace by introducing the HAP emissions with the primary fuel into the flame zone, or
2) Use a boiler or recovery furnace with a heat input capacity greater than or equal to 150 MMBtu/hr by introducing the HAP stream with the combustion air.

A clean condensate alternative treatment method (40 CFR 63.447) is allowable for pulping systems emissions except for those in the LVHC system. The clean condensate alternative must reduce HAP emissions at least to the level that would be obtained by the above specified treatment methods. A summary of the clean condensate alternative is provided below.

Clean Condensate Alternative

As an alternative to collecting and treating all of the named HVLC gas streams to the standards specified in 40 CFR 63.443(d)(1)-(4) the operator may elect, as an alternative, to treat liquid waste streams to reduce HAP (methanol) emissions to achieve reductions equivalent to reductions that would have occurred by treating all of the HVLC gases to standards specified in 40 CFR 63.443(d)(1)-(4). The operator may also elect to treat a portion of the named HVLC gases and treat liquid waste streams to achieve the remainder of the necessary reductions. This alternative is defined as the Clean Condensate Alternative (CCA) and is included in the regulations at 40 CFR 63.447.

CCA emissions reductions are creditable if:

They are not required by any other applicable requirement (40 CFR 63.447(d)(2).
They result from emissions reductions that occur above and beyond what is otherwise required; however emissions reductions due to over treating emissions to provide a compliance "cushion" cannot be used (EPA Memorandum, Clean Condensate Alternative, Stephen D. Page, Director, Office of Air Quality Planning and Standards, April 8, 2008).

They occur as a result of improved wastewater treatment at aerated storage basins (ASB) beyond what is required by an applicable requirement.

Clearwater's has elected to use the CCA, the emissions reductions occur from:

Controlling process condensate streams in the ASB beyond what is required by 40 CFR 63.445 by adding two aerators to the ASB; and

By installing a wet scrubber to control emissions from the oxygen delignification blow tank which is a named HVLC gas stream.

As required by the regulation, emissions reductions for CCA are determined from baseline conditions. Baseline conditions are defined as those conditions existing on December 17, 1993. Following are issues relevant to the baseline conditions:

On December 17, 1993 Clearwater already collected and treated a portion of the named HVLC streams. With the exception of the oxygen delignification blow tank all of the HVLC sources listed in Table 7.4 were collected and treated on the baseline date.

In 1994 Clearwater added two additional aerators to the aerated storage basin (ASB) in anticipation of compliance with condensate treatment standards (MACT I/Phase I). In order to determine emissions from the facility that occurred on December 17, 1993 Clearwater suspended operation of these two aerators and conducted condensate treatment performance tests in April and July of 2004. In these tests the fraction of methanol biodegraded (f_{bio}) in the aerated storage basin was determined to be 0.978, demonstrating that the addition of the two aerators was not needed to comply with MACT I/Phase I standard for f_{bio} equal to or greater than 0.92.

Table 7.1 summarizes the baseline emissions, emissions that would occur from treating all untreated HVLC gases (or "Conventional Treatment"), and estimated actual emissions from the CCA alternative.

Table 7.1 Baseline HAP (methanol) Emissions, Conventional Treatment Emissions, and CCA Emissions

Emissions Source Group	Baseline Emissions (T/yr)		Emissions While Treating all untreated HVLC Gases Using "Conventional Treatment" (T/yr)		Emissions From CCA (T/yr)	
HVLC Emissions minus O_2 Blow Tank	244[b]	}Total = 818	4.9[c]	}Total~16	244[b]	}Total ~ 256
HVLC from O_2 Blow Tank	574[a]		11.5[c]		11.5[c]	
Condensate Treatment (ASB)	764[d]		764[d]		332[e]	
Total Emissions	1582[e]		780		588[e]	

a) Appendix D Clearwater's (Formerly Potlatch) June 19, 2007 Tier I Operating Permit renewal application, page 4-4, Table 2
b) 818-574=244, Emissions from HVLC sources minus the oxygen delignification system. This value represents emissions that will remain untreated under the Clean Condensate Treatment proposal. Appendix D of Clearwater (Formerly Potlatch)'s June 19, 2007 Tier I Operating Permit renewal application, page 5-8
c) Based on 98% treatment efficiency; emissions reduction that would have occurred with conventional treatment
d) Appendix D of Clearwater's (Formerly Potlatch) June 19, 2007 Tier I Operating Permit renewal application, page 5-7, Table 6
e) Appendix D of Clearwater's (Formerly Potlatch) June 19, 2007 Tier I Operating Permit renewal application, page 5-9, Table 8

The emissions rates provided in Table 7.2 are a summary of the proposed clean condensate alternative emissions standard provided in Clearwater's June 19, 2007 application materials. In order for the CCA alternative to be acceptable the alternative must result in methanol emissions less than 780 pounds per day, which is the emission rate that would have been achieved if all of the HVLC gases were collected and treated. Under the CCA alternative emissions scenario actual methanol emissions are estimated to be 588 pounds per day. However Clearwater has proposed accepting a CCA emission limitation equivalent to a methanol emission rate of 763 pounds per day, which is an emission rate less than would have been achieved if all of the HVLC gases were collected and treated (780 pounds per day). Table 7.2 gives the emissions from each source group that when aggregated totals the emission rate of 763 pounds per day. Table 7.3 lists the named HVLC gases that will not be treated in lieu of the CCA emissions reductions. This table is updated from the previous Statement of Basis to correct errors in the listing of units that are not controlled.

Table 7.2 Proposed Methanol Emissions Under the CCA

Source	Methanol Emissions (lb/day)
HVLC that are not treated	244[a]
Aerated Storage Basin & O_2 Delignification Blow Tank	519[b]
Total Emissions	763

a) Appendix D of Clearwater's (Formerly Potlatch) June 19, 2007 Tier I Operating Permit renewal application, page 5-8
b) Appendix D of Clearwater's (Formerly Potlatch) June 19, 2007 Tier I Operating Permit renewal application Page 6-2, Section 6.3.3

In summary, Clearwater's clean condensate alternative consists of collecting and treating the oxygen delignification blow tank gases in a wet scrubber, adding two additional aerators in the storage basin in combination with collecting and treating some of HVLC gases. Table 7.4 lists the HVLC gases that are captured and treated using the "conventional" treatment method prescribed by the regulation; the conventional emission standards are included in renewed Tier Permit. Table 7.3 lists the HVLC gases that are not captured and treated in lieu of emissions reduction obtained by the Clean Condensate Alternative.

Clearwater's CCA alternative numerical methanol emission rate is 519 pounds per day from the ASB and the oxygen delignification blow tank combined as an annual average. This emission limitation is included in the renewed Tier I permit. The untreated HVLC emission rate of 244 pounds per day listed in Table 7.2 is part of the baseline condition and an emission rate limit is not needed.

Table 7.3 Named HVLC Gas Streams That Are Not Treated

Named Stream	Emissions Standard
Brown Stock Washer Hood (SL[1])	Emissions are offset from reductions at other sources as part of the Clean Condensate Alternative
No. 1 Filtrate Tank (SL)	
No. 2 Filtrate Tank (SL)	
No. 3 Filtrate Tank (SL)	
No. 4 Filtrate Tank (SL)	
Soap Tank (SL)	
Foam Tank (SL)	
Oxygen Delignification Reactor Vent (CL[2])	
No. 2 Post Oxygen Wash Press (CL)	
No. 2 Post Oxygen Washer Press Level Tank (CL)	
No. 2 Post Oxygen Press Filtrate Tank (CL)	
No. 2 Post Oxygen Press Filtrate Dilution Conveyor (CL)	
Post Oxygen HD Storage Chest (CL)	
No. 3 Post Oxygen Wash Press Feed Tank (CL)	
No. 3 Post Oxygen Wash Press (CL)	
No. 3 Post Oxygen Level Tank (CL)	
No. 3 Post Oxygen Filtrate Tank (CL)	
Primary Screen Feed Tank (CL)	Exempt – totally enclosed
Secondary Screen Feed Tank (CL)	
Tertiary Screen Feed Tank (CL)	
Quaternary Screen Feed Tank (CL)	
Knotter Rejects Tank (CL)	Exempt – less than 0.1 lb MeOH/ODST

1) Sawdust Line
2) Chip Line

Table 7.4 Named HVLC Gas Streams That Are Treated

Named Stream	Control Device	Emissions Standard
No. 2 Pre Oxygen Washer Feed Tank (CL)	NCG incinerator or one of two lime kilns	Reduce total HAPs by 98% by weight, or Thermally oxidize HAPs to 20 ppm @10% O_2, or Thermally oxidize HAPs 1600 F for 0.75 seconds, or Introduce the HAP stream with the primary fuel into the flame zone of a boiler, lime kiln, or recovery furnace; or introduce the HAP stream with the combustion air in a boiler or recovery furnace with a rated heat input capacity of 150 MMBtu/hr or greater.
No. 1 Pre Oxygen Washer (CL[1])		
No. 1 Pre Oxygen Washer Filtrate Tank (CL)		
No. 2 Pre Oxygen Washer (CL)		
No. 2 Pre Oxygen Washer Filtrate Tank (CL)		
Press Mixing Tank (CL)		
Oxygen Press North (CL)		
Pressate Receiver North (CL)		
Oxygen Press South (CL)		
Pressate Receiver South (CL)		
Pressate Storage Tank (CL)		
No. 1 Post Oxygen Wash Press (CL)		
No. 1 Post Oxygen Washer Press Dilution Conveyor (CL)		
No. 1 Post Oxygen Wash Press Level Tank (CL)		
No. 1 Post Oxygen Washer Filtrate Tank (CL)		
No. 2 Post Oxygen Washer Press Feed Tank (CL)		
Spill Collection Tank (CL)		
Soap Standpipe (CL)		
No. 2 Pre Oxygen Washer Feed Tank (CL)		

No. 1 Pre Oxygen Washer (CL)		
No. 1 Pre Oxygen Washer Filtrate Tank (CL)		
No. 2 Pre Oxygen Washer (CL)		
Oxygen Delignification Blow Tank	Wet Scrubber	Reduce total HAPs by 98% by weight

1) Chip Line

Monitoring to Assure Compliance with the CCA

The numerical CCA methanol emission rate limit from the ASB and the methanol scrubber stack combined is 519 pounds per day as an annual average (emissions per each consecutive 12-months). Monitoring must assure compliance with this CCA emission rate limit. Monitoring requirements are included in renewed Tier I permit conditions.

Clearwater will conduct quarterly condensate treatment performance tests to determine methanol emission rates from the ASB and to establish operating ranges for surrogate parameters to assure compliance. Between quarterly condensate treatment performance tests Clearwater will monitor:

Daily methanol loading to the ASB
Daily soluble COD loading to the ASB
Total aerator horsepower

Daily methanol emissions from the pond will be determined using the data collected from the most recent condensate treatment test, including the percent destruction of methanol (i.e. f_{bio}), in conjunction with daily methanol loading rates. Emissions from the pond will be determined by multiplying the daily methanol loading times the destruction of methanol determined during the most recent test. Each month the permittee shall determine the emission rate of methanol in pounds per day as an annual average (each consecutive 12 months).

The oxygen delignification blow tank scrubber stack will be periodically tested to determine methanol emissions rates and operating parameters that will assure compliance between emissions testing. The following parameters will be monitored daily as surrogates for emissions rate:

Scrubber water temperature
Scrubber water flow rate
Scrubber fan operating status (on/off)
Throughput of the oxygen delignification reactor (oven dry tons per day)

Performance tests for methanol emissions from the oxygen delignification blow tank scrubber stack will determine an emission factor of pounds of methanol emitted per oven dry ton of pulp processed through the reactor. This emissions factor will be multiplied by the daily throughput of the oxygen delignification reactor to obtain an emissions rate. During the source test scrubber operating parameters for water temperature and water flow will be determined. Continuous operation of the scrubber within these parameters will assure that the emissions unit emits methanol at or below the methanol emissions factor established during the most recent source test. Each month the permittee shall determine the emission rate of methanol in pounds per day as an annual average (each consecutive 12 months).

Clearwater performs daily monitoring of the ASB in accordance with 40 CFR 63.453(j)(2) to assure compliance with the hazardous air pollutant treatment standard for pulping process condensates of 40 CFR 63.446(e)(3) which is to achieve a destruction of total HAPs by at least 92% by weight. In accordance with 40 CFR 63.453(j)(2) the EPA approved alternative monitoring parameters are influent soluble COD loading in pounds and the total aerator horsepower. The ratio of COD loading in pounds to total aerator horsepower is the site specific "surrogate" parameter for demonstrating compliance with the hazardous air pollutant treatment standard for pulping process condensates of 40 CFR 63.446(e)(3) which is to achieve a destruction of total HAPs by at least 92% by weight.

Bleaching System Emissions Standards for the (40 CFR 63.445)

40 CFR 63.445 contains HAP treatment requirements for kraft bleaching systems that use any chlorinated compounds. These treatment standards apply to:

Chip Fiberline Bleaching System

D-1 stage tower, washer hood, and north and south filtrate tanks; and
D-2 stage tower, washer hood, and filtrate tank.

Sawdust Fiberline Bleaching System

D-1 stage tower, washer hood, and filtrate tank; and
D-1 stage tower, washer hood, and filtrate tank.

Treatment required by April 16, 2001 is:

Bleaching systems shall be enclosed and routed to a control device. The enclosure and vent system shall meet the requirements of 40 CFR 63.450. These requirements are very prescriptive; all of the details of the regulation are not repeated here. However, a summary of the requirements for the enclosure and vent system are provided below:

The enclosure shall maintain negative pressure as demonstrated by the procedures of 40 CFR 63.457(e). Enclosures shall be maintained in the closed and sealed position as during the performance test except during sampling, inspection, maintenance, or repairs.
Each component of the closed vent system used to comply that is operated at a positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks of 500 parts per million or more as determined by an instrument using the procedures of 40 CFR 63.457(d).
Each bypass line that could divert HAP containing gases to the atmosphere without meeting the emission limitations of 40 CFR 63.443 shall either:

install, calibrate and maintain and operate a flow monitor capable of taking readings as frequently as specified in 40 CFR 63.454(e); or

For by pass lines that are not computer controlled the operator shall maintain the bypass valves in a closed position with a car seal or a seal placed on the valve in such a way it cannot be opened without breaking the seal.

Standards for the pulping process condensates (40 CFR 63.445)

Standards for pulping process condensates are included in the permit. These standards provide options for determining which condensate streams are collected and treated as well as what standard they must be treated to. At the time of permit renewal Clearwater indicated that they have elected to collect condensate streams so that the total collected is 11.1 lb/TODP. The affected equipment and standards options are discussed below.

The pulping standards apply to the following equipment:

A. 1. Digester systems
   2. Turpentine recovery systems

3. Condensate from each evaporator system each stage where weak liquor is introduced; and each evaporator vacuum system for each stage where weak liquor is introduced.
4. Each HVLC system
5. Each LVHC system; or

B. Condensates from 4 and 5 listed above plus other condensate streams that contain 65% of the HAPs that are contained in 1, 2 and 3 above; or

C. Collect condensate streams from 1 through 5 listed above such that the total collected is 11.1 lb/TODP.

At the time of the permit renewal Clearwater indicated that they were electing to comply with C listed above. Clearwater also indicated that the elected standard would be to treat condensates to remove 10.2 lb/TODP or more of total HAPs, or achieve a total HAP concentration of 330 ppm or less by weight at the outlet of the control device. Pulping process standards are included in the renewed Tier I permit.

40 CFR 63 Subpart MM (63.860) – Chemical Recovery Combustion Sources at Kraft Pulp Mills

Chemicals used in the production of paper in the kraft pulp mill are recovered in a chemical recovery system. The chemical recovery system includes combustion sources that are regulated by the National Emissions Standards for Hazardous Air Pollutants. The sources that are affected by the standard are the No. 4 and No. 5 recovery furnaces, the No. 4 and No. 5 smelt dissolving tanks, and No. 3 and No. 4 Lime Kilns.

All affected emissions units are considered existing emissions units because the initial startup date was before March 13, 2004 (40 CFR 63.863.a). The compliance date for standards is March 13, 2004 (40 CFR 63.863(a).

Subpart MM is included in Section 7 of the renewed Tier I permit. Should there be a conflict between Section 7 of the permit and Subpart MM, Subpart MM shall govern.

Standards (40 CFR 63.862)

Standards for HAP metals are expressed as particulate matter standards.

In accordance with 40 CFR 63.862(a)(1)(i)A the PM emissions standard for the existing recovery furnaces (No. 4 & No. 5) is 0.044 grains per dry standard cubic foot corrected to 8 percent oxygen.

In accordance with 40 CFR 63.862(a)(1)(i)B the PM emissions standard for the existing smelt dissolving tanks (No. 4 & No. 5) is less than or equal to 0.2 pound per ton of black liquor solids fired.

In accordance with 40 CFR 63.862(a)(1)(i)C the PM emissions standard for the existing lime kilns (No. 3 & No. 4) shall be less than or equal to 0.064 grain per dry standard cubic foot corrected to 10 percent oxygen.

Clearwater does not have any "new" affected emissions units therefore the standard for new units included in 40 CFR 63.862(b)&(c) do not apply.

As an alternative to the 40 CFR 63.862(a)(1)(i) emission limits, in accordance with 40 CFR 63.862(a)(ii) the permittee may seek DEQ approval of alternative emission limits by using the methods in 40 CFR 63.865(a)(1) and (2). At the time of the Tier I permit renewal Clearwater has not pursued alternative standards, however the regulations include this option and it has been included in the permit.

Compliance Dates (40 CFR 63.863)

In accordance with 40 CFR 63.863(a) the owner or operator of an existing affected source or process unit must comply with the requirements in Subpart MM no later than March 13, 2004. Clearwater's Tier I renewal application certifies that they are incompliance with the MACT requirements for Chemical Recovery Combustion Sources at Kraft Pulp Mills located at their facility. Affected emissions units are the No. 4 and No. 5 recovery furnaces, No. 4 and No. 5 smelt dissolving tanks, and Lime Kilns No. 3 and No. 4. The dates by which Clearwater must demonstrate compliance with the requirements for the No. 4 and No. 5 recovery furnaces, No. 4 and No. 5 smelt dissolving tanks, and Lime Kilns No. 3 and No. 4 follows regulatory timeframes specified in the regulation.

Monitoring requirements (40 CFR 63.864)

40 CFR 63.864(d) - Continuous opacity monitoring system (COMS). The owner or operator of each affected kraft or soda recovery furnace or lime kiln equipped with an ESP must install, calibrate, maintain, and operate a COMS according to the provisions in §§63.6(h) and 63.8 and paragraphs (d)(1) through (4) of §§63.864(d)(1)-(4). ESPs are used to control emissions from recovery furnace No. 4 and No. 5, and lime kilns No. 3 and No.4; therefore a COMs must be installed on these emissions units.

40 CFR 63.864(e) - Continuous parameter monitoring system (CPMS). For each CPMS required in this section, the owner or operator of each affected source or process unit must meet the requirements in paragraphs (e)(1) through (14) of this section.

(e)(1)-(9) These sections of the rule do not contain any requirements, they are marked as "reserved".

(e)(10) This section applies to kraft recovery furnaces, kraft lime kilns, and kraft smelt dissolving tanks equipped with a wet scrubber that is used to achieve compliance. Affected units at the Clearwater facility are the No. 4 and No. 5 smelt tank, they must have installed, calibrated, maintained, and operated a CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in §63.8(c), as well as the procedures in the following paragraphs:

> The monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to be accurate to within a gage pressure of ±500 pascals (±2 inches of water gage pressure) [Note - EPA has approved monitoring percent of fan load instead of pressure drop for the No. 5 Smelt Tank]; and
>
> The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate.

(e)(11) This section applies to semichemical combustion unit equipped with an RTO Clearwater does not have this equipment and this section does not apply to them.

(e)(12) Applies only to Weyerhaeuser Paper Company's Cosmopolis, Washington facility.

(e)(13) This section allows the owner or operator of each affected source or process unit that uses an ESP, wet scrubber, RTO, or fabric filter may monitor alternative control device operating parameters subject to prior written approval by the Administrator. Clearwater has not pursued alternatives and is subject to the specific requirements of the rule.

(e)(14) The owner or operator of each affected source or process unit that uses an air pollution control system other than an ESP, wet scrubber, RTO, or fabric filter must provide to the Administrator an alternative monitoring request that includes the site-specific monitoring plan. Clearwater does not use systems other than an ESP or wet scrubber.

40 CFR 63.864(f) – is a reserved section of the regulation.

40 CFR 63.864(g) - The gaseous organic HAP standard of Subpart MM does not apply to Clearwater because they do not have any "new" affected emissions units.

40 CFR 63.864(h) – is a reserved section of the regulation.

40 CFR 63.864(i) - Determination of operating ranges. During the initial performance test required in §63.865, the owner or operator of any affected source or process unit must establish operating ranges for the monitoring parameters that are required to be established by §63.864(e)(10)-(14). As discussed above in *40 CFR 63.864(e)* operating ranges are only required to be established for affected emissions units controlled by a wet scrubber (the No. 4 and No. 5 smelt tanks). The owner or operator has the option to base operating ranges on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating ranges, provided that test data used to establish the operating ranges are or have been obtained using the test methods required in this subpart. The owner or operator may establish expanded or replacement operating ranges for the monitoring parameter values listed in paragraphs (e)(10) through (14) of this section provided the methods specified by this regulation are used to establish the ranges.

Table 7.7 details the operating ranges that have been established for all scrubbers used to control emission from emissions units affected by Subpart MM.

Table 7.7 No. 4 and No. 5 Smelt Tank Scrubber Compliance Indicators and Operating Ranges

Emission Unit	Compliance Indicator	Indicator of Excursion
#4 Smelt Tank	Scrubbing media flow rate (MACT Required)	< 43[a] gpm, 3-hr block average
	Pressure drop (MACT Required)	< 17[a] inches water gage, 3-hr block average
#5 Smelt Tank	Scrubbing media flow rate (MACT Required)	<350[b] gpm, 3-hr block average
	Percent of load to fan motor	Fan load < 55%[c], 3-hr block average

a. DEQ approved source test April 4, 2005
b. DEQ approved source test May 16, 2005
c. April 13, 2007 letter from Nancy Helm of EPA to Steven Waldher, Clearwater (Formerly Potlatch)

40 CFR 63.864(k) On-going compliance provisions

Following the compliance date, owners or operators of all affected sources or process units are required to implement corrective action if the following monitoring exceedances occur.

i) For a new or existing kraft or soda recovery furnace or lime kiln equipped with an ESP, when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity (ESPs are used to control emissions from existing recovery furnace No. 4 and No. 5, and existing line kilns No. 3 and No.4);

(ii) For a new or existing kraft or soda recovery furnace, kraft or soda smelt dissolving tank, kraft or soda lime kiln, or sulfite combustion unit equipped with a wet scrubber, when any 3-hour rolling average (EPA has clarified that this is a 3-hour rolling average -email from Leonard Lazarous, USEPS, 4/13/07 to DEQ). DEQ TRIM record number – 2009AAG3969) parameter value is outside the range of values that have been established. (This standard applies to the #4 and #5 smelt tanks because they use a wet scrubber to control emissions).

(iii) For a new or existing semichemical combustion unit equipped with an RTO, when any 1-hour average temperature falls below the temperature established in paragraph (j) of this section (Clearwater does not use an RTO);

(iv) applies only to Weyerhaeuser Paper Company's Cosmopolis, Washington facility

(v) For an affected source or process unit equipped with an ESP, wet scrubber, RTO, or fabric filter and monitoring alternative operating parameters (Clearwater is not using alternative operating parameters); and

(vi) For an affected source or process unit equipped with an alternative air pollution control system and monitoring operating parameters approved by the Administrator as established outside the range of parameter values established (Clearwater is not using and alternative control system).

Following the compliance date, owners or operators of all affected sources or process units are in violation of the standards of §63.862 if the following monitoring exceedances occur:

(i) For an existing kraft or soda recovery furnace equipped with an ESP, when opacity is greater than 35 percent for 6 percent or more of the operating time within any quarterly period (ESPs are used to control emissions from existing recovery furnace No. 4 and No. 5);

(ii) For a new kraft or soda recovery furnace or a new or existing lime kiln equipped with an ESP, when opacity is greater than 20 percent for 6 percent or more of the operating time within any quarterly period (Clearwater does not have a new recovery furnaces or new lime kilns);

(iii) For a new or existing kraft or soda recovery furnace, kraft or soda smelt dissolving tank, kraft or soda lime kiln, or sulfite combustion unit equipped with a wet scrubber, when six or more 3-hour rolling average parameter values within any 6-month reporting period are outside the range of values established in paragraph (j) of this section (Wet scrubbers are used on No. 4 and No. 5 Smelt Tank);

(iv) For a new or existing semichemical combustion unit equipped with an RTO, when any 3-hour average temperature falls below the temperature (Clearwater does not use a RTO);

(v) Applies only to Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14).

(vi) For an affected source or process unit equipped with an ESP, wet scrubber, RTO, or fabric filter and monitoring alternative operating parameters, when six or more 3-hour average values within any 6-month reporting period are outside the range of parameter values established (Clearwater is not using alternative parameters); and

(vii) For an affected source or process unit equipped with an alternative air pollution control system and monitoring operating parameters, when six or more 3-hour average values within any 6-month reporting period are outside the range of parameter values established (Clearwater is not using alternative air pollution control systems).

For purposes of determining the number of nonopacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.

Performance test requirements and test methods (40 CFR 63.865)

The owner or operator of each affected source shall conduct testing in accordance with the requirements and test methods of 40 CFR 63.865 which are included in the Tier I permit. These testing requirements are not recited as part of this statement of basis.

Recordkeeping requirements (40 CFR 63.866)

The owner or operator must develop a written plan as described in §63.6(e)(3) that contains specific procedures for operating the source and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and control systems used to comply with the standards. The specific requirements for a startup, shutdown, and malfunction plan in accordance with 40 CFR 63.866(a) not recited in this statement of basis. The requirements are clear and reciting them here would not provide any value beyond what would be obtained from reading the regulation. These requirements are included in the permit.

The owner or operator of an affected source or process unit must maintain records of any occurrence when corrective action is required under §63.864(k)(1), and when a violation is noted under §63.864(k)(2).

In addition to the general records required by §63.10(b)(2), the owner or operator must maintain records of the following information:

(1) Records of black liquor solids firing rates in units of Mg/d or ton/d for all recovery furnaces and semichemical combustion units;

(2) Records of CaO production rates in units of Mg/d or ton/d for all lime kilns;

(3) Records of parameter monitoring data required under §63.864, including any period when the operating parameter levels were inconsistent with the levels established during the initial performance test, with a brief explanation of the cause of the deviation, the time the deviation occurred, the time corrective action was initiated and completed, and the corrective action taken;

(4) Records and documentation of supporting calculations for compliance determinations made under §§63.865(a) through (d);

(5) Records of monitoring parameter ranges established for each affected source or process unit.

Reporting requirements (40 CFR 63.867)

40 CFR 63.867(a) Notifications. The owner or operator must submit the applicable notifications from subpart A of this part, as specified in Table 1 of this subpart (also in Table 7.3 of the Tier I permit).

40 CFR 63.867(b) Additional reporting requirements for HAP metals standards. This section does not apply to Clearwater because they are not establishing an alternative emission standard in accordance §63.862(a)(1)(ii).

40 CFR 63.867(c) Excess emissions report. The owner or operator must report quarterly if measured parameters meet any of the conditions specified in paragraph (k)(1) or (2) of §63.864. This report must contain the information specified in §63.10(c) of this part as well as the number and duration of occurrences when the source met or exceeded the conditions in §63.864(k)(1), and the number and duration of occurrences when the source met or exceeded the conditions in §63.864(k)(2). Reporting excess emissions below the violation thresholds of §63.864(k) does not constitute a violation of the applicable standard.

(1) When no exceedances of parameters have occurred, the owner or operator must submit a semiannual report stating that no excess emissions occurred during the reporting period.

(2) The owner or operator of an affected source or process unit subject to the requirements of this subpart and subpart S of this part may combine excess emissions and/or summary reports for the mill.

40 CFR 63 Subpart JJJJ (63.3280) – Paper and Web Coating MACT

Applicability – Clearwater is a Kraft Pulp and Paper Mill and is a major source of HAPs and is therefore affected by this regulation. Affected emissions units are those locations where a continuous layer of coating material is placed across the entire width or any portion of the width of a web substrate (including paper) and any associated curing/drying equipment between an unwind or feed station. Clearwater has two such paper coating lines.

The MACT includes emissions standards and requirements for determining compliance. Compliance may be achieved through the use of control devices or by using "as purchased" compliant coating materials. Clearwater has elected to determine compliance by the "as purchased" compliant coating method and does not use a control device to achieve compliance.

The provisions of the Paper and Web Coating MACT are included in Section 19 of the renewed Tier I permit. These provisions remain unchanged except that they have been renumbered.

Standards (40 CFR 63.3320)

Organic HAP emissions are limited to the level specified in paragraph (b)(1), (2), (3), or (4) of this section.

(1) No more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources, and no more than 2 percent of the organic HAP applied for each month (98 percent reduction) at new affected sources; or

(2) No more than 4 percent of the mass of coating materials applied for each month at existing affected sources, and no more than 1.6 percent of the mass of coating materials applied for each month at new affected sources; or

(3) No more than 20 percent of the mass of coating solids applied for each month at existing affected sources, and no more than 8 percent of the coating solids applied for each month at new affected sources.

(4) If you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) by compound on a dry basis is achieved and the efficiency of the capture system is 100 percent. *(Does not apply to Clearwater because they do not use a oxidizer to control emissions).*

(c) Compliance with this subpart is demonstrated by following the procedures in §63.3370.

Operating Limits (40 CFR 63.3321)

Operating limits only apply if a control device is used to comply with standards. Clearwater does not use a control device, therefore the operating limits do not apply.

Compliance Date (40 CFR 63.3330)

Clearwater has two existing paper coating machines; the compliance date is December 5, 2005.

General Provisions of 40 CFR 63 applicable to Subpart JJJJ (40 CFR 63.3280 –Table 2)

Table 2 of Subpart JJJJ includes the general requirements of Subpart A which apply, as well as a listing of those that do not apply to the facility. Table 19.2 is included in the permit as a summary of only those requirements that do apply; the requirements that do not apply are not listed.

Control Device Monitoring (40 CFR 63.3350)

§63.3350 does not apply because Clearwater does not use a control device to meet emissions standards.

Performance Tests (40 CFR 63.3360)

The organic HAP content must be determined using the procedures in §63.3360(c) when demonstrating compliance by using "as purchased" compliant materials. HAP content may be determined by using the specified testing methods or by using manufacturer supplied formulation data.

Demonstration of Compliance (40 CFR 63.3370)

In demonstrating compliance using the "as purchased' compliant coating the procedures of §63.3370(b) must be followed each month. Monthly monitoring must show that each coating material used at an existing affected source does not exceed 0.04 kg organic HAP per kg coating material, or each coating material used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids. This is the compliance option that Clearwater indicated they intend to use.

The permittee may also demonstrate compliance using the option of as- applied "compliant' coating materials. Clearwater did not indicate that this option would be used, never-the-less this option was included in the permit. This section specifies how the allowable monthly emissions must be calculated and how the monthly emissions that actually occurred must be calculated. Compliance is demonstrated if the actual emissions are less than the allowable emissions.

Notifications and Reports – 40 CFR 63.3400

The permit has been written to summarize all the notification and reports that are required to be submitted. Many of the notifications listed in §63.3400 are not applicable to Clearwater because a control device is not used to demonstrate compliance. All of the notification and reporting requirements are included in the permit which is required for facilities that do not use a control device.

Recordkeeping – 40 CFR 63.3410

§63.410 specifies those records which must be kept by the permittee, including those required by General Provision 63.10(b)(2). Only those recordkeeping requirements that are applicable to facilities that use the "as purchased", or "as applied", compliant coating option of demonstrating compliance are included in the permit. A control device is not used to achieve compliance at this facility and those recordkeeping requirements applicable to control devices are not included in the permit. A continuous monitoring system (CMS) is not required if a control device is not used.

40 CFR 63 Subpart ZZZZ – RICE MACT

Clearwater Paper's Pulp Division operates the RICE listed in Table 7.8.

Table 7.8 EMISSION UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emissions Unit Description	Control Device Description)
Pony Motor #3 &#4 Lime Kilns –Spark Ignition (2) Manufacturer – Wisconsin HP – 37 Installed – 1995 & 1998 Fuel - Gasoline	None - Subject to 40 CFR 63 Subpart ZZZZ
Lurgi North & South Standby - Compression Ignition (2) Manufacturer – Caterpillar HP – 587 Installed – 1991 Fuel - Diesel	None and Not Subject to 40 CFR 63 Subpart ZZZZ
Lift Pumps Emergency Generator - Compression Ignition Manufacturer – Caterpillar HP – 1180 Installed – 2004 Fuel - Diesel	None and only subject to the initial notification requirements of 40 CFR 63 Subpart ZZZZ
No. 3 & No. 4 Turbine Standby Generator – Compression Ignition Manufacturer – Caterpillar HP – 587 Installed – 1989 Fuel – Diesel	None and Not Subject to 40 CFR 63 Subpart ZZZZ
Fire Water Pump No.1 , No. 2, No. 3 & No. 4 – Compression Ignition (4) Manufacturer – Detroit HP –170 Model Year – 1963 Fuel – Diesel	None- Subject to 40 CFR 63 Subpart ZZZZ
North Mud Storage Emergency Generator – Spark Ignition Manufacturer – Wisconsin HP – 37 Model Year – 1987 Fuel - Propane	None- Subject to 40 CFR 63 Subpart ZZZZ
South Mud Storage Emergency Generator – Spark Ignition Manufacturer – Wisconsin HP – 37 Model Year – 1987 Fuel - Propane	None- Subject to 40 CFR 63 Subpart ZZZZ

In accordance with §63.6602 Table 2c and the permittee shall comply with the operating limitations summarized in Table 7.9.

Table 7.9 EMERGENCY STATIONARY RICE - SUMMARY OF TABLE 2c TO SUBPART ZZZZ OF PART 63

For each . . .	You must meet the following requirement, except during periods of startup[a] . . .	During periods of startup you must . . .
Existing emergency stationary CI RICE ≤ 500 HP.[a] (Fire Water Pump No.1 , No. 2, No. 3 & No. 4)	Change oil and filter every 500 hours of operation or annually, whichever comes first; [b] Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[c]	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. [c]
Existing emergency stationary SI RICE	Change oil and filter every 500 hours of operation or annually, whichever comes first; [b] Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and	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. [c]

≤ 500 HP [a]. (Pony Motor #3 & #4 for Lime Kilns, North and South Mud Emergency Engines)	Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [c]	

a) If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c, of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management 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.

b) Sources have the option to utilize an oil analysis program as described in §63.6625(i) and (j) in order to extend the specified oil change requirement in Table 2c of this subpart

c) Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

Beginning January 1, 2015, if Clearwater operates an existing emergency compression ignition RICE with a site rating of more than 100 break horse-power and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) *(emergency demand response where a level 2 emergency is declared)* and (iii)*(deviation of voltage or frequency occurs 5% or greater below standard*) or that operates for the purpose specified in §63.6640(f)(4)(ii) *(supply power during non-emergency situations as part of a financial agreement)*, they must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

A detailed breakdown of 40 CFR 63 Subpart ZZZZ is included in Appendix B.

7.7 CAM Applicability (40 CFR 64)

The CAM rule under 40 CFR part 64 requires monitoring for specific emissions units at a facility that is subject to the title V regulations (required to obtain a Tier I operating permit from the State of Idaho). The CAM rule applies to a specific subset of emissions units at Clean Air Act title V facilities that meet the following requirements: (1) located at a major source that is required to obtain a title V permit (40 CFR part 70 or 71), (2) subject to an emission limit or standard for the applicable pollutant, (3) uses a control device to achieve compliance, (4) has potential precontrol emissions of the applicable pollutant from the unit that are at least at the major source level, and (5) is not otherwise exempt (i.e., units subject to New Source Performance Standards (NSPS) or National Emission Standard for Hazardous Air Pollutants (NESHAP) that were proposed after November 1990 are not subject to the CAM rule, units subject to Acid Rain requirements are not being subject to the CAM rule. Emissions equipped with a continuous compliance determination method that is required by a rule or permit, such a continuous emissions monitors, are also exempt from CAM (40 CFR 64.2(b)(vi)). Basically, CAM monitoring is specific to large emissions units at title V facilities that use add-on control devices to achieve compliance with emissions limits.

The emissions units that meet the applicability criteria are detailed in Appendix E of Clearwater's Tier I permit renewal application received by DEQ on June 19, 2007 and in an updated CAM plan submitted February 25, 2009. In these application materials emissions standards of New Source Performance Standards (NSPS) or National Emission Standard for Hazardous Air Pollutants (NESHAP) that were proposed after November 1990 are correctly identified as not subject to the CAM rule. Table 7.10 of this statement of basis provides a summary of the CAM affected emissions units, approved monitoring per §64.6, and where necessary the schedule by which compliance testing shall be conducted in accordance with 40 CFR 64.6(b).

The following changes to the CAM requirements were made in this Tier I renewal:

- The No. 2 Lime Kiln has been removed from the facility and the CAM requirements pertaining to the No. 2 Lime Kiln have been removed from the permit.
- Ownership of the Dry Fuel Bins changed from Clearwater Paper Corporation to another entity and the CAM requirements for the Dry Fuel Bin have been removed from the permit.
- Scrubbing media in the NCG system is either soda ash or caustic soda and the operating pH is changed to 8.5 consistent with DEQ's letter to Clearwater dated December 31, 2013 (TRIM record # 2013AAI3890) while operating with soda ash and the pH remains 9.6 while operating with caustic soda.

All other CAM provisions remain unchanged from the previous Tier I permit.

The only pollutants that are emitted by the facility that are affected by the CAM rule are particulate matter and sulfur dioxide. CAM is included in Section 20 of the Tier I permit for all emissions units.

Table 7.10 Summary of CAM

Emission Unit/Pollutant	Indicator	Monitoring Means/Device	Proposed Indicator Range	Schedule for Testing – 40 CFR 64.6(b)
#4 Power Boiler/ PM	Opacity	COMs , Install and operate using the methods and procedures in 40 CFR 60.13	≥ 15% 3-hr block average	NA
#4 Recovery Furnace/PM	Opacity	COMs in accordance with 40 CFR 63.864(d)	> 20%	NA
#4 Smelt Dissolving Tank/ PM	Pressure Drop & Scrubbing media flow rate	Continuous parameter monitoring required by 40 CFR 63.864(e)(10) (Tier I permit Condition 5.11)	Pressure Drop ≥ 17 inches water gauge; and scrubbing media flow rate ≥ 43 gallons/minute (3-hr block averages)	NA
#5 Recovery Furnace/ PM		COMs in accordance with 40 CFR 63.864(d)	> 20%	NA
#5 Smelt Dissolving Tank/ PM	Fan Load & Scrubbing media flow rate	Continuous parameter monitoring required by 40 CFR 63.864(e)(10) (Tier I permit Condition 5.11)	Fan Load ≥ 55%; and scrubbing media flow rate ≥ 350 gallons/minute 3-hr block averages	NA
#3 Lime Kiln/ PM	Opacity	COMs in accordance with 40 CFR 63.864(d)	> 20%	NA
#4 Lime Kiln/ PM	Opacity	COMs in accordance with 40 CFR 63.864(d	> 20%	NA
Non-condensable Gas Incinerator/ Sulfur Dioxide	Scrubbing media flow & pH	Magnetic monitor for flow rate (calibrated annually); Inline pH meter readings verified monthly and device calibrated annually	Flow Rate = 326 gpm, 3-hr average pH = 8.5, 3-hr average (soda Ash); or pH = 9.6, 3-hr average (caustic soda)	NA

Monitoring Design Criteria §64.3 & Approved Monitoring *§64.6*

The monitoring design criteria of CAM is summarized as follows

General Criteria

Monitoring Shall:

- Obtain data for one or more indicators. §64.3(a)(1)

- Provide a range of the indicators such that operation within those range(s) provides a reasonable assurance of compliance. §64.3(a)(2)&((3)

Performance Criteria

The monitoring methods shall:

- Provide for obtaining data that are representative of the emissions parameters being monitored. §64.3(b)(1)
- Quality assurance and control to assure continuing validity of the data collected. §64.3(b)(3)
- Specifications for the frequency of conducting monitoring. For units with after control emissions of 100 tons per year or greater frequency shall not be less than every 15 minutes. For other units frequency shall not be less than once per 24-hours. §64.3(b)(4)
- Continuous opacity monitoring (COMS) that is already required by MACT (40 CFR 63) or NSPS (40 CFR 60) standard shall be deemed to satisfy the CAM monitoring Design Criteria. Provided that a COMS may be subject to the criteria for establishing an indicator range. §64.3(d)(2)

Approved Monitoring *§64.6*

At a minimum, the permit shall specify the following for the approved monitoring:

(1) The approved monitoring approach that includes all of the following:

- The indicator(s) to be monitored (such as temperature, pressure drop, emissions, or similar parameter);
- (ii) The means or device to be used to measure the indicator(s) (such as temperature measurement device, visual observation, or CEMS); and
- (iii) The monitoring performance requirements established to satisfy §64.3(b) or (d), as applicable.

(2) The means by which the owner or operator will define an exceedance or excursion for purposes of responding to and reporting exceedances or excursions under §§64.7 and 64.8 of this part. The permit shall specify the level at which an excursion or exceedance will be deemed to occur, including the appropriate averaging period associated with such exceedance or excursion. For defining an excursion from an indicator range or designated condition, the permit may either include the specific value(s) or condition(s) at which an excursion shall occur, or the specific procedures that will be used to establish that value or condition. If the latter, the permit shall specify appropriate notice procedures for the owner or operator to notify the permitting authority upon any establishment or reestablishment of the value.

Following are discussions on the CAM monitoring requirements for each affected emissions unit. The requirements are included in Tier I permit conditions 19.2 through 19.6.

CAM for #4 Power Boiler

COMS monitoring required by NSPS is the presumptively acceptable in satisfying monitoring design criteria for PM emissions from the #4 Power Boiler per §64.3(d)(2). Through source testing 15% opacity was determined to be the indicator that assures compliance with all applicable CAM particulate standards. Clearwater provided the results of 7 emissions tests. During these tests opacity and particulate matter were measured. Clearwater provided a correlation of the measured opacity to the measured particulate matter emissions. Fifteen percent opacity was determined to be the indicator range for opacity that will assure compliance with all applicable emissions standards. Appendix E of Clearwater's June 19, 2007 Tier I permit renewal application includes these emissions data and correlations.

Clearwater identified a 0.015 gr/dscf @ 12%O_2 particulate matter standard from the PTC issue September 20, 1978 as being the most stringent standard applicable to the No. 4 Power Boiler. Clearwater's proposed opacity indicator range of 15% is based on source test data that shows compliance with the 0.015 gr/dscf @ 12%O_2 particulate matter standard at 15% opacity.

Applicable PM standards for the #4 Power Boiler are:

0.015 gr/dscf corrected to 12% O_2, PTC 9/20/78
120 tons per year, PTC 9/20/78
0.015 gr/dscf corrected to 12% O_2, (for gas), IDAPA 58.01.01.676
0.050 gr/dscf corrected to 12% O_2, (for liquid), IDAPA 58.01.01.676
0.10 lb/MMBtu, NSPS Subpart D (Promulgated before November 1990)

CAM for #4 & #5 Recovery Furnaces, and #3 &#4 Lime Kilns

Clearwater's June 14, 2007 CAM plan for the #4 & #5 Recovery Furnaces, and #3 & #4 Lime Kilns proposed that the opacity indicator threshold for assuring compliance with all particulate matter emissions standards to be equivalent to the 20% opacity corrective action threshold included in the MACT. However no data was provided showing that the opacity threshold of 20% shows a reasonable assurance of compliance with applicable particulate matter standards (nor was this data included in the MACT background information). Therefore DEQ could not accept without condition that the proposed indicator range of 20% opacity provides a reasonable assurance of compliance with the various standards that apply as required by 40 CFR 64. It should be noted that EPA concurred with DEQ's determination that data must be used to establish an indicator range that does assure compliance (§64.3(d)(2)). See Email from Nancy Helm, Manager Federal and Delegated Air Programs, EPA Region X, and Peter Westlin, EPA, August 27, 2008 (TRIM record number 2008AAG2378).

In the draft Tier I permit that was made available for public comment DEQ had acted to conditionally approve the CAM plan for #4 Recovery Furnace, #5 Recovery Furnace, #3 Lime Kiln, and #4 Lime Kiln in accordance with 40 CFR 64.6(b). The condition of the approval was that Clearwater must collect test data within 180 days of permit issuance to confirm the selected indicator range provided a reasonable assurance of compliance. Based upon review of that draft permit Clearwater has provided a new CAM plan which was received by DEQ on February 25, 2009. That CAM plan includes data on emissions from the #4 & #5 Recovery Furnaces, and #3 & #4 Lime Kilns which confirms that 20% opacity provides a reasonable assurance of compliance. Based on the information submitted in the new CAM plan for these units DEQ has now approved, as opposed to conditionally approved, the proposed CAM indicator range for these units

Clearwater's #4 & #5 recovery furnaces and #3 & #4 lime kilns are subject to the COMS requirements of the MACT standard (40 CFR 63.Subpart MM). Therefore the COMS monitoring required by that subpart is a presumptively acceptable in satisfying monitoring design criteria for PM per §64.3(d)(2). For these emissions units Clearwater has proposed that the opacity indicator threshold for assuring compliance with all particulate matter emissions standards equivalent to the 20% opacity corrective action threshold included in MACT Subpart MM. Clearwater's February 25, 2009 CAM plan is included in Attachment E to this Statement of Basis and shows that 20% opacity provides a reasonable assurance of compliance for all applicable emission standards.

CAM for #4 & #5 Smelt Dissolving Tanks

Clearwater has proposed scrubbing media flow rate and pressure drop across the scrubber to be the indicators of compliance for particulate matter emissions from the #4 Smelt Dissolving Tank. These indicators are required to be monitored by MACT (40 CFR 63.Subpart MM) and are therefore presumptively acceptable monitoring methods per §64.3(d)(2).

Clearwater has proposed scrubbing media flow rate to the scrubber and the percent of load to the scrubber fan motor as indicators of compliance for the #5 Smelt Dissolving Tank. Monitoring of scrubbing media flow rate is required by the MACT, and the percent of fan load is an EPA approved alternative to pressure drop monitoring requirement of the MACT (April 13, 2007 letter from Nancy Helm of EPA to Steven Waldher, Potlatch). These indicators are approved by EPA, to be monitored for MACT (40 CFR 63.Subpart MM) purposes, and are therefore presumptively acceptable in satisfying the monitoring design criteria per §64.3(d)(2).

Indicator ranges for scrubbing media flow rate and pressure drop were selected by Clearwater based on emissions testing of each dissolving tank which assured compliance with all applicable emission standards. The CAM plan is detailed in Appendix E of Clearwater's Tier I permit renewal application received by DEQ on June 14, 2007. This plan includes a listing of all standards applicable to the #4 & #5 Smelt Dissolving tanks data which shows that selected indicator ranges provide a reasonable assurance of compliance.

The approved indicators, and indicator ranges for the #4 and #5 smelt tanks are summarized in Table 7.11.

Table 7.11 #4 & #5 Smelt Dissolving Tanks Compliance Indicators and Indicator Ranges

Emission Unit	Compliance Indicator	Indicator of Excursion
#4 Smelt Tank	Scrubbing media flow rate (MACT Required)	< 43[a] gpm, 3-hr block average
	Pressure drop (MACT Required)	< 17[a] inches water gage
#5 Smelt Tank	Scrubbing media flow rate (MACT Required)	<350[b] gpm, 3-hr block average
	Percent of load to fan motor	Fan load < 55%[c]

a. DEQ approved source test April 4, 2005
b. DEQ approved source test May 16, 2005
c. April 13, 2007 letter from Nancy Helm of EPA to Steven Waldher, Clearwater (Formerly Potlatch)

CAM for the Non-Condensable Incinerator

The permit that established the CAM requirements is Permit to Construct No. P-06209 that was issued May 25, 2007. CAM applies for sulfur dioxide emissions which are controlled by a packed bed scrubber. The indicators are scrubbing media flow rate and scrubbing media pH. The values of the flow rate indicator ranges and the indicator range for pH while operating with caustic soda were established during a source test conducted on September 25, 2007 and approved by DEQ in a letter that was issued to Clearwater on March 3, 2008. The value of the pH indicator while operating with soda ash is approved by this permitting action based on a source test conducted on August 7, 2013 and the test results were verified by DEQ in a letter that was issued to Clearwater on December 31, 2013.The scrubbing media flow rate remains established at 326 gallons per minute 3-hr average, and the pH has been established (by this permitting action) to be 8.5 while operating with soda ash which is also a 3-hr average (the pH remains 9.6 while operating with caustic soda).

Periodic testing of this source is required in part to verify the CAM indicator ranges are sufficiently assuring compliance.

In approving the indicator range it had not been articulated whether the 3-hour average values were rolling or block average. The Tier I permit clarifies that they are block averages. Scrubbing media flow and pH are required to be continuously monitored and data is required to be recorded once each hour.

Operation of Approved Monitoring §64.7

The generally applicable requirements for approved monitoring required by §64.7 have been included in the permit. These requirements include:

§64.7(a) Commencement of Operation – The permittee must conduct the approved monitoring upon permit issuance (unless other time is approved).
§64.7(b) Proper Maintenance – The permittee must properly maintain monitoring equipment, including maintaining parts to repair monitoring equipment.
§64.7(c) Continued operation - The permittee must conduct all monitoring in continuous operation at all times the emission unit is in operation. Exception is provided for malfunctions, repairs, calibration, etc.
§64.7(d)Response to excursions or exceedances - Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
§64.7(e) Documentation of need for improved monitoring - After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved 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 indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the part 70 or 71 permit.

Quality Improvement Plan §64.8

The ability for the permitting authority to reopen the permit to require the development of a quality improvement plan has been included in the permit. An accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, may be cause for requiring the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria.

Reporting and Record Keeping §64.9

The reporting and record keeping requirements are included in Section 20 of the permit and by General Provision. Reports are required semiannually; if deviations from permit conditions occurred during the reporting period they shall be included in the report.

Recordkeeping requirements are also included in Facility Wide Permit Conditions.

7.8 Acid Rain Program Permit Applicability (40 CFR 72.6)

This facility is not an affected facility as defined in 40 CFR 72; therefore, acid rain permit requirements do not apply.

Applicability of the Acid Rain Permit requirements are specified at 40 CFR 72.6(a). The criteria for applicability are listed below:

> *a) Each of the following units shall be an affected unit, and any source that includes such a unit shall be an affected source, subject to the requirements of the Acid Rain Program:*
>
> *(1) A unit listed in table 1 of §73.10(a) of this chapter.*
>
> *(2) A unit that is listed in table 2 or 3 of §73.10 of this chapter and any other existing utility unit, except a unit under paragraph (b) of this section.*
>
> *(3) A utility unit, <u>except a unit under paragraph (b) of this section</u>, that: ...*

Clearwater Paper Corporation is not listed Table 1, 2, or 3 of §73.10. Therefore, in order for Clearwater Paper Corporation to be an affected source it would have to be a "utility unit" and not qualify for the exception to applicability provided at 40 CFR 72.6(b).

All electrical generation units at Clearwater qualify as cogeneration units at 40 CFR 72.6(b)(4) (i) and therefore qualify for the exception to applicability to the Acid Rain Program as described in following citations.

> 40 CFR 72.6(b) - *The following types of units are not affected units subject to the requirements of the Acid Rain Program:*
>
> 40 CFR 72.6(b)(4) – *A cogeneration facility which:*
>
> 40 CFR 72.6(b)(4) (i) - *For a unit that commenced construction on or prior to November 15, 1990, was constructed for the purpose of supplying equal to or less than one-third its potential electrical output capacity or equal to or less than 219,000 MWe-hrs actual electric output on an annual basis to any utility power distribution system for sale (on a gross basis). If the purpose of construction is not known, the Administrator will presume that actual operation from 1985 through 1987 is consistent with such purpose. However, if in any three calendar year period after November 15, 1990, such unit sells to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis), that unit shall be an affected unit, subject to the requirements of the Acid Rain Program;*

All of the units that produce electricity at Clearwater Paper Corporation were constructed prior to November 15, 1990 and none were constructed for the purpose of supplying, nor do they supply, more than one-third of the units electrical output capacity to a "power distribution system" for sale. All of the electricity generated on-site is used at the Clearwater mill.

Two units generate steam for electrical generation at the Clearwater mill, the No. 4 Power Boiler and No. 5 Recovery Furnace. These units feed a common 1250 psi steam header and two (2) turbine generators (TG), No. 3 TG and No. 4 TG -- rated at 37 MW and 65 MW, respectively. The No. 4 Power Boiler was installed in September 1980 and the No. 5 Recovery Furnace was installed in June 1987. The electrical transactions with Avista are contractual only. At no time does Clearwater physically export power to the utility power distribution system or grid. As an example of electrical power generation rate and usage, the 2014 average generation rate for the site was approximately 45 MWs and the average plant demand was approximately 100 MWs resulting in Avista providing an average net of approximately 55 MWs to meet the site's electrical needs.

As described in the August 8, 2003 EPA Letter from Sam Napolitano, Clean Markets Division to James T. Stewart, Chief Executive Officer, Mobile Energy Services Company – LLC (see Appendix F) not all electricity that is sold is automatically considered sales to a utility power distribution system. Rather, electricity used at the host facility or directly sold to another facility for industrial use does not qualify as sales to a "utility power distribution system." It is emphasized that all of the electricity generated on-site is used at the Clearwater mill.

8. PUBLIC COMMENT

As required by IDAPA 58.01.01.364, a public comment period was held between November 16, 2015 and December 16, 2015. During this time comments were received on the draft permit. DEQ has developed a document in response to the comments that were received, that document is included with this statement of basis as Appendix G.

9. EPA REVIEW OF PROPOSED PERMIT

As required by IDAPA 58.01.01.366, DEQ provided a proposed permit to EPA Region 10 for its review and comment on December 29, 2015. On February 16, 2016 EPA informed DEQ that it was free to issue the permit and did not provide any comments on the proposed permit.

Appendix A - Emissions Inventory

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PU1
Facility Point ID: Fugitive Emissions
Emission Unit Group: Sawdust Handling (Transfer and Pile)

Input Parameters:		
Sawdust	55.7	BDT Sawdust/hr
Sawdust	390,258	BDT Sawdust/yr
Transfer points	6	Points
Pile area	2.8	Acres

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	See Note 1		1	See Input Parameters		0.80	2.82	3	N/A	N/A	
PM10	See Note 1		1	See Input Parameters		0.38	1.33	3	N/A	N/A	
PM2.5	See Note 1		1	See Input Parameters		0.06	0.20	3	N/A	N/A	
SO2											
CO											
NOx											
VOC	2.6	lb/acre/day	2	See Input Parameters		0.30	1.33	4	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)											

Notes:

1. AP-42 Chapter 13.2.4, 11/2006. Material moisture content = 4.8% (max of valid range for equation); wind speed = 13 mph.

PM EF =	2.41E-03	lb/ton/xfer
PM10 EF =	1.14E-03	lb/ton/xfer
PM2.5 EF =	1.72E-04	lb/ton/xfer

2. NCASI Special Technical Session, February 2, 1995, pg. B20.
3. lbs/hr = EF (lb/ton/xfer) * production rate (BDT/hr) * transfers (#); tons/yr = EF (lb/ton/xfer) * production rate (BDT/yr) * transfers (#) * (1 ton / 2000 lb)
4. lbs/hr = EF (lb/acre/day) * pile area (acres) * (1 day / 24 hrs); tons/yr = EF (lb/acre/day) * pile area (acres) * (365 days/yr) * (1 ton / 2000 lb)

N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Pulp prod.	28.1	ADTUBP/hr
Pulp prod.	197,100	ADTUBP/yr

Emission Unit Number: PU2
Facility Point ID: 774, 775
Emission Unit Group: Sawdust Transfer Cyclones (2)

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	0.263	lb/ADTUBP	1	197,100	ADTUBP/yr	7.40	25.9	3	N/A	N/A	
PM10	0.184	lb/ADTUBP	1	197,100	ADTUBP/yr	5.18	18.1	3	N/A	N/A	
PM2.5	0.078	lb/ADTUBP	2	197,100	ADTUBP/yr	2.18	7.65	3	N/A	N/A	
SO2											
CO											
NOx											
VOC											
TRS											
H2SO4											
GHGs (CO2e)											

Notes:
1. Based on cyclone manufacturer design criteria and calculations.
2. Particle size fraction data from EPA AP-42 Appendix B-1, Section 10.5: Woodworking waste collection operations, cyclone controlled.
3. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PU3
Facility Point ID: Fugitive Emissions
Emission Unit Group: Chip Handling (Pile, Transfer, Screening)

Input Parameters:					
Chips	113	BDT Chips/hr	Cyclones (2)	0.05	lb PM/hr
Chips	862,313	BDT Chips/yr	Cyclones (2)	0.03	lb PM10/hr
Transfer points	5	Points	Cyclones (2)	0.01	lb PM2.5/hr
Pile area	6.5	Acres			

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	See Note 1		1,2	See Input Parameters		1.46	5.63	4	N/A	N/A	
PM10	See Note 1		1,2	See Input Parameters		0.70	2.69	4	N/A	N/A	
PM2.5	See Note 1		1,2	See Input Parameters		0.13	0.50	4	N/A	N/A	
SO2											
CO											
NOx											
VOC	2.6	lb/acre/day	3			0.70	3.08	5	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)											

Notes:

1. Drop Points: AP-42 Chapter 13.2.4, 11/2006. Material moisture content = 4.8% (max of valid range for equation); wind speed = 13 mph.

PM EF =	2.41E-03	lb/ton/xfer
PM10 EF =	1.14E-03	lb/ton/xfer
PM2.5 EF =	1.72E-04	lb/ton/xfer

2. Cyclones:
IP Springfield OR Performance Data - email from Bruce Snyder to Rich Bernhardt Apr 13, 2011, Weyerhaeuser (now International Paper) at Springfield, OR
No 1 Chip cyclone handling 60 BDT/hr of chips being transferred from the chip storage pile to digester chip bins
Tested in 2006, flow of 33,400 acfm and PM emissions of 0.00015 gr/sdcf or 0.043 lb/hr; Conservatively used 0.05 lb/hr per ADS Cyclone
Particle size distribution from AP-42 Appendix B.1, 10/1986 - Particle Size Distribution for Woodworking Waste Collection Operation, Table on page B.1-48.
PM10 EF = 52.9% of PM
PM2.5 EF = 29.5% of PM
3. NCASI Special Technical Session, February 2, 1995, pg. B20.
4. lbs/hr = EF (lb/ton/xfer) * production rate (BDT/hr) * transfers (#) + [cyclone emissions (lb/hr) * 2]; tons/yr = EF (lb/ton/xfer) * production rate (BDT/yr) * transfers (#) * (1 ton / 2000 lb) + [cyclone emissions (lb/hr) * 2 * (8760 hr/yr) * (1 ton / 2000 lb)]
5. lbs/hr = EF (lb/acre/day) * pile area (acres) * (1 day / 24 hrs); tons/yr = EF (lb/acre/day) * pile area (acres) * (365 days/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Pulp prod.	28.1	ADTUBP/hr
Pulp prod.	197,100	ADTUBP/yr

Emission Unit Number: PU4
Facility Point ID: 9,10,11,109
Emission Unit Group: Sawdust Brownstock Washer System (hood vents, decker)

	Hood Vents			Decker			Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM														
PM10														
PM2.5														
SO2														
CO														
NOx														
VOC	5.0E-01	lb/ADTUBP	1	7.3E-02	lb/ADTUBP	1	197,100	lb/ADTUBP	16.1	56.3	3	N/A	N/A	
TRS	5.5E-02	lb/ADTUBP	2	2.7E-02	lb/ADTUBP	2	197,100	lb/ADTUBP	2.30	8.06	3	N/A	N/A	
H2SO4														
GHGs (CO2e)														
1,1,2-Trichloroethane	5.2E-05	lb/ADTUBP	2	2.2E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	7.6E-03	2.7E-02	3	N/A	N/A	
1,2,4-Trichlorobenzene	4.3E-05	lb/ADTUBP	2	2.2E-03	ADTUBP/yr	2	197,100	ADTUBP/yr	6.3E-02	2.2E-01	3	N/A	N/A	
1,2-Dichloroethane	4.6E-08	lb/ADTUBP	2	1.2E-06	ADTUBP/yr	2	197,100	ADTUBP/yr	1.6E-04	5.7E-04	3	N/A	N/A	
1,3-Butadiene	9.3E-06	lb/ADTUBP	2				197,100	ADTUBP/yr	2.6E-04	9.2E-04	3	N/A	N/A	
Acetaldehyde	5.1E-03	lb/ADTUBP	2	1.1E-03	ADTUBP/yr	2	197,100	ADTUBP/yr	1.7E-01	6.1E-01	3	N/A	N/A	
Acetophenone	1.1E-02	lb/ADTUBP	2				197,100	ADTUBP/yr	3.0E-01	1.1E+00	3	N/A	N/A	
Acrolein	9.6E-05	lb/ADTUBP	2	2.4E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	9.3E-03	3.3E-02	3	N/A	N/A	
Benzene	3.9E-05	lb/ADTUBP	2	2.4E-05	ADTUBP/yr	2	197,100	ADTUBP/yr	1.8E-03	6.2E-03	3	N/A	N/A	
Biphenyl	1.1E-04	lb/ADTUBP	2	5.8E-06	ADTUBP/yr	2	197,100	ADTUBP/yr	3.2E-03	1.1E-02	3	N/A	N/A	
Carbon Disulfide	2.8E-04	lb/ADTUBP	2	8.4E-05	ADTUBP/yr	2	197,100	ADTUBP/yr	1.0E-02	3.6E-02	3	N/A	N/A	
Carbon Tetrachloride				1.2E-03	ADTUBP/yr	2	197,100	ADTUBP/yr	3.4E-02	1.2E-01	3	N/A	N/A	
Chlorobenzene	8.2E-06	lb/ADTUBP	2	3.3E-05	ADTUBP/yr	2	197,100	ADTUBP/yr	1.2E-03	4.1E-03	3	N/A	N/A	
Chloroform	9.5E-05	lb/ADTUBP	2	3.6E-05	ADTUBP/yr	2	197,100	ADTUBP/yr	3.7E-03	1.3E-02	3	N/A	N/A	
Chloromethane	5.6E-05	lb/ADTUBP	2				197,100	ADTUBP/yr	1.6E-03	5.5E-03	3	N/A	N/A	
Cresols (mixed isomers)	3.7E-02	lb/ADTUBP	2	1.8E-02	ADTUBP/yr	2	197,100	ADTUBP/yr	1.5E+00	5.4E+00	3	N/A	N/A	
Ethyl Benzene	2.7E-06	lb/ADTUBP	2				197,100	ADTUBP/yr	7.6E-05	2.7E-04	3	N/A	N/A	
Formaldehyde	1.6E-04	lb/ADTUBP	2	1.4E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	8.3E-03	2.9E-02	3	N/A	N/A	
Hexachloroethane	1.3E-05	lb/ADTUBP	2				197,100	ADTUBP/yr	3.7E-04	1.3E-03	3	N/A	N/A	
m,p-Cresol				8.9E-03	ADTUBP/yr	2	197,100	ADTUBP/yr	2.5E-01	8.8E-01	3	N/A	N/A	
m,p-Xylene	3.6E-04	lb/ADTUBP	2	1.6E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	1.5E-02	5.1E-02	3	N/A	N/A	
Methanol	2.2E-01	lb/ADTUBP	2	3.0E-02	ADTUBP/yr	2	197,100	ADTUBP/yr	6.9E+00	2.4E+01	3	N/A	N/A	
Methyl Isobutyl Ketone	5.9E-04	lb/ADTUBP	2	9.9E-05	ADTUBP/yr	2	197,100	ADTUBP/yr	1.9E-02	6.8E-02	3	N/A	N/A	
Methylene Chloride	4.2E-05	lb/ADTUBP	2	7.0E-05	ADTUBP/yr	2	197,100	ADTUBP/yr	3.2E-03	1.1E-02	3	N/A	N/A	
Naphthalene	1.4E-05	lb/ADTUBP	2				197,100	ADTUBP/yr	3.9E-04	1.4E-03	3	N/A	N/A	
n-Hexane	1.2E-05	lb/ADTUBP	2				197,100	ADTUBP/yr	3.3E-04	1.1E-03	3	N/A	N/A	
o-Cresol	3.7E-02	lb/ADTUBP	2	1.7E-02	ADTUBP/yr	2	197,100	ADTUBP/yr	1.5E+00	5.3E+00	3	N/A	N/A	
o-Xylene	8.5E-04	lb/ADTUBP	2	1.6E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	2.8E-02	9.9E-02	3	N/A	N/A	
Phenol	9.6E-04	lb/ADTUBP	2	1.5E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	3.1E-02	1.1E-01	3	N/A	N/A	
Propionaldehyde	2.5E-04	lb/ADTUBP	2	1.4E-03	ADTUBP/yr	2	197,100	ADTUBP/yr	4.5E-02	1.6E-01	3	N/A	N/A	
Styrene	1.5E-04	lb/ADTUBP	2	2.3E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	1.0E-02	3.7E-02	3	N/A	N/A	
Tetrachloroethylene	2.3E-06	lb/ADTUBP	2	6.5E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	1.8E-02	6.4E-02	3	N/A	N/A	
Toluene	8.4E-05	lb/ADTUBP	2	1.5E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	6.5E-03	2.3E-02	3	N/A	N/A	
Trichloroethylene	9.9E-06	lb/ADTUBP	2	8.4E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	2.4E-02	8.3E-02	3	N/A	N/A	
Vinyl Chloride	5.1E-04	lb/ADTUBP	2				197,100	ADTUBP/yr	1.4E-02	5.0E-02	3	N/A	N/A	
Xylenes (mixed isomers)	1.6E-05	lb/ADTUBP	2	3.9E-04	ADTUBP/yr	2	197,100	ADTUBP/yr	1.2E-02	4.0E-02	3	N/A	N/A	

Notes:
1. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
3. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Pulp prod.	59.9	ADTUBP/hr
Pulp prod.	456,250	ADTUBP/yr

Emission Unit Number: PU5 & PU6
Facility Point ID: 766 (O2 Reactor Stack); 81 & 93 (Blowtank and Overflow)
Emission Unit Groups: PU5: Oxygen Delignification Reactor
PU6: Oxygen Reactor Blow Tank

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM											
PM10											
PM2.5											
SO2											
CO						17.0	74.5	1	N/A	74.5	1
NOx											
VOC	3.5E-01	lb/ADTUBP	2	456,250	ADTUBP/yr	21.0	80.1	5	N/A	N/A	
TRS	1.0E-01	lb/ADTUBP	3	456,250	ADTUBP/yr	5.99	22.8	5	N/A	N/A	
H2SO4											
GHGs (CO2e)											
1,1,1-Trichloroethane	3.2E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	1.9E-03	7.3E-03	5	N/A	N/A	
1,1,2-Trichloroethane	1.3E-04	lb/ADTUBP	3	456,250	ADTUBP/yr	7.6E-03	2.9E-02	5	N/A	N/A	
1,2,4-Trichlorobenzene	3.4E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	2.0E-03	7.8E-03	5	N/A	N/A	
1,2-Dichloroethane	3.1E-06	lb/ADTUBP	3	456,250	ADTUBP/yr	1.9E-04	7.1E-04	5	N/A	N/A	
1,3-Butadiene	3.9E-06	lb/ADTUBP	3	456,250	ADTUBP/yr	2.3E-04	8.8E-04	5	N/A	N/A	
Acetaldehyde	1.3E-02	lb/ADTUBP	3	456,250	ADTUBP/yr	7.9E-01	3.0E+00	5	N/A	N/A	
Acrolein	2.8E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	1.7E-03	6.4E-03	5	N/A	N/A	
Benzene	1.2E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	7.4E-04	2.8E-03	5	N/A	N/A	
Carbon Disulfide	1.9E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	1.1E-03	4.3E-03	5	N/A	N/A	
Carbon Tetrachloride	4.8E-06	lb/ADTUBP	3	456,250	ADTUBP/yr	2.9E-04	1.1E-03	5	N/A	N/A	
Chlorobenzene	1.3E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	7.5E-04	2.9E-03	5	N/A	N/A	
Chloroform	5.1E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	3.1E-03	1.2E-02	5	N/A	N/A	
Cresols (mixed isomers)	1.0E-04	lb/ADTUBP	3	456,250	ADTUBP/yr	6.0E-03	2.3E-02	5	N/A	N/A	
Cumene	5.2E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	3.1E-03	1.2E-02	5	N/A	N/A	
Ethyl Benzene	4.8E-06	lb/ADTUBP	3	456,250	ADTUBP/yr	2.8E-04	1.1E-03	5	N/A	N/A	
Formaldehyde	3.0E-04	lb/ADTUBP	3	456,250	ADTUBP/yr	1.8E-02	6.8E-02	5	N/A	N/A	
m,p-Cresol	9.3E-03	lb/ADTUBP	3	456,250	ADTUBP/yr	5.6E-01	2.1E+00	5	N/A	N/A	
m,p-Xylene	2.7E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	1.6E-03	6.1E-03	5	N/A	N/A	
Methanol	4.3E-02	lb/ADTUBP	4	456,250	ADTUBP/yr	2.5E+00	9.7E+00	5	N/A	N/A	
Methyl Isobutyl Ketone	5.3E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	3.2E-03	1.2E-02	5	N/A	N/A	
Methylene Chloride	1.0E-04	lb/ADTUBP	3	456,250	ADTUBP/yr	6.0E-03	2.3E-02	5	N/A	N/A	
n-Hexane	2.6E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	1.6E-03	5.9E-03	5	N/A	N/A	
o-Cresol	4.6E-02	lb/ADTUBP	3	456,250	ADTUBP/yr	2.8E+00	1.0E+01	5	N/A	N/A	
o-Xylene	4.9E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	2.9E-03	1.1E-02	5	N/A	N/A	
Phenol	6.6E-04	lb/ADTUBP	3	456,250	ADTUBP/yr	4.0E-02	1.5E-01	5	N/A	N/A	
Propionaldehyde	9.0E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	5.4E-03	2.1E-02	5	N/A	N/A	
Styrene	6.6E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	4.0E-03	1.5E-02	5	N/A	N/A	
Tetrachloroethylene	8.8E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	5.3E-03	2.0E-02	5	N/A	N/A	
Toluene	6.1E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	3.6E-03	1.4E-02	5	N/A	N/A	
Trichloroethylene	3.3E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	2.0E-03	7.6E-03	5	N/A	N/A	
Xylenes (mixed isomers)	2.1E-05	lb/ADTUBP	3	456,250	ADTUBP/yr	1.3E-03	4.8E-03	5	N/A	N/A	

Notes:
1. Permit limit = 74.5 tpy CO; applicable to reactor only.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
4. Stack test data, combined for reactor and blow tank vent (scrubber controlled): 4/2004.
5. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PU7
Facility Point ID: 106
Emission Unit Group: NCG Incinerator

Input Parameters:		
Pulp prod.	88.0	ADTUBP/hr
Pulp prod.	653,350	ADTUBP/yr
Gas usage	9.2	MMBtu/hr
Gas usage	80,592	MMBtu/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	2.2E-02	lb/ADTUBP	1	653,350	ADTUBP/yr	1.94	7.19	6	N/A	N/A	
PM10	2.2E-02	lb/ADTUBP	1	653,350	ADTUBP/yr	1.94	7.19	6	N/A	N/A	
PM2.5	2.2E-02	lb/ADTUBP	1	653,350	ADTUBP/yr	1.94	7.19	6	N/A	N/A	
SO2						4.70	20.0	2	4.7	20	2
CO	1.9E-02	lb/ADTUBP	3	653,350	ADTUBP/yr	1.67	6.21	6	N/A	N/A	
NOx	4.1E-02	lb/ADTUBP	3	653,350	ADTUBP/yr	3.61	13.4	6	N/A	N/A	
VOC	7.0E-03	lb/ADTUBP	3	653,350	ADTUBP/yr	0.62	2.29	6	N/A	N/A	
TRS	4.6E-04	lb/ADTUBP	4	653,350	ADTUBP/yr	0.04	0.15	6	N/A	N/A	
H2SO4	4.9E-03	lb/ADTUBP	4	653,350	ADTUBP/yr	0.43	1.60	6	N/A	N/A	
GHGs (CO2e)	117	lb/MMBtu	5	80,592	MMBtu/yr	1,076	4,715	6	N/A	N/A	
1,2,4-Trichlorobenzene	5.3E-05	lb/ADTUBP	4	653,350	ADTUBP/yr	4.7E-03	1.7E-02	6	N/A	N/A	
Acetaldehyde	3.0E-04	lb/ADTUBP	4	653,350	ADTUBP/yr	2.6E-02	9.8E-02	6	N/A	N/A	
Benzene	1.6E-04	lb/ADTUBP	4	653,350	ADTUBP/yr	1.4E-02	5.1E-02	6	N/A	N/A	
Carbon Tetrachloride	5.3E-05	lb/ADTUBP	4	653,350	ADTUBP/yr	4.7E-03	1.7E-02	6	N/A	N/A	
Chlorobenzene	5.0E-07	lb/ADTUBP	4	653,350	ADTUBP/yr	4.4E-05	1.6E-04	6	N/A	N/A	
Chloroform	1.0E-07	lb/ADTUBP	4	653,350	ADTUBP/yr	8.8E-06	3.3E-05	6	N/A	N/A	
Ethyl Benzene	1.6E-07	lb/ADTUBP	4	653,350	ADTUBP/yr	1.4E-05	5.2E-05	6	N/A	N/A	
Formaldehyde	1.5E-04	lb/ADTUBP	4	653,350	ADTUBP/yr	1.3E-02	4.8E-02	6	N/A	N/A	
m,p-Xylene	3.1E-06	lb/ADTUBP	4	653,350	ADTUBP/yr	2.7E-04	1.0E-03	6	N/A	N/A	
Methanol	1.3E-03	lb/ADTUBP	4	653,350	ADTUBP/yr	1.1E-01	4.1E-01	6	N/A	N/A	
n-Hexane	2.5E-06	lb/ADTUBP	4	653,350	ADTUBP/yr	2.2E-04	8.2E-04	6	N/A	N/A	
o-Xylene	3.1E-06	lb/ADTUBP	4	653,350	ADTUBP/yr	2.7E-04	1.0E-03	6	N/A	N/A	
Styrene	2.2E-05	lb/ADTUBP	4	653,350	ADTUBP/yr	1.9E-03	7.2E-03	6	N/A	N/A	
Toluene	1.5E-06	lb/ADTUBP	4	653,350	ADTUBP/yr	1.3E-04	5.0E-04	6	N/A	N/A	
Trichloroethylene	7.6E-07	lb/ADTUBP	4	653,350	ADTUBP/yr	6.7E-05	2.5E-04	6	N/A	N/A	
Xylenes (mixed isomers)	5.6E-05	lb/ADTUBP	4	653,350	ADTUBP/yr	5.0E-03	1.8E-02	6	N/A	N/A	

Notes:
1. 2006 stack test.
2. Permit limit.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
4. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
5. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1 (natural gas only, emissions from NCGs not estimated).
6. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Pulp prod.	26.4	ADTBP/hr
Pulp prod.	185,274	ADTBP/yr

Emission Unit Group Number: PU8
Facility Point ID: 4, 6, 7, 8, 107
Emission Unit Group: Sawdust Fiberline Bleach Plant

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM											
PM10											
PM2.5											
SO2											
CO	8.1E-01	lb/ADTBP	1	185,274	ADTBP/yr	21.4	75.0		N/A	N/A	
NOx											
VOC	1.0E-01	lb/ADTBP	1	185,274	ADTBP/yr	2.73	9.55		N/A	N/A	
TRS	1.6E-02	lb/ADTBP	2	185,274	ADTBP/yr	0.42	1.45		N/A	N/A	
H2SO4											
GHGs (CO2e)											
1,1,2-Trichloroethane	6.9E-06	lb/ADTBP	2	185,274	ADTBP/yr	1.8E-04	6.3E-04	5	N/A	N/A	
1,2,4-Trichlorobenzene	1.5E-04	lb/ADTBP	2	185,274	ADTBP/yr	3.8E-03	1.3E-02	5	N/A	N/A	
1,3-Butadiene	4.9E-05	lb/ADTBP	2	185,274	ADTBP/yr	1.3E-03	4.6E-03	5	N/A	N/A	
Acetaldehyde	1.6E-03	lb/ADTBP	2	185,274	ADTBP/yr	4.3E-02	1.5E-01	5	N/A	N/A	
Acrolein	6.2E-05	lb/ADTBP	2	185,274	ADTBP/yr	1.6E-03	5.8E-03	5	N/A	N/A	
Benzene	5.7E-05	lb/ADTBP	2	185,274	ADTBP/yr	1.5E-03	5.3E-03	5	N/A	N/A	
Carbon Disulfide	1.1E-04	lb/ADTBP	2	185,274	ADTBP/yr	2.9E-03	1.0E-02	5	N/A	N/A	
Carbon Tetrachloride	5.1E-06	lb/ADTBP	2	185,274	ADTBP/yr	1.3E-04	4.7E-04	5	N/A	N/A	
Chlorine	1.5E-03	lb/ADTBP	3	185,274	ADTBP/yr	4.0E-02	1.4E-01	5	N/A	N/A	
Chlorobenzene	1.1E-05	lb/ADTBP	2	185,274	ADTBP/yr	2.8E-04	9.9E-04	5	N/A	N/A	
Chloroform	2.9E-03	lb/ADTBP	4	185,274	ADTBP/yr	7.6E-02	2.7E-01	5	N/A	N/A	
Cresols (mixed isomers)	6.9E-03	lb/ADTBP	2	185,274	ADTBP/yr	1.8E-01	6.3E-01	5	N/A	N/A	
Cumene	2.2E-04	lb/ADTBP	2	185,274	ADTBP/yr	5.8E-03	2.0E-02	5	N/A	N/A	
Ethyl Benzene	8.0E-06	lb/ADTBP	2	185,274	ADTBP/yr	2.1E-04	7.4E-04	5	N/A	N/A	
Formaldehyde	6.2E-04	lb/ADTBP	2	185,274	ADTBP/yr	1.6E-02	5.8E-02	5	N/A	N/A	
Hydrochloric Acid	2.3E-02	lb/ADTBP	2	185,274	ADTBP/yr	6.1E-01	2.1E+00	5	N/A	N/A	
m,p-Xylene	7.7E-05	lb/ADTBP	2	185,274	ADTBP/yr	2.0E-03	7.1E-03	5	N/A	N/A	
Methanol	1.2E-01	lb/ADTBP	2	185,274	ADTBP/yr	3.2E+00	1.1E+01	5	N/A	N/A	
Methyl Isobutyl Ketone	2.1E-04	lb/ADTBP	2	185,274	ADTBP/yr	5.6E-03	1.9E-02	5	N/A	N/A	
Methylene Chloride	3.9E-05	lb/ADTBP	2	185,274	ADTBP/yr	1.0E-03	3.6E-03	5	N/A	N/A	
n-Hexane	2.8E-05	lb/ADTBP	2	185,274	ADTBP/yr	7.4E-04	2.6E-03	5	N/A	N/A	
o-Cresol	2.7E-03	lb/ADTBP	2	185,274	ADTBP/yr	7.1E-02	2.5E-01	5	N/A	N/A	
o-Xylene	5.3E-05	lb/ADTBP	2	185,274	ADTBP/yr	1.4E-03	4.9E-03	5	N/A	N/A	
Phenol	3.9E-03	lb/ADTBP	2	185,274	ADTBP/yr	1.0E-01	3.6E-01	5	N/A	N/A	
Propionaldehyde	3.8E-04	lb/ADTBP	2	185,274	ADTBP/yr	1.0E-02	3.5E-02	5	N/A	N/A	
Styrene	7.5E-05	lb/ADTBP	2	185,274	ADTBP/yr	2.0E-03	6.9E-03	5	N/A	N/A	
Toluene	9.6E-05	lb/ADTBP	2	185,274	ADTBP/yr	2.5E-03	8.9E-03	5	N/A	N/A	
Trichloroethylene	1.2E-05	lb/ADTBP	2	185,274	ADTBP/yr	3.2E-04	1.1E-03	5	N/A	N/A	
Xylenes (mixed isomers)	5.0E-05	lb/ADTBP	2	185,274	ADTBP/yr	1.3E-03	4.6E-03	5	N/A	N/A	

Notes:
1. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
3. Stack test data - December 2001.
4. NCASI TRI guidance 2010 (0.005 lb ODTUBP converted and 52% to air).
5. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Pulp prod.	56.3	ADTBP/hr
Pulp prod.	428,875	ADTBP/yr

Emission Unit Group Number: PU9
Facility Point ID: 48, 76, 95
Emission Unit Group: Chip Fiberline Bleach Plant

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM											
PM10											
PM2.5											
SO2											
CO	8.1E-01	lb/ADTBP	1	428,875	ADTBP/yr	45.6	174		N/A	N/A	
NOx											
VOC	1.0E-01	lb/ADTBP	1	428,875	ADTBP/yr	5.80	22.1		N/A	N/A	
TRS	1.6E-02	lb/ADTBP	2	428,875	ADTBP/yr	0.88	3.37		N/A	N/A	
H2SO4											
GHGs (CO2e)											
1,1,2-Trichloroethane	6.9E-06	lb/ADTBP	2	428,875	ADTBP/yr	3.9E-04	1.5E-03	5	N/A	N/A	
1,2,4-Trichlorobenzene	1.5E-04	lb/ADTBP	2	428,875	ADTBP/yr	8.2E-03	3.1E-02	5	N/A	N/A	
1,3-Butadiene	4.9E-05	lb/ADTBP	2	428,875	ADTBP/yr	2.8E-03	1.1E-02	5	N/A	N/A	
Acetaldehyde	1.6E-03	lb/ADTBP	2	428,875	ADTBP/yr	9.2E-02	3.5E-01	5	N/A	N/A	
Acrolein	6.2E-05	lb/ADTBP	2	428,875	ADTBP/yr	3.5E-03	1.3E-02	5	N/A	N/A	
Benzene	5.7E-05	lb/ADTBP	2	428,875	ADTBP/yr	3.2E-03	1.2E-02	5	N/A	N/A	
Carbon Disulfide	1.1E-04	lb/ADTBP	2	428,875	ADTBP/yr	6.2E-03	2.4E-02	5	N/A	N/A	
Carbon Tetrachloride	5.1E-06	lb/ADTBP	2	428,875	ADTBP/yr	2.8E-04	1.1E-03	5	N/A	N/A	
Chlorine	2.0E-03	lb/ADTBP	3	428,875	ADTBP/yr	1.1E-01	4.3E-01	5	N/A	N/A	
Chlorobenzene	1.1E-05	lb/ADTBP	2	428,875	ADTBP/yr	6.0E-04	2.3E-03	5	N/A	N/A	
Chloroform	2.9E-03	lb/ADTBP	4	428,875	ADTBP/yr	1.6E-01	6.2E-01	5	N/A	N/A	
Cresols (mixed isomers)	6.9E-03	lb/ADTBP	2	428,875	ADTBP/yr	3.9E-01	1.5E+00	5	N/A	N/A	
Cumene	2.2E-04	lb/ADTBP	2	428,875	ADTBP/yr	1.2E-02	4.7E-02	5	N/A	N/A	
Ethyl Benzene	8.0E-06	lb/ADTBP	2	428,875	ADTBP/yr	4.5E-04	1.7E-03	5	N/A	N/A	
Formaldehyde	6.2E-04	lb/ADTBP	2	428,875	ADTBP/yr	3.5E-02	1.3E-01	5	N/A	N/A	
Hydrochloric Acid	2.3E-02	lb/ADTBP	2	428,875	ADTBP/yr	1.3E+00	4.9E+00	5	N/A	N/A	
m,p-Xylene	7.7E-05	lb/ADTBP	2	428,875	ADTBP/yr	4.3E-03	1.7E-02	5	N/A	N/A	
Methanol	1.2E-01	lb/ADTBP	2	428,875	ADTBP/yr	6.8E+00	2.6E+01	5	N/A	N/A	
Methyl Isobutyl Ketone	2.1E-04	lb/ADTBP	2	428,875	ADTBP/yr	1.2E-02	4.5E-02	5	N/A	N/A	
Methylene Chloride	3.9E-05	lb/ADTBP	2	428,875	ADTBP/yr	2.2E-03	8.3E-03	5	N/A	N/A	
n-Hexane	2.8E-05	lb/ADTBP	2	428,875	ADTBP/yr	1.6E-03	6.0E-03	5	N/A	N/A	
o-Cresol	2.7E-03	lb/ADTBP	2	428,875	ADTBP/yr	1.5E-01	5.7E-01	5	N/A	N/A	
o-Xylene	5.3E-05	lb/ADTBP	2	428,875	ADTBP/yr	3.0E-03	1.1E-02	5	N/A	N/A	
Phenol	3.9E-03	lb/ADTBP	2	428,875	ADTBP/yr	2.2E-01	8.3E-01	5	N/A	N/A	
Propionaldehyde	3.8E-04	lb/ADTBP	2	428,875	ADTBP/yr	2.1E-02	8.1E-02	5	N/A	N/A	
Styrene	7.5E-05	lb/ADTBP	2	428,875	ADTBP/yr	4.2E-03	1.6E-02	5	N/A	N/A	
Toluene	9.6E-05	lb/ADTBP	2	428,875	ADTBP/yr	5.4E-03	2.1E-02	5	N/A	N/A	
Trichloroethylene	1.2E-05	lb/ADTBP	2	428,875	ADTBP/yr	6.8E-04	2.6E-03	5	N/A	N/A	
Xylenes (mixed isomers)	5.0E-05	lb/ADTBP	2	428,875	ADTBP/yr	2.8E-03	1.1E-02	5	N/A	N/A	

Notes:
1. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
3. Stack test data - December 2001.
4. NCASI TRI guidance 2010 (0.005 lb ODTUBP converted and 52% to air).
5. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
ClO2 prod.	1.09	Tons ClO2/hr
ClO2 prod.	8,059	Tons ClO2/yr

Emission Unit Number: PU10
Emission Point ID: 69
Emission Unit Group: Lurgi 134 Synthesis

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM											
PM10											
PM2.5											
SO2											
CO											
NOx	1.36	lb/ton CLO2	1	8,059	Tons ClO2/yr	1.48	5.48	2	N/A	N/A	
VOC											
TRS											
H2SO4											
GHGs (CO2e)											
Chlorine						1.6E-01	7.0E-01	3	0.16	0.7	3
Hydrochloric Acid						5.3E-01	2.3E+00	3	0.53	2.3	3

Notes:
1. Stack test data, 12/1995 - max. of both units.
2. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
3. Permit limit.
N/A - no lb/hr or tpy emission limits applicable.

Potlatch Idaho Pulp and Paperboard Division

Input Parameters:		
ClO2 prod.	1.09	Tons ClO2/hr
ClO2 prod.	8,059	Tons ClO2/yr

Emission Unit Number: PU11
Emission Point ID: 67
Emission Unit Group: Lurgi 234 Synthesis

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM											
PM10											
PM2.5											
SO2											
CO											
NOx	1.36	lb/ton CLO2	1	8,059	Tons ClO2/yr	1.48	5.48	2	N/A	N/A	
VOC											
TRS											
H2SO4											
GHGs (CO2e)											
Chlorine						1.6E-01	7.0E-01	3	0.16	0.7	3
Hydrochloric Acid						5.3E-01	2.3E+00	3	0.53	2.3	3

Notes:
1. Stack test data, 12/1995 - max. of both units.
2. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
3. Permit limit.
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
ClO2 prod.	2.2	Tons ClO2/hr
ClO2 prod.	16,118	Tons ClO2/yr

Emission Unit Number: PU12
Emission Point ID: 101
Emission Unit Group: Lurgi Scrubber

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM											
PM10											
PM2.5											
SO2											
CO											
NOx											
VOC											
TRS											
H2SO4											
GHGs (CO2e)											
Chlorine						2.6E-01	1.1E+00	1	0.26	1.1	1
Hydrochloric Acid						1.5E-01	7.0E-01	1	0.15	0.7	1

Notes:
1. Permit limit.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PU14
Facility Point ID: 512
Emission Unit Group: No. 3 Lime Kiln

Input Parameters:		
CaO prod.	10.5	Tons CaO/hr
CaO prod.	91,980	Tons CaO/yr
Gas usage	105	MMBtu/hr
Gas usage	919,800	MMBtu/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM						5.20	13.5	1	5.2	13.5	1
PM10						5.20	8.65	1	5.2	8.65	1
PM2.5						5.20	8.65	2	N/A	N/A	
SO2						51.0	21.0	1	51.0	21	1
CO						6.70	44.0	1	6.7	44	1
NOx						31.9	113	1	31.9	113	1
VOC	0.05	lb/ton CaO	3	91,980	Tons CaO/yr	0.48	2.12	6	N/A	N/A	
TRS						1.44	6.30	1	N/A	6.3	1
H2SO4	6.8E-07	lb/ton CaO	5	91,980	Tons CaO/yr	0.00	0.00	6	N/A	N/A	
GHGs (CO2e)	117	lb/MMBtu	4	919,800	MMBtu/yr	12,286	53,812	6	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	1.1E-09	lb/ton CaO	5	91,980	Tons CaO/yr	1.2E-08	5.2E-08	6	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	1.2E-10	lb/ton CaO	5	91,980	Tons CaO/yr	1.3E-09	5.7E-09	6	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzofuran	4.0E-11	lb/ton CaO	5	91,980	Tons CaO/yr	4.2E-10	1.8E-09	6	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzofuran	8.8E-12	lb/ton CaO	5	91,980	Tons CaO/yr	9.3E-11	4.1E-10	6	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	4.4E-12	lb/ton CaO	5	91,980	Tons CaO/yr	4.6E-11	2.0E-10	6	N/A	N/A	
1,2,3,7,8-pentachlorodibenzofuran	8.8E-12	lb/ton CaO	5	91,980	Tons CaO/yr	9.3E-11	4.1E-10	6	N/A	N/A	
1,2,4-Trichlorobenzene	1.3E-04	lb/ton CaO	5	91,980	Tons CaO/yr	1.4E-03	6.0E-03	6	N/A	N/A	
1,3-Butadiene	6.9E-05	lb/ton CaO	5	91,980	Tons CaO/yr	7.3E-04	3.2E-03	6	N/A	N/A	
2,3,7,8-tetrachlorodibenzofuran	3.5E-11	lb/ton CaO	5	91,980	Tons CaO/yr	3.7E-10	1.6E-09	6	N/A	N/A	
Acetaldehyde	6.4E-03	lb/ton CaO	5	91,980	Tons CaO/yr	6.7E-02	3.0E-01	6	N/A	N/A	
Acrolein	5.5E-04	lb/ton CaO	5	91,980	Tons CaO/yr	5.8E-03	2.5E-02	6	N/A	N/A	
Antimony	2.9E-06	lb/ton CaO	5	91,980	Tons CaO/yr	3.0E-05	1.3E-04	6	N/A	N/A	
Arsenic	2.8E-06	lb/ton CaO	5	91,980	Tons CaO/yr	2.9E-05	1.3E-04	6	N/A	N/A	
Barium	2.1E-05	lb/ton CaO	5	91,980	Tons CaO/yr	2.2E-04	9.7E-04	6	N/A	N/A	
Benzene	9.2E-04	lb/ton CaO	5	91,980	Tons CaO/yr	9.7E-03	4.2E-02	6	N/A	N/A	
Beryllium	1.5E-06	lb/ton CaO	5	91,980	Tons CaO/yr	1.6E-05	6.8E-05	6	N/A	N/A	
Cadmium	6.5E-06	lb/ton CaO	5	91,980	Tons CaO/yr	6.8E-05	3.0E-04	6	N/A	N/A	
Carbon Disulfide	3.1E-04	lb/ton CaO	5	91,980	Tons CaO/yr	3.3E-03	1.4E-02	6	N/A	N/A	
Chlorobenzene	3.3E-05	lb/ton CaO	5	91,980	Tons CaO/yr	3.5E-04	1.5E-03	6	N/A	N/A	
Chloroform	1.0E-04	lb/ton CaO	5	91,980	Tons CaO/yr	1.0E-03	4.6E-03	6	N/A	N/A	
Chloromethane	1.7E-03	lb/ton CaO	5	91,980	Tons CaO/yr	1.8E-02	7.8E-02	6	N/A	N/A	
Chromium	1.6E-05	lb/ton CaO	5	91,980	Tons CaO/yr	1.7E-04	7.3E-04	6	N/A	N/A	
Cobalt	5.0E-06	lb/ton CaO	5	91,980	Tons CaO/yr	5.3E-05	2.3E-04	6	N/A	N/A	
Copper	2.3E-05	lb/ton CaO	5	91,980	Tons CaO/yr	2.4E-04	1.1E-03	6	N/A	N/A	
Cumene	1.6E-03	lb/ton CaO	5	91,980	Tons CaO/yr	1.7E-02	7.5E-02	6	N/A	N/A	
Ethyl Benzene	2.8E-05	lb/ton CaO	5	91,980	Tons CaO/yr	2.9E-04	1.3E-03	6	N/A	N/A	
Fluoranthene	1.1E-05	lb/ton CaO	5	91,980	Tons CaO/yr	1.1E-04	4.9E-04	6	N/A	N/A	
Formaldehyde	5.0E-03	lb/ton CaO	5	91,980	Tons CaO/yr	5.2E-02	2.3E-01	6	N/A	N/A	
Lead	1.6E-05	lb/ton CaO	5	91,980	Tons CaO/yr	1.7E-04	7.3E-04	6	N/A	N/A	
m,p-Xylene	3.4E-04	lb/ton CaO	5	91,980	Tons CaO/yr	3.6E-03	1.6E-02	6	N/A	N/A	
Manganese	5.2E-05	lb/ton CaO	5	91,980	Tons CaO/yr	5.5E-04	2.4E-03	6	N/A	N/A	
Mercury	2.8E-06	lb/ton CaO	5	91,980	Tons CaO/yr	3.0E-05	1.3E-04	6	N/A	N/A	
Methanol	2.3E-02	lb/ton CaO	5	91,980	Tons CaO/yr	2.4E-01	1.1E+00	6	N/A	N/A	
Methyl Isobutyl Ketone	2.6E-04	lb/ton CaO	5	91,980	Tons CaO/yr	2.7E-03	1.2E-02	6	N/A	N/A	
Methylene Chloride	1.3E-04	lb/ton CaO	5	91,980	Tons CaO/yr	1.4E-03	6.0E-03	6	N/A	N/A	
Naphthalene	4.6E-04	lb/ton CaO	5	91,980	Tons CaO/yr	4.9E-03	2.1E-02	6	N/A	N/A	
n-Hexane	9.3E-05	lb/ton CaO	5	91,980	Tons CaO/yr	9.8E-04	4.3E-03	6	N/A	N/A	
Nickel	2.5E-05	lb/ton CaO	5	91,980	Tons CaO/yr	2.6E-04	1.2E-03	6	N/A	N/A	
o-Xylene	3.4E-04	lb/ton CaO	5	91,980	Tons CaO/yr	3.6E-03	1.6E-02	6	N/A	N/A	
Phenol	8.9E-03	lb/ton CaO	5	91,980	Tons CaO/yr	9.3E-02	4.1E-01	6	N/A	N/A	
Propionaldehyde	4.9E-03	lb/ton CaO	5	91,980	Tons CaO/yr	5.1E-02	2.3E-01	6	N/A	N/A	
Pyrene	4.1E-05	lb/ton CaO	5	91,980	Tons CaO/yr	4.3E-04	1.9E-03	6	N/A	N/A	
Selenium	2.8E-07	lb/ton CaO	5	91,980	Tons CaO/yr	2.9E-06	1.3E-05	6	N/A	N/A	
Styrene	6.3E-05	lb/ton CaO	5	91,980	Tons CaO/yr	6.7E-04	2.9E-03	6	N/A	N/A	
Tetrachloroethylene	1.1E-03	lb/ton CaO	5	91,980	Tons CaO/yr	1.2E-02	5.2E-02	6	N/A	N/A	
Toluene	5.1E-04	lb/ton CaO	5	91,980	Tons CaO/yr	5.3E-03	2.3E-02	6	N/A	N/A	
Trichloroethylene	4.2E-05	lb/ton CaO	5	91,980	Tons CaO/yr	4.4E-04	1.9E-03	6	N/A	N/A	
Xylenes (mixed isomers)	7.3E-04	lb/ton CaO	5	91,980	Tons CaO/yr	7.6E-03	3.3E-02	6	N/A	N/A	

Notes:
1. Permit limit; all tpy limits except for SO2 are for combined emissions from Nos. 3 & 4 LK (emissions divided by 2 for purposes of this inventory).
   Note that actual short-terms limits for SO2, NOx and CO are 153/3-hr, 766 lb/day and 80.4 lb/12-hr, respectively.
2. Assumed equal to PM10.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
4. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1; biogenic CO2 emissions included in recovery furnaces
5. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
6. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)

N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PU15
Facility Point ID: 516
Emission Unit Group: No. 4 Lime Kiln

Input Parameters:		
CaO prod.	10.5	Tons CaO/hr
CaO prod.	91,980	Tons CaO/yr
Gas usage	90	MMBtu/hr
Gas usage	788,400	MMBtu/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM						5.20	13.5	1	5.2	13.5	1
PM10						5.20	8.65	1	5.2	8.65	1
PM2.5						5.20	8.65	2	N/A	N/A	
SO2						3.5	15.0	1	3.5	15	1
CO						6.70	44.0	1	6.7	44	1
NOx						31.9	113	1	31.9	113	1
VOC	0.05	lb/ton CaO	3	91,980	Tons CaO/yr	0.48	2.12	6	N/A	N/A	
TRS						1.44	6.30	1	N/A	6.3	1
H2SO4	6.8E-07	lb/ton CaO	5	91,980	Tons CaO/yr	0.00	0.00	6	N/A	N/A	
GHGs (CO2e)	117	lb/MMBtu	4	788,400	MMBtu/yr	10,531	46,125	6	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	1.1E-09	lb/ton CaO	5	91,980	Tons CaO/yr	1.2E-08	5.2E-08	6	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	1.2E-10	lb/ton CaO	5	91,980	Tons CaO/yr	1.3E-09	5.7E-09	6	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzofuran	4.0E-11	lb/ton CaO	5	91,980	Tons CaO/yr	4.2E-10	1.8E-09	6	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzofuran	8.8E-12	lb/ton CaO	5	91,980	Tons CaO/yr	9.3E-11	4.1E-10	6	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	4.4E-12	lb/ton CaO	5	91,980	Tons CaO/yr	4.6E-11	2.0E-10	6	N/A	N/A	
1,2,3,7,8-pentachlorodibenzofuran	8.8E-12	lb/ton CaO	5	91,980	Tons CaO/yr	9.3E-11	4.1E-10	6	N/A	N/A	
1,2,4-Trichlorobenzene	1.3E-04	lb/ton CaO	5	91,980	Tons CaO/yr	1.4E-03	6.0E-03	6	N/A	N/A	
1,3-Butadiene	6.9E-05	lb/ton CaO	5	91,980	Tons CaO/yr	7.3E-04	3.2E-03	6	N/A	N/A	
2,3,7,8-tetrachlorodibenzofuran	3.5E-11	lb/ton CaO	5	91,980	Tons CaO/yr	3.7E-10	1.6E-09	6	N/A	N/A	
Acetaldehyde	6.4E-03	lb/ton CaO	5	91,980	Tons CaO/yr	6.7E-02	3.0E-01	6	N/A	N/A	
Acrolein	5.5E-04	lb/ton CaO	5	91,980	Tons CaO/yr	5.8E-03	2.5E-02	6	N/A	N/A	
Antimony	2.9E-06	lb/ton CaO	5	91,980	Tons CaO/yr	3.0E-05	1.3E-04	6	N/A	N/A	
Arsenic	2.8E-06	lb/ton CaO	5	91,980	Tons CaO/yr	2.9E-05	1.3E-04	6	N/A	N/A	
Barium	2.1E-05	lb/ton CaO	5	91,980	Tons CaO/yr	2.2E-04	9.7E-04	6	N/A	N/A	
Benzene	9.2E-04	lb/ton CaO	5	91,980	Tons CaO/yr	9.7E-03	4.2E-02	6	N/A	N/A	
Beryllium	1.5E-06	lb/ton CaO	5	91,980	Tons CaO/yr	1.6E-05	6.8E-05	6	N/A	N/A	
Cadmium	6.5E-06	lb/ton CaO	5	91,980	Tons CaO/yr	6.8E-05	3.0E-04	6	N/A	N/A	
Carbon Disulfide	3.1E-04	lb/ton CaO	5	91,980	Tons CaO/yr	3.3E-03	1.4E-02	6	N/A	N/A	
Chlorobenzene	3.3E-05	lb/ton CaO	5	91,980	Tons CaO/yr	3.5E-04	1.5E-03	6	N/A	N/A	
Chloroform	1.0E-04	lb/ton CaO	5	91,980	Tons CaO/yr	1.0E-03	4.6E-03	6	N/A	N/A	
Chloromethane	1.7E-03	lb/ton CaO	5	91,980	Tons CaO/yr	1.8E-02	7.8E-02	6	N/A	N/A	
Chromium	1.6E-05	lb/ton CaO	5	91,980	Tons CaO/yr	1.7E-04	7.3E-04	6	N/A	N/A	
Cobalt	5.0E-06	lb/ton CaO	5	91,980	Tons CaO/yr	5.3E-05	2.3E-04	6	N/A	N/A	
Copper	2.3E-05	lb/ton CaO	5	91,980	Tons CaO/yr	2.4E-04	1.1E-03	6	N/A	N/A	
Cumene	1.6E-03	lb/ton CaO	5	91,980	Tons CaO/yr	1.7E-02	7.5E-02	6	N/A	N/A	
Ethyl Benzene	2.8E-05	lb/ton CaO	5	91,980	Tons CaO/yr	2.9E-04	1.3E-03	6	N/A	N/A	
Fluoranthene	1.1E-05	lb/ton CaO	5	91,980	Tons CaO/yr	1.1E-04	4.9E-04	6	N/A	N/A	
Formaldehyde	5.0E-03	lb/ton CaO	5	91,980	Tons CaO/yr	5.2E-02	2.3E-01	6	N/A	N/A	
Lead	1.6E-05	lb/ton CaO	5	91,980	Tons CaO/yr	1.7E-04	7.3E-04	6	N/A	N/A	
m,p-Xylene	3.4E-04	lb/ton CaO	5	91,980	Tons CaO/yr	3.6E-03	1.6E-02	6	N/A	N/A	
Manganese	5.2E-05	lb/ton CaO	5	91,980	Tons CaO/yr	5.5E-04	2.4E-03	6	N/A	N/A	
Mercury	2.8E-06	lb/ton CaO	5	91,980	Tons CaO/yr	3.0E-05	1.3E-04	6	N/A	N/A	
Methanol	2.3E-02	lb/ton CaO	5	91,980	Tons CaO/yr	2.4E-01	1.1E+00	6	N/A	N/A	
Methyl Isobutyl Ketone	2.6E-04	lb/ton CaO	5	91,980	Tons CaO/yr	2.7E-03	1.2E-02	6	N/A	N/A	
Methylene Chloride	1.3E-04	lb/ton CaO	5	91,980	Tons CaO/yr	1.4E-03	6.0E-03	6	N/A	N/A	
Naphthalene	4.6E-04	lb/ton CaO	5	91,980	Tons CaO/yr	4.9E-03	2.1E-02	6	N/A	N/A	
n-Hexane	9.3E-05	lb/ton CaO	5	91,980	Tons CaO/yr	9.8E-04	4.3E-03	6	N/A	N/A	
Nickel	2.5E-05	lb/ton CaO	5	91,980	Tons CaO/yr	2.6E-04	1.2E-03	6	N/A	N/A	
o-Xylene	3.4E-04	lb/ton CaO	5	91,980	Tons CaO/yr	3.6E-03	1.6E-02	6	N/A	N/A	
Phenol	8.9E-03	lb/ton CaO	5	91,980	Tons CaO/yr	9.3E-02	4.1E-01	6	N/A	N/A	
Propionaldehyde	4.9E-03	lb/ton CaO	5	91,980	Tons CaO/yr	5.1E-02	2.3E-01	6	N/A	N/A	
Pyrene	4.1E-05	lb/ton CaO	5	91,980	Tons CaO/yr	4.3E-04	1.9E-03	6	N/A	N/A	
Selenium	2.8E-07	lb/ton CaO	5	91,980	Tons CaO/yr	2.9E-06	1.3E-05	6	N/A	N/A	
Styrene	6.3E-05	lb/ton CaO	5	91,980	Tons CaO/yr	6.7E-04	2.9E-03	6	N/A	N/A	
Tetrachloroethylene	1.1E-03	lb/ton CaO	5	91,980	Tons CaO/yr	1.2E-02	5.2E-02	6	N/A	N/A	
Toluene	5.1E-04	lb/ton CaO	5	91,980	Tons CaO/yr	5.3E-03	2.3E-02	6	N/A	N/A	
Trichloroethylene	4.2E-05	lb/ton CaO	5	91,980	Tons CaO/yr	4.4E-04	1.9E-03	6	N/A	N/A	
Xylenes (mixed isomers)	7.3E-04	lb/ton CaO	5	91,980	Tons CaO/yr	7.6E-03	3.3E-02	6	N/A	N/A	

Notes:

1. Permit limit; all tpy limits except for SO2 are for combined emissions from Nos. 3 & 4 LK (emissions divided by 2 for purposes of this inventory).
   Note that actual short-terms limits for SO2, NOx and CO are 153/3-hr, 766 lb/day and 80.4 lb/12-hr, respectively.
2. Assumed equal to PM10.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
4. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1; biogenic CO2 emissions included in recovery furnaces
5. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
6. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)

N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
CaO prod.	23.4	Tons CaO/hr
CaO prod.	204,984	Tons CaO/yr

Emission Unit Number: PU16
Facility Point ID: 43
Emission Unit Group: Lime Slaker

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM						1.72	7.53	1	1.72	7.53	1
PM10						1.72	7.53	1	1.72	7.53	1
PM2.5						1.72	7.53	2	N/A	N/A	
SO2											
CO											
NOx											
VOC	1.0E-01	lb/ton CaO	3	204,984	Tons CaO/yr	2.40	10.5	5	N/A	N/A	
TRS	8.8E-02	lb/ton CaO	3	204,984	Tons CaO/yr	2.05	9.00	5	N/A	N/A	
H2SO2											
GHGs (CO2e)											
Acetaldehyde	1.6E-02	lb/ton CaO	4	204,984	Tons CaO/yr	3.7E-01	1.6E+00	5	N/A	N/A	
Benzene	7.3E-06	lb/ton CaO	4	204,984	Tons CaO/yr	1.7E-04	7.5E-04	5	N/A	N/A	
Carbon Disulfide	1.5E-06	lb/ton CaO	4	204,984	Tons CaO/yr	3.5E-05	1.5E-04	5	N/A	N/A	
Chlorobenzene	1.9E-06	lb/ton CaO	4	204,984	Tons CaO/yr	4.5E-05	2.0E-04	5	N/A	N/A	
Methanol	5.3E-02	lb/ton CaO	4	204,984	Tons CaO/yr	1.2E+00	5.4E+00	5	N/A	N/A	
Methyl Isobutyl Ketone	2.8E-04	lb/ton CaO	4	204,984	Tons CaO/yr	6.6E-03	2.9E-02	5	N/A	N/A	
Methylene Chloride	5.9E-03	lb/ton CaO	4	204,984	Tons CaO/yr	1.4E-01	6.0E-01	5	N/A	N/A	
n-Hexane	8.3E-06	lb/ton CaO	4	204,984	Tons CaO/yr	2.0E-04	8.5E-04	5	N/A	N/A	
Phenol	8.7E-04	lb/ton CaO	4	204,984	Tons CaO/yr	2.0E-02	8.9E-02	5	N/A	N/A	
Styrene	9.8E-06	lb/ton CaO	4	204,984	Tons CaO/yr	2.3E-04	1.0E-03	5	N/A	N/A	
Toluene	1.9E-04	lb/ton CaO	4	204,984	Tons CaO/yr	4.4E-03	1.9E-02	5	N/A	N/A	
Trichloroethylene	2.7E-06	lb/ton CaO	4	204,984	Tons CaO/yr	6.4E-05	2.8E-04	5	N/A	N/A	
Xylenes (mixed isomers)	1.5E-06	lb/ton CaO	4	204,984	Tons CaO/yr	3.4E-05	1.5E-04	5	N/A	N/A	

Notes:
1. Permit limit.
2. Assumed equal to PM10.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
4. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
5. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Air flow	11,000	dscfm
Grain loading	0.01	gr/dscf

Emission Unit Number: PU17
Facility Point ID: 47
Emission Unit Group: Lime Handling (baghouse)

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM						0.94	4.13	1	N/A	N/A	
PM10						0.94	4.13	2	N/A	N/A	
PM2.5						0.94	4.13	2	N/A	N/A	
SO2											
CO											
NOx											
VOC											
TRS											
H2SO4											
GHGs (CO2e)											

Notes:
1. Calculated based on exit grain loading and flow rate.
2. Assumed equal to PM.
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR1
Emission Point ID: 250
Emission Unit Group: No. 1 Power Boiler

Input Parameters:					
Natural gas	376	MMBtu/hr	Fuel oil	376	MMBtu/hr
Natural gas	3,293,760	MMBtu/yr	Fuel oil	3,293,760	MMBtu/yr
Natural gas	0.37	MMscf/hr	Fuel oil	2.51	Kgal/hr
Natural gas	3,229	MMscf/yr	Fuel oil	21,958	Kgal/yr
			Fuel oil S	0.9	%, Ref. 4

	Natural Gas			Fuel Oil			Operational Data				Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Emission Factor	E.F. Units	Notes	Potential Nat. Gas	Units	Potential Fuel Oil	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	1.9	lb/MMscf	1	11.5	lb/Kgal	5	3,229	MMscf/yr	21,958	Kgal/yr	28.8	126	7	N/A	N/A	
PM10	7.6	lb/MMscf	1	11.4	lb/Kgal	5	3,229	MMscf/yr	21,958	Kgal/yr	28.5	125	7	N/A	N/A	
PM2.5	7.6	lb/MMscf	1	7.94	lb/Kgal	5	3,229	MMscf/yr	21,958	Kgal/yr	19.9	87.1	7	N/A	N/A	
SO2	0.6	lb/MMscf	1	141	lb/Kgal	5	3,229	MMscf/yr	21,958	Kgal/yr	354	1,551	7	N/A	N/A	
CO	84	lb/MMscf	1	5	lb/Kgal	5	3,229	MMscf/yr	21,958	Kgal/yr	31.0	136	7	N/A	N/A	
NOx	199	lb/MMscf	2	47	lb/Kgal	5	3,229	MMscf/yr	21,958	Kgal/yr	118	516	7	N/A	N/A	
VOC	5.5	lb/MMscf	1	0.28	lb/Kgal	5	3,229	MMscf/yr	21,958	Kgal/yr	2.03	8.88	7	N/A	N/A	
TRS																
H2SO4				2.2	lb/Kgal	5			21,958	Kgal/yr	5.53	24.2	7	N/A	N/A	
GHGs (CO2e)	117	lb/MMBtu	3	166	lb/MMBtu	3	3,293,760	MMBtu/yr	3,293,760	MMBtu/yr	62,463	273,588	7	N/A	N/A	
1,1,1-Trichloroethane				2.4E-04	lb/Kgal	6			21,958	Kgal/yr	5.9E-04	2.6E-03	7	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin				1.7E-08	lb/Kgal	6			21,958	Kgal/yr	4.3E-08	1.9E-07	7	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzofuran				1.4E-09	lb/Kgal	6			21,958	Kgal/yr	3.4E-09	1.5E-08	7	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin				4.0E-09	lb/Kgal	6			21,958	Kgal/yr	1.0E-08	4.4E-08	7	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzofuran				6.4E-10	lb/Kgal	6			21,958	Kgal/yr	1.6E-09	7.0E-09	7	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin				5.3E-10	lb/Kgal	6			21,958	Kgal/yr	1.3E-09	5.8E-09	7	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzofuran				3.0E-10	lb/Kgal	6			21,958	Kgal/yr	7.4E-10	3.2E-09	7	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin				5.5E-10	lb/Kgal	6			21,958	Kgal/yr	1.4E-09	6.0E-09	7	N/A	N/A	
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin				6.7E-10	lb/Kgal	6			21,958	Kgal/yr	1.7E-09	7.3E-09	7	N/A	N/A	
1,2,3,7,8-pentachlorodibenzofuran				5.4E-10	lb/Kgal	6			21,958	Kgal/yr	1.3E-09	5.9E-09	7	N/A	N/A	
1,2,3,7,8-pentachlorodibenzo-p-dioxin				2.1E-10	lb/Kgal	6			21,958	Kgal/yr	5.2E-10	2.3E-09	7	N/A	N/A	
2,3,4,6,7,8-hexachlorodibenzofuran				2.0E-10	lb/Kgal	6			21,958	Kgal/yr	5.0E-10	2.2E-09	7	N/A	N/A	
2,3,4,7,8-pentachlorodibenzofuran				4.1E-10	lb/Kgal	6			21,958	Kgal/yr	1.0E-09	4.5E-09	7	N/A	N/A	
2-Methylnaphthalene	2.4E-05	lb/MMscf	6				3,229	MMscf/yr			8.8E-06	3.9E-05	7	N/A	N/A	
Acenaphthene				2.1E-05	lb/Kgal	6			21,958	Kgal/yr	5.3E-05	2.3E-04	7	N/A	N/A	
Acenaphthylene				2.5E-07	lb/Kgal	6			21,958	Kgal/yr	6.3E-07	2.8E-06	7	N/A	N/A	
Anthracene				1.2E-06	lb/Kgal	6			21,958	Kgal/yr	3.1E-06	1.3E-05	7	N/A	N/A	
Antimony				5.3E-03	lb/Kgal	6			21,958	Kgal/yr	1.3E-02	5.8E-02	7	N/A	N/A	
Arsenic	2.2E-04	lb/MMscf	6	1.3E-03	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	3.3E-03	1.4E-02	7	N/A	N/A	
Barium	4.4E-03	lb/MMscf	6	2.6E-03	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	6.4E-03	2.8E-02	7	N/A	N/A	
Benzene	2.1E-03	lb/MMscf	6	2.1E-04	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	7.7E-04	3.4E-03	7	N/A	N/A	
Benzo(a)anthracene				4.0E-06	lb/Kgal	6			21,958	Kgal/yr	1.0E-05	4.4E-05	7	N/A	N/A	
Benzo(a)phenanthrene				2.4E-06	lb/Kgal	6			21,958	Kgal/yr	6.0E-06	2.6E-05	7	N/A	N/A	
Benzo(b,k)fluoranthene				1.5E-06	lb/Kgal	6			21,958	Kgal/yr	3.7E-06	1.6E-05	7	N/A	N/A	
Benzo(g,h,i)perylene				2.3E-06	lb/Kgal	6			21,958	Kgal/yr	5.7E-06	2.5E-05	7	N/A	N/A	
Beryllium				2.8E-05	lb/Kgal	6			21,958	Kgal/yr	7.0E-05	3.1E-04	7	N/A	N/A	
Cadmium	1.1E-03·	lb/MMscf	6	4.0E-04	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	1.0E-03	4.4E-03	7	N/A	N/A	
Chromium	1.4E-03	lb/MMscf	6	8.5E-04	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	2.1E-03	9.3E-03	7	N/A	N/A	
Chromium (VI)				2.5E-04	lb/Kgal	6			21,958	Kgal/yr	6.2E-04	2.7E-03	7	N/A	N/A	
Cobalt	8.4E-05	lb/MMscf	6	6.0E-03	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	1.5E-02	6.6E-02	7	N/A	N/A	
Copper	8.5E-04	lb/MMscf	6	1.8E-03	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	4.4E-03	1.9E-02	7	N/A	N/A	
Dibenzo(a,h)anthracene				1.7E-06	lb/Kgal	6			21,958	Kgal/yr	4.2E-06	1.8E-05	7	N/A	N/A	
Ethyl Benzene				6.4E-05	lb/Kgal	6			21,958	Kgal/yr	1.6E-04	7.0E-04	7	N/A	N/A	
Fluoranthene	3.0E-06	lb/MMscf	6	4.8E-06	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	1.2E-05	5.3E-05	7	N/A	N/A	
Fluorene	2.8E-06	lb/MMscf	6	4.5E-06	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	1.1E-05	4.9E-05	7	N/A	N/A	
Formaldehyde	7.5E-02	lb/MMscf	6	3.3E-02	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	8.3E-02	3.6E-01	7	N/A	N/A	
Hydrochloric Acid				1.1E+00	lb/Kgal	6			21,958	Kgal/yr	2.7E+00	1.2E+01	7	N/A	N/A	
Hydrofluoric Acid				2.1E-02	lb/Kgal	6			21,958	Kgal/yr	5.3E-02	2.3E-01	7	N/A	N/A	
Indeno(1,2,3-c,d)pyrene				2.1E-06	lb/Kgal	6			21,958	Kgal/yr	5.4E-06	2.3E-05	7	N/A	N/A	
Lead	5.0E-04	lb/MMscf	6	1.5E-03	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	3.8E-03	1.7E-02	7	N/A	N/A	
Manganese	3.8E-04	lb/MMscf	6	3.0E-03	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	7.5E-03	3.3E-02	7	N/A	N/A	
Mercury	2.6E-04	lb/MMscf	6	1.1E-04	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	2.8E-04	1.2E-03	7	N/A	N/A	
Naphthalene	6.1E-04	lb/MMscf	6	1.1E-03	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	2.8E-03	1.2E-02	7	N/A	N/A	
n-Hexane	1.8E+00	lb/MMscf	6				3,229	MMscf/yr			6.6E-01	2.9E+00	7	N/A	N/A	
Nickel	2.1E-03	lb/MMscf	6	8.5E-02	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	2.1E-01	9.3E-01	7	N/A	N/A	
o-Xylene				1.1E-04	lb/Kgal	6			21,958	Kgal/yr	2.7E-04	1.2E-03	7	N/A	N/A	
Phenanthrene	1.7E-05	lb/MMscf	6	1.1E-05	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	2.6E-05	1.2E-04	7	N/A	N/A	
Pyrene	5.0E-06	lb/MMscf	6	4.3E-06	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	1.1E-05	4.7E-05	7	N/A	N/A	
Selenium				6.8E-04	lb/Kgal	6			21,958	Kgal/yr	1.7E-03	7.5E-03	7	N/A	N/A	
Toluene	3.4E-03	lb/MMscf	6	6.2E-03	lb/Kgal	6	3,229	MMscf/yr	21,958	Kgal/yr	1.6E-02	6.8E-02	7	N/A	N/A	
Xylenes (mixed isomers)				1.1E-04	lb/Kgal	6			21,958	Kgal/yr	2.8E-04	1.2E-03	7	N/A	N/A	

Notes:
1. EPA AP-42, Chapter 1.4; 7/98.
2. Stack test data, 6/1997.
3. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
4. Based on allowable grain loading limit from IDAPA 58.01.01.677; see Calculations 1 & 2 below.
5. EPA AP-42, Chapter 1.3; 9/98.
6. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
7. lbs/hr = Max fuel specific: [EF (lb/unit) * production rate (units/hr)]; tons/yr = Max fuel specific: [EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)]

N/A - no lb/hr or tpy emission limits applicable.

Calculations:
1. Calculation of lb/MMBtu PM equivalent to IDAPA 58.01.01.677 limit
   Emission Limit, Oil = 0.050 gr/dscf @ 3 % O2
   Fd = 9,190 dscf/MMBtu
   0.050 gr/dscf @ 3%O2 = 0.077 lb/MMBtu = 0.05 / 7000 gr/lb * 9190 dscf/MMBtu * O2 correction: 20.9/(20.9-3)
   Emission Limit, Gas = 0.015 gr/dscf @ 3 % O2
   Fd = 8,710 dscf/MMBtu
   0.015 gr/dscf @ 3%O2 = 0.022 lb/MMBtu = 0.015 / 7000 gr/lb * 8710 dscf/MMBtu * O2 correction: 20.9/(20.9-3)
   = 22.2 lb/MMscf (based on 1020 Btu/scf)
2. Calculation of fuel oil sulfur content needed to meet 0.050 gr/dscf @ 3 % O2 limit
   AP42 filterable PM = 9.19(S) + 3.22
   AP42 filterable PM @ 0.9%S 11.5 lb/Kgal = 0.077 lb/MMBtu (based on 150,000 Btu/gal)

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR2
Emission Point ID: 253
Emission Unit Group: No. 2 Power

Input Parameters:					
Natural gas	336	MMBtu/hr	Fuel oil	336	MMBtu/hr
Natural gas	2,943,360	MMBtu/yr	Fuel oil	2,943,360	MMBtu/yr
Natural gas	0.33	MMscf/hr	Fuel oil	2.24	Kgal/hr
Natural gas	2,886	MMscf/yr	Fuel oil	19,622	Kgal/yr
			Fuel oil S	0.9	%, Ref. 4

	Natural Gas			Fuel Oil			Operational Data				Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Emission Factor	E.F. Units	Notes	Potential Nat. Gas	Units	Potential Fuel Oil	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	1.9	lb/MMscf	1	11.5	lb/Kgal	5	2,886	MMscf/yr	19,622	Kgal/yr	25.7	113	7	N/A	N/A	
PM10	7.6	lb/MMscf	1	11.4	lb/Kgal	5	2,886	MMscf/yr	19,622	Kgal/yr	25.5	112	7	N/A	N/A	
PM2.5	7.6	lb/MMscf	1	7.94	lb/Kgal	5	2,886	MMscf/yr	19,622	Kgal/yr	17.8	77.9	7	N/A	N/A	
SO2	0.6	lb/MMscf	1	141	lb/Kgal	5	2,886	MMscf/yr	19,622	Kgal/yr	317	1,386	7	N/A	N/A	
CO	84	lb/MMscf	1	5	lb/Kgal	5	2,886	MMscf/yr	19,622	Kgal/yr	27.7	121	7	N/A	N/A	
NOx	605	lb/MMscf	2	47	lb/Kgal	5	2,886	MMscf/yr	19,622	Kgal/yr	199	873	7	N/A	N/A	
VOC	5.5	lb/MMscf	1	0.28	lb/Kgal	5	2,886	MMscf/yr	19,622	Kgal/yr	1.81	7.94	7	N/A	N/A	
TRS																
H2SO4				2.2	lb/Kgal	5			19,622	Kgal/yr	4.94	21.6	7	N/A	N/A	
GHGs (CO2e)	117	lb/MMBtu	3	166	lb/MMBtu	3	2,943,360	MMBtu/yr	2,943,360	MMBtu/yr	55,818	244,483	7	N/A	N/A	
1,1,1-Trichloroethane				2.4E-04	lb/Kgal	6		MMscf/yr	19,622	Kgal/yr	5.3E-04	2.3E-03	7	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin				1.7E-08	lb/Kgal	6			19,622	Kgal/yr	3.8E-08	1.7E-07	7	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzofuran				1.4E-09	lb/Kgal	6			19,622	Kgal/yr	3.1E-09	1.3E-08	7	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin				4.0E-09	lb/Kgal	6			19,622	Kgal/yr	8.9E-09	3.9E-08	7	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzofuran				6.4E-10	lb/Kgal	6			19,622	Kgal/yr	1.4E-09	6.3E-09	7	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin				5.3E-10	lb/Kgal	6			19,622	Kgal/yr	1.2E-09	5.2E-09	7	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzofuran				3.0E-10	lb/Kgal	6			19,622	Kgal/yr	6.6E-10	2.9E-09	7	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin				5.5E-10	lb/Kgal	6			19,622	Kgal/yr	1.2E-09	5.4E-09	7	N/A	N/A	
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin				6.7E-10	lb/Kgal	6			19,622	Kgal/yr	1.5E-09	6.5E-09	7	N/A	N/A	
1,2,3,7,8-pentachlorodibenzofuran				5.4E-10	lb/Kgal	6			19,622	Kgal/yr	1.2E-09	5.3E-09	7	N/A	N/A	
1,2,3,7,8-pentachlorodibenzo-p-dioxin				2.1E-10	lb/Kgal	6			19,622	Kgal/yr	4.6E-10	2.0E-09	7	N/A	N/A	
2,3,4,6,7,8-hexachlorodibenzofuran				2.0E-10	lb/Kgal	6			19,622	Kgal/yr	4.4E-10	1.9E-09	7	N/A	N/A	
2,3,4,7,8-pentachlorodibenzofuran				4.1E-10	lb/Kgal	6			19,622	Kgal/yr	9.2E-10	4.0E-09	7	N/A	N/A	
2-Methylnaphthalene	2.4E-05	lb/MMscf	6				2,886	MMscf/yr			7.9E-06	3.5E-05	7	N/A	N/A	
Acenaphthene				2.1E-05	lb/Kgal	6			19,622	Kgal/yr	4.7E-05	2.1E-04	7	N/A	N/A	
Acenaphthylene				2.5E-07	lb/Kgal	6			19,622	Kgal/yr	5.7E-07	2.5E-06	7	N/A	N/A	
Anthracene				1.2E-06	lb/Kgal	6			19,622	Kgal/yr	2.7E-06	1.2E-05	7	N/A	N/A	
Antimony				5.3E-03	lb/Kgal	6			19,622	Kgal/yr	1.2E-02	5.2E-02	7	N/A	N/A	
Arsenic	2.2E-04	lb/MMscf	6	1.3E-03	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	3.0E-03	1.3E-02	7	N/A	N/A	
Barium	4.4E-03	lb/MMscf	6	2.6E-03	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	5.8E-03	2.5E-02	7	N/A	N/A	
Benzene	2.1E-03	lb/MMscf	6	2.1E-04	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	6.9E-04	3.0E-03	7	N/A	N/A	
Benzo(a)anthracene				4.0E-06	lb/Kgal	6			19,622	Kgal/yr	9.0E-06	3.9E-05	7	N/A	N/A	
Benzo(a)phenanthrene				2.4E-06	lb/Kgal	6			19,622	Kgal/yr	5.3E-06	2.3E-05	7	N/A	N/A	
Benzo(b,k)fluoranthene				1.5E-06	lb/Kgal	6			19,622	Kgal/yr	3.3E-06	1.5E-05	7	N/A	N/A	
Benzo(g,h,i)perylene				2.3E-06	lb/Kgal	6			19,622	Kgal/yr	5.1E-06	2.2E-05	7	N/A	N/A	
Beryllium				2.8E-05	lb/Kgal	6			19,622	Kgal/yr	6.2E-05	2.7E-04	7	N/A	N/A	
Cadmium	1.1E-03	lb/MMscf	6	4.0E-04	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	8.9E-04	3.9E-03	7	N/A	N/A	
Chromium	1.4E-03	lb/MMscf	6	8.5E-04	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	1.9E-03	8.3E-03	7	N/A	N/A	
Chromium (VI)				2.5E-04	lb/Kgal	6			19,622	Kgal/yr	5.6E-04	2.4E-03	7	N/A	N/A	
Cobalt	8.4E-05	lb/MMscf	6	6.0E-03	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	1.3E-02	5.9E-02	7	N/A	N/A	
Copper	8.5E-04	lb/MMscf	6	1.8E-03	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	3.9E-03	1.7E-02	7	N/A	N/A	
Dibenzo(a,h)anthracene				1.7E-06	lb/Kgal	6			19,622	Kgal/yr	3.7E-06	1.6E-05	7	N/A	N/A	
Ethyl Benzene				6.4E-05	lb/Kgal	6			19,622	Kgal/yr	1.4E-04	6.2E-04	7	N/A	N/A	
Fluoranthene	3.0E-06	lb/MMscf	6	4.8E-06	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	1.1E-05	4.7E-05	7	N/A	N/A	
Fluorene	2.8E-06	lb/MMscf	6	4.5E-06	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	1.0E-05	4.4E-05	7	N/A	N/A	
Formaldehyde	7.5E-02	lb/MMscf	6	3.3E-02	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	7.4E-02	3.2E-01	7	N/A	N/A	
Hydrochloric Acid				1.1E+00	lb/Kgal	6			19,622	Kgal/yr	2.4E+00	1.1E+01	7	N/A	N/A	
Hydrofluoric Acid				2.1E-02	lb/Kgal	6			19,622	Kgal/yr	4.7E-02	2.1E-01	7	N/A	N/A	
Indeno(1,2,3-c,d)pyrene				2.1E-06	lb/Kgal	6			19,622	Kgal/yr	4.8E-06	2.1E-05	7	N/A	N/A	
Lead	5.0E-04	lb/MMscf	6	1.5E-03	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	3.4E-03	1.5E-02	7	N/A	N/A	
Manganese	3.8E-04	lb/MMscf	6	3.0E-03	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	6.7E-03	2.9E-02	7	N/A	N/A	
Mercury	2.6E-04	lb/MMscf	6	1.1E-04	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	2.5E-04	1.1E-03	7	N/A	N/A	
Naphthalene	6.1E-04	lb/MMscf	6	1.1E-03	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	2.5E-03	1.1E-02	7	N/A	N/A	
n-Hexane	1.8E+00	lb/MMscf	6				2,886	MMscf/yr			5.9E-01	2.6E+00	7	N/A	N/A	
Nickel	2.1E-03	lb/MMscf	6	8.5E-02	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	1.9E-01	8.3E-01	7	N/A	N/A	
o-Xylene				1.1E-04	lb/Kgal	6			19,622	Kgal/yr	2.4E-04	1.1E-03	7	N/A	N/A	
Phenanthrene	1.7E-05	lb/MMscf	6	1.1E-05	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	2.4E-05	1.0E-04	7	N/A	N/A	
Pyrene	5.0E-06	lb/MMscf	6	4.3E-06	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	9.5E-06	4.2E-05	7	N/A	N/A	
Selenium				6.8E-04	lb/Kgal	6			19,622	Kgal/yr	1.5E-03	6.7E-03	7	N/A	N/A	
Toluene	3.4E-03	lb/MMscf	6	6.2E-03	lb/Kgal	6	2,886	MMscf/yr	19,622	Kgal/yr	1.4E-02	6.1E-02	7	N/A	N/A	
Xylenes (mixed isomers)				1.1E-04	lb/Kgal	6			19,622	Kgal/yr	2.5E-04	1.1E-03	7	N/A	N/A	

Notes:
1. EPA AP-42, Chapter 1.4; 7/98.
2. Stack test data, 5/2001.
3. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
4. Based on allowable grain loading limit from IDAPA 58.01.01.677; see Calculations 1 & 2 below.
5. EPA AP-42, Chapter 1.3; 9/98.
6. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
7. lbs/hr = Max fuel specific: [EF (lb/unit) * production rate (units/hr)]; tons/yr = Max fuel specific: [EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)]

N/A - no lb/hr or tpy emission limits applicable.

Calculations:

1. Calculation of lb/MMBtu PM equivalent to IDAPA 58.01.01.677 limit
   Emission Limit, Oil = 0.050 gr/dscf @ 3 % O2
   Fd = 9,190 dscf/MMBtu
   0.050 gr/dscf @ 3%O2 = 0.077 lb/MMBtu = 0.05 / 7000 gr/lb * 9190 dscf/MMBtu * O2 correction: 20.9/(20.9-3)
   Emission Limit, Gas = 0.015 gr/dscf @ 3 % O2
   Fd = 8,710 dscf/MMBtu
   0.015 gr/dscf @ 3%O2 = 0.022 lb/MMBtu = 0.015 / 7000 gr/lb * 8710 dscf/MMBtu * O2 correction: 20.9/(20.9-3)
   = 22.2 lb/MMscf (based on 1020 Btu/scf)
2. Calculation of fuel oil sulfur content needed to meet 0.050 gr/dscf @ 3 % O2 limit
   AP42 filterable PM = 9.19(S) + 3.22
   AP42 filterable PM @ 0.9%S 11.5 lb/Kgal = 0.077 lb/MMBtu (based on 150,000 Btu/gal)

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR3
Emission Point ID: 254
Emission Unit Group: No. 3 Power Boiler

Input Parameters:		
Natural gas	250	MMBtu/hr
Natural gas	2,190,000	MMBtu/yr
Natural gas	0.25	MMscf/hr
Natural gas	2,147	MMscf/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	**Emission Factor**	**E.F. Units**	**Notes**	**Annual Potential**	**Units**	**PTE (lb/hr)**	**PTE (tpy)**	**Notes**	**(lb/hr)**	**(tpy)**	**Notes**
PM	1.9	lb/MMscf	1	2,147	MMscf/yr	0.47	2.04	5	N/A	N/A	
PM10	7.6	lb/MMscf	1	2,147	MMscf/yr	1.86	8.16	5	N/A	N/A	
PM2.5	7.6	lb/MMscf	1	2,147	MMscf/yr	1.86	8.16	5	N/A	N/A	
SO2	0.6	lb/MMscf	1	2,147	MMscf/yr	0.15	0.64	5	N/A	N/A	
CO	84	lb/MMscf	1	2,147	MMscf/yr	20.6	90.2	5	N/A	N/A	
NOx	157	lb/MMscf	2	2,147	MMscf/yr	38.5	169	5	N/A	N/A	
VOC	5.5	lb/MMscf	1	2,147	MMscf/yr	1.35	5.90	5	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)	117	lb/MMBtu	3	2,190,000	MMBtu/yr	29,252	128,125	5	N/A	N/A	
2-Methylnaphthalene	2.4E-05	lb/mmscf	4	2,147	MMscf/yr	5.9E-06	2.6E-05	5	N/A	N/A	
Arsenic	2.2E-04	lb/mmscf	4	2,147	MMscf/yr	5.4E-05	2.4E-04	5	N/A	N/A	
Barium	4.4E-03	lb/mmscf	4	2,147	MMscf/yr	1.1E-03	4.7E-03	5	N/A	N/A	
Benzene	2.1E-03	lb/mmscf	4	2,147	MMscf/yr	5.1E-04	2.3E-03	5	N/A	N/A	
Cadmium	1.1E-03	lb/mmscf	4	2,147	MMscf/yr	2.7E-04	1.2E-03	5	N/A	N/A	
Chromium	1.4E-03	lb/mmscf	4	2,147	MMscf/yr	3.4E-04	1.5E-03	5	N/A	N/A	
Cobalt	8.4E-05	lb/mmscf	4	2,147	MMscf/yr	2.1E-05	9.0E-05	5	N/A	N/A	
Copper	8.5E-04	lb/mmscf	4	2,147	MMscf/yr	2.1E-04	9.1E-04	5	N/A	N/A	
Fluoranthene	3.0E-06	lb/mmscf	4	2,147	MMscf/yr	7.4E-07	3.2E-06	5	N/A	N/A	
Fluorene	2.8E-06	lb/mmscf	4	2,147	MMscf/yr	6.9E-07	3.0E-06	5	N/A	N/A	
Formaldehyde	7.5E-02	lb/mmscf	4	2,147	MMscf/yr	1.8E-02	8.1E-02	5	N/A	N/A	
Lead	5.0E-04	lb/mmscf	4	2,147	MMscf/yr	1.2E-04	5.4E-04	5	N/A	N/A	
Manganese	3.8E-04	lb/mmscf	4	2,147	MMscf/yr	9.3E-05	4.1E-04	5	N/A	N/A	
Mercury	2.6E-04	lb/mmscf	4	2,147	MMscf/yr	6.4E-05	2.8E-04	5	N/A	N/A	
Naphthalene	6.1E-04	lb/mmscf	4	2,147	MMscf/yr	1.5E-04	6.5E-04	5	N/A	N/A	
n-Hexane	1.8E+00	lb/mmscf	4	2,147	MMscf/yr	4.4E-01	1.9E+00	5	N/A	N/A	
Nickel	2.1E-03	lb/mmscf	4	2,147	MMscf/yr	5.1E-04	2.3E-03	5	N/A	N/A	
Phenanthrene	1.7E-05	lb/mmscf	4	2,147	MMscf/yr	4.2E-06	1.8E-05	5	N/A	N/A	
Pyrene	5.0E-06	lb/mmscf	4	2,147	MMscf/yr	1.2E-06	5.4E-06	5	N/A	N/A	
Toluene	3.4E-03	lb/mmscf	4	2,147	MMscf/yr	8.3E-04	3.7E-03	5	N/A	N/A	

Notes:
1. EPA AP-42, Chapter 1.4; 7/98.
2. Stack test data, 6/1997.
3. Natural gas default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
4. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
5. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR4
Emission Point ID: 784
Emission Unit Group: No. 1 Package Boiler

Input Parameters:		
Natural gas	250	MMBtu/hr
Natural gas	2,190,000	MMBtu/yr
Natural gas	0.25	MMscf/hr
Natural gas	2,147	MMscf/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	1.9	lb/MMscf	1	2,147	MMscf/yr	0.47	2.04	4	N/A	N/A	
PM10	7.6	lb/MMscf	1	2,147	MMscf/yr	1.86	8.16	4	N/A	N/A	
PM2.5	7.6	lb/MMscf	1	2,147	MMscf/yr	1.86	8.16	4	N/A	N/A	
SO2	0.6	lb/MMscf	1	2,147	MMscf/yr	0.15	0.64	4	N/A	N/A	
CO	84	lb/MMscf	1	2,147	MMscf/yr	20.6	90.2	4	N/A	N/A	
NOx	190	lb/MMscf	1	2,147	MMscf/yr	46.6	204	4	N/A	N/A	
VOC	5.5	lb/MMscf	1	2,147	MMscf/yr	1.35	5.90	4	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)	117	lb/MMBtu	2	2,190,000	MMBtu/yr	29,252	128,125	4	N/A	N/A	
2-Methylnaphthalene	2.4E-05	lb/mmscf	3	2,147	MMscf/yr	5.9E-06	2.6E-05	4	N/A	N/A	
Arsenic	2.2E-04	lb/mmscf	3	2,147	MMscf/yr	5.4E-05	2.4E-04	4	N/A	N/A	
Barium	4.4E-03	lb/mmscf	3	2,147	MMscf/yr	1.1E-03	4.7E-03	4	N/A	N/A	
Benzene	2.1E-03	lb/mmscf	3	2,147	MMscf/yr	5.1E-04	2.3E-03	4	N/A	N/A	
Cadmium	1.1E-03	lb/mmscf	3	2,147	MMscf/yr	2.7E-04	1.2E-03	4	N/A	N/A	
Chromium	1.4E-03	lb/mmscf	3	2,147	MMscf/yr	3.4E-04	1.5E-03	4	N/A	N/A	
Cobalt	8.4E-05	lb/mmscf	3	2,147	MMscf/yr	2.1E-05	9.0E-05	4	N/A	N/A	
Copper	8.5E-04	lb/mmscf	3	2,147	MMscf/yr	2.1E-04	9.1E-04	4	N/A	N/A	
Fluoranthene	3.0E-06	lb/mmscf	3	2,147	MMscf/yr	7.4E-07	3.2E-06	4	N/A	N/A	
Fluorene	2.8E-06	lb/mmscf	3	2,147	MMscf/yr	6.9E-07	3.0E-06	4	N/A	N/A	
Formaldehyde	7.5E-02	lb/mmscf	3	2,147	MMscf/yr	1.8E-02	8.1E-02	4	N/A	N/A	
Lead	5.0E-04	lb/mmscf	3	2,147	MMscf/yr	1.2E-04	5.4E-04	4	N/A	N/A	
Manganese	3.8E-04	lb/mmscf	3	2,147	MMscf/yr	9.3E-05	4.1E-04	4	N/A	N/A	
Mercury	2.6E-04	lb/mmscf	3	2,147	MMscf/yr	6.4E-05	2.8E-04	4	N/A	N/A	
Naphthalene	6.1E-04	lb/mmscf	3	2,147	MMscf/yr	1.5E-04	6.5E-04	4	N/A	N/A	
n-Hexane	1.8E+00	lb/mmscf	3	2,147	MMscf/yr	4.4E-01	1.9E+00	4	N/A	N/A	
Nickel	2.1E-03	lb/mmscf	3	2,147	MMscf/yr	5.1E-04	2.3E-03	4	N/A	N/A	
Phenanthrene	1.7E-05	lb/mmscf	3	2,147	MMscf/yr	4.2E-06	1.8E-05	4	N/A	N/A	
Pyrene	5.0E-06	lb/mmscf	3	2,147	MMscf/yr	1.2E-06	5.4E-06	4	N/A	N/A	
Toluene	3.4E-03	lb/mmscf	3	2,147	MMscf/yr	8.3E-04	3.7E-03	4	N/A	N/A	

Notes:
1. EPA AP-42, Chapter 1.4; 7/98.
3. Natural gas default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
4. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR5
Emission Point ID: 785
Emission Unit Group: No. 2 Package Boiler

Input Parameters:		
Natural gas	336	MMBtu/hr
Natural gas	2,943,360	MMBtu/yr
Natural gas	0.33	MMscf/hr
Natural gas	2,886	MMscf/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	1.9	lb/MMscf	1	2,886	MMscf/yr	0.63	2.74	4	N/A	N/A	
PM10	7.6	lb/MMscf	1	2,886	MMscf/yr	2.50	11.0	4	N/A	N/A	
PM2.5	7.6	lb/MMscf	1	2,886	MMscf/yr	2.50	11.0	4	N/A	N/A	
SO2	0.6	lb/MMscf	1	2,886	MMscf/yr	0.20	0.87	4	N/A	N/A	
CO	84	lb/MMscf	1	2,886	MMscf/yr	27.7	121	4	N/A	N/A	
NOx	190	lb/MMscf	1	2,886	MMscf/yr	62.6	274	4	N/A	N/A	
VOC	5.5	lb/MMscf	1	2,886	MMscf/yr	1.81	7.94	4	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)	117	lb/MMBtu	2	2,943,360	MMBtu/yr	39,315	172,199	4	N/A	N/A	
2-Methylnaphthalene	2.4E-05	lb/mmscf	3	2,886	MMscf/yr	7.9E-06	3.5E-05	4	N/A	N/A	
Arsenic	2.2E-04	lb/mmscf	3	2,886	MMscf/yr	7.2E-05	3.2E-04	4	N/A	N/A	
Barium	4.4E-03	lb/mmscf	3	2,886	MMscf/yr	1.4E-03	6.3E-03	4	N/A	N/A	
Benzene	2.1E-03	lb/mmscf	3	2,886	MMscf/yr	6.9E-04	3.0E-03	4	N/A	N/A	
Cadmium	1.1E-03	lb/mmscf	3	2,886	MMscf/yr	3.6E-04	1.6E-03	4	N/A	N/A	
Chromium	1.4E-03	lb/mmscf	3	2,886	MMscf/yr	4.6E-04	2.0E-03	4	N/A	N/A	
Cobalt	8.4E-05	lb/mmscf	3	2,886	MMscf/yr	2.8E-05	1.2E-04	4	N/A	N/A	
Copper	8.5E-04	lb/mmscf	3	2,886	MMscf/yr	2.8E-04	1.2E-03	4	N/A	N/A	
Fluoranthene	3.0E-06	lb/mmscf	3	2,886	MMscf/yr	9.9E-07	4.3E-06	4	N/A	N/A	
Fluorene	2.8E-06	lb/mmscf	3	2,886	MMscf/yr	9.2E-07	4.0E-06	4	N/A	N/A	
Formaldehyde	7.5E-02	lb/mmscf	3	2,886	MMscf/yr	2.5E-02	1.1E-01	4	N/A	N/A	
Lead	5.0E-04	lb/mmscf	3	2,886	MMscf/yr	1.6E-04	7.2E-04	4	N/A	N/A	
Manganese	3.8E-04	lb/mmscf	3	2,886	MMscf/yr	1.3E-04	5.5E-04	4	N/A	N/A	
Mercury	2.6E-04	lb/mmscf	3	2,886	MMscf/yr	8.6E-05	3.8E-04	4	N/A	N/A	
Naphthalene	6.1E-04	lb/mmscf	3	2,886	MMscf/yr	2.0E-04	8.8E-04	4	N/A	N/A	
n-Hexane	1.8E+00	lb/mmscf	3	2,886	MMscf/yr	5.9E-01	2.6E+00	4	N/A	N/A	
Nickel	2.1E-03	lb/mmscf	3	2,886	MMscf/yr	6.9E-04	3.0E-03	4	N/A	N/A	
Phenanthrene	1.7E-05	lb/mmscf	3	2,886	MMscf/yr	5.6E-06	2.5E-05	4	N/A	N/A	
Pyrene	5.0E-06	lb/mmscf	3	2,886	MMscf/yr	1.6E-06	7.2E-06	4	N/A	N/A	
Toluene	3.4E-03	lb/mmscf	3	2,886	MMscf/yr	1.1E-03	4.9E-03	4	N/A	N/A	

Notes:
1. EPA AP-42, Chapter 1.4; 7/98.
3. Natural gas default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
4. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR6
Emission Point ID: 786
Emission Unit Group: Temporary Boiler No. 1 (Example)

Input Parameters:		
Natural gas	99	MMBtu/hr
Natural gas	867,240	MMBtu/yr
Natural gas	0.10	MMscf/hr
Natural gas	850	MMscf/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	1.9	lb/MMscf	1	850	MMscf/yr	0.18	0.81	4	N/A	N/A	
PM10	7.6	lb/MMscf	1	850	MMscf/yr	0.74	3.23	4	N/A	N/A	
PM2.5	7.6	lb/MMscf	1	850	MMscf/yr	0.74	3.23	4	N/A	N/A	
SO2	0.6	lb/MMscf	1	850	MMscf/yr	0.06	0.26	4	N/A	N/A	
CO	84	lb/MMscf	1	850	MMscf/yr	8.15	35.7	4	N/A	N/A	
NOx	100	lb/MMscf	1	850	MMscf/yr	9.71	42.5	4	N/A	N/A	
VOC	5.5	lb/MMscf	1	850	MMscf/yr	0.53	2.34	4	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)	117	lb/MMBtu	2	867,240	MMBtu/yr	11,584	50,737	4	N/A	N/A	
2-Methylnaphthalene	2.4E-05	lb/mmscf	3	850	MMscf/yr	2.3E-06	1.0E-05	4	N/A	N/A	
Arsenic	2.2E-04	lb/mmscf	3	850	MMscf/yr	2.1E-05	9.4E-05	4	N/A	N/A	
Barium	4.4E-03	lb/mmscf	3	850	MMscf/yr	4.3E-04	1.9E-03	4	N/A	N/A	
Benzene	2.1E-03	lb/mmscf	3	850	MMscf/yr	2.0E-04	8.9E-04	4	N/A	N/A	
Cadmium	1.1E-03	lb/mmscf	3	850	MMscf/yr	1.1E-04	4.7E-04	4	N/A	N/A	
Chromium	1.4E-03	lb/mmscf	3	850	MMscf/yr	1.4E-04	6.0E-04	4	N/A	N/A	
Cobalt	8.4E-05	lb/mmscf	3	850	MMscf/yr	8.2E-06	3.6E-05	4	N/A	N/A	
Copper	8.5E-04	lb/mmscf	3	850	MMscf/yr	8.3E-05	3.6E-04	4	N/A	N/A	
Fluoranthene	3.0E-06	lb/mmscf	3	850	MMscf/yr	2.9E-07	1.3E-06	4	N/A	N/A	
Fluorene	2.8E-06	lb/mmscf	3	850	MMscf/yr	2.7E-07	1.2E-06	4	N/A	N/A	
Formaldehyde	7.5E-02	lb/mmscf	3	850	MMscf/yr	7.3E-03	3.2E-02	4	N/A	N/A	
Lead	5.0E-04	lb/mmscf	3	850	MMscf/yr	4.9E-05	2.1E-04	4	N/A	N/A	
Manganese	3.8E-04	lb/mmscf	3	850	MMscf/yr	3.7E-05	1.6E-04	4	N/A	N/A	
Mercury	2.6E-04	lb/mmscf	3	850	MMscf/yr	2.5E-05	1.1E-04	4	N/A	N/A	
Naphthalene	6.1E-04	lb/mmscf	3	850	MMscf/yr	5.9E-05	2.6E-04	4	N/A	N/A	
n-Hexane	1.8E+00	lb/mmscf	3	850	MMscf/yr	1.7E-01	7.7E-01	4	N/A	N/A	
Nickel	2.1E-03	lb/mmscf	3	850	MMscf/yr	2.0E-04	8.9E-04	4	N/A	N/A	
Phenanthrene	1.7E-05	lb/mmscf	3	850	MMscf/yr	1.7E-06	7.2E-06	4	N/A	N/A	
Pyrene	5.0E-06	lb/mmscf	3	850	MMscf/yr	4.9E-07	2.1E-06	4	N/A	N/A	
Toluene	3.4E-03	lb/mmscf	3	850	MMscf/yr	3.3E-04	1.4E-03	4	N/A	N/A	

Notes:
1. EPA AP-42, Chapter 1.4; 7/98.
3. Natural gas default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
4. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR7
Emission Point ID: 787
Emission Unit Group: Temporary Boiler No. 2 (Example)

Input Parameters:		
Natural gas	99	MMBtu/hr
Natural gas	867,240	MMBtu/yr
Natural gas	0.10	MMscf/hr
Natural gas	850	MMscf/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	1.9	lb/MMscf	1	850	MMscf/yr	0.18	0.81	4	N/A	N/A	
PM10	7.6	lb/MMscf	1	850	MMscf/yr	0.74	3.23	4	N/A	N/A	
PM2.5	7.6	lb/MMscf	1	850	MMscf/yr	0.74	3.23	4	N/A	N/A	
SO2	0.6	lb/MMscf	1	850	MMscf/yr	0.06	0.26	4	N/A	N/A	
CO	84	lb/MMscf	1	850	MMscf/yr	8.15	35.7	4	N/A	N/A	
NOx	100	lb/MMscf	1	850	MMscf/yr	9.71	42.5	4	N/A	N/A	
VOC	5.5	lb/MMscf	1	850	MMscf/yr	0.53	2.34	4	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)	117	lb/MMBtu	2	867,240	MMBtu/yr	11,584	50,737	4	N/A	N/A	
2-Methylnaphthalene	2.4E-05	lb/mmscf	3	850	MMscf/yr	2.3E-06	1.0E-05	4	N/A	N/A	
Arsenic	2.2E-04	lb/mmscf	3	850	MMscf/yr	2.1E-05	9.4E-05	4	N/A	N/A	
Barium	4.4E-03	lb/mmscf	3	850	MMscf/yr	4.3E-04	1.9E-03	4	N/A	N/A	
Benzene	2.1E-03	lb/mmscf	3	850	MMscf/yr	2.0E-04	8.9E-04	4	N/A	N/A	
Cadmium	1.1E-03	lb/mmscf	3	850	MMscf/yr	1.1E-04	4.7E-04	4	N/A	N/A	
Chromium	1.4E-03	lb/mmscf	3	850	MMscf/yr	1.4E-04	6.0E-04	4	N/A	N/A	
Cobalt	8.4E-05	lb/mmscf	3	850	MMscf/yr	8.2E-06	3.6E-05	4	N/A	N/A	
Copper	8.5E-04	lb/mmscf	3	850	MMscf/yr	8.3E-05	3.6E-04	4	N/A	N/A	
Fluoranthene	3.0E-06	lb/mmscf	3	850	MMscf/yr	2.9E-07	1.3E-06	4	N/A	N/A	
Fluorene	2.8E-06	lb/mmscf	3	850	MMscf/yr	2.7E-07	1.2E-06	4	N/A	N/A	
Formaldehyde	7.5E-02	lb/mmscf	3	850	MMscf/yr	7.3E-03	3.2E-02	4	N/A	N/A	
Lead	5.0E-04	lb/mmscf	3	850	MMscf/yr	4.9E-05	2.1E-04	4	N/A	N/A	
Manganese	3.8E-04	lb/mmscf	3	850	MMscf/yr	3.7E-05	1.6E-04	4	N/A	N/A	
Mercury	2.6E-04	lb/mmscf	3	850	MMscf/yr	2.5E-05	1.1E-04	4	N/A	N/A	
Naphthalene	6.1E-04	lb/mmscf	3	850	MMscf/yr	5.9E-05	2.6E-04	4	N/A	N/A	
n-Hexane	1.8E+00	lb/mmscf	3	850	MMscf/yr	1.7E-01	7.7E-01	4	N/A	N/A	
Nickel	2.1E-03	lb/mmscf	3	850	MMscf/yr	2.0E-04	8.9E-04	4	N/A	N/A	
Phenanthrene	1.7E-05	lb/mmscf	3	850	MMscf/yr	1.7E-06	7.2E-06	4	N/A	N/A	
Pyrene	5.0E-06	lb/mmscf	3	850	MMscf/yr	4.9E-07	2.1E-06	4	N/A	N/A	
Toluene	3.4E-03	lb/mmscf	3	850	MMscf/yr	3.3E-04	1.4E-03	4	N/A	N/A	

Notes:
1. EPA AP-42, Chapter 1.4; 7/98.
3. Natural gas default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
4. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR8
Facility Point ID: 189
Emission Unit Group: No. 4 Recovery Furnace

Input Parameters:		
Black liquor solids (BLS)	30	tons BLS/hr
Black liquor solids (BLS)	262,800	tons BLS/yr
Black liquor solids (BLS)	393	MMBtu/hr
Black liquor solids (BLS)	3,446,359	MMBtu/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	1.00	lb/ton BLS	1	262,800	tons BLS/yr	30.0	131	7	N/A	N/A	
PM10	0.61	lb/ton BLS	1,2	262,800	tons BLS/yr	18.4	80.4	7	N/A	N/A	
PM2.5	0.48	lb/ton BLS	1,2	262,800	tons BLS/yr	14.3	62.7	7	N/A	N/A	
SO2	0.01	lb/ton BLS	3	262,800	tons BLS/yr	0.30	1.30	7	N/A	N/A	
CO	1.23	lb/ton BLS	3	262,800	tons BLS/yr	36.9	162	7	N/A	N/A	
NOx	1.47	lb/ton BLS	2	262,800	tons BLS/yr	44.1	193	7	N/A	N/A	
VOC	0.15	lb/ton BLS	2	262,800	tons BLS/yr	4.53	19.8	7	N/A	N/A	
TRS	0.23	lb/ton BLS	4	262,800	tons BLS/yr	6.96	30.5	7	N/A	N/A	
H2SO4	0.01	lb/ton BLS	6	262,800	tons BLS/yr	0.25	1.08	7	N/A	N/A	
GHGs (CO2e)	213	lb/MMBtu	5	3,446,359	MMBtu/yr	83,819	367,128	7	N/A	N/A	
1,1,1-Trichloroethane	5.9E-07	lb/ton BLS	6	262,800	tons BLS/yr	1.8E-05	7.8E-05	7	N/A	N/A	
1,1,2-Trichloroethane	1.2E-05	lb/ton BLS	6	262,800	tons BLS/yr	3.6E-04	1.6E-03	7	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzofuran	1.1E-10	lb/ton BLS	6	262,800	tons BLS/yr	3.4E-09	1.5E-08	7	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	6.3E-10	lb/ton BLS	6	262,800	tons BLS/yr	1.9E-08	8.2E-08	7	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzofuran	2.6E-11	lb/ton BLS	6	262,800	tons BLS/yr	7.9E-10	3.5E-09	7	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	2.2E-10	lb/ton BLS	6	262,800	tons BLS/yr	6.5E-09	2.8E-08	7	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzofuran	1.8E-11	lb/ton BLS	6	262,800	tons BLS/yr	5.3E-10	2.3E-09	7	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzofuran	8.8E-12	lb/ton BLS	6	262,800	tons BLS/yr	2.6E-10	1.2E-09	7	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	8.8E-12	lb/ton BLS	6	262,800	tons BLS/yr	2.6E-10	1.2E-09	7	N/A	N/A	
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	2.2E-11	lb/ton BLS	6	262,800	tons BLS/yr	6.6E-10	2.9E-09	7	N/A	N/A	
1,2,3,7,8-pentachlorodibenzofuran	8.8E-12	lb/ton BLS	6	262,800	tons BLS/yr	2.6E-10	1.2E-09	7	N/A	N/A	
1,2,4-Trichlorobenzene	1.5E-04	lb/ton BLS	6	262,800	tons BLS/yr	4.5E-03	2.0E-02	7	N/A	N/A	
1,2-Dichloroethane	1.6E-07	lb/ton BLS	6	262,800	tons BLS/yr	4.7E-06	2.0E-05	7	N/A	N/A	
1,3-Butadiene	1.6E-04	lb/ton BLS	6	262,800	tons BLS/yr	4.8E-03	2.1E-02	7	N/A	N/A	
2,3,4,6,7,8-hexachlorodibenzofuran	1.8E-11	lb/ton BLS	6	262,800	tons BLS/yr	5.3E-10	2.3E-09	7	N/A	N/A	
2,3,4,7,8-pentachlorodibenzofuran	1.3E-11	lb/ton BLS	6	262,800	tons BLS/yr	4.0E-10	1.7E-09	7	N/A	N/A	
2,3,7,8-tetrachlorodibenzofuran	2.2E-11	lb/ton BLS	6	262,800	tons BLS/yr	6.6E-10	2.9E-09	7	N/A	N/A	
2-Methylnaphthalene	1.8E-06	lb/ton BLS	6	262,800	tons BLS/yr	5.3E-05	2.3E-04	7	N/A	N/A	
Acenaphthene	3.4E-07	lb/ton BLS	6	262,800	tons BLS/yr	1.0E-05	4.5E-05	7	N/A	N/A	
Acenaphthylene	9.7E-06	lb/ton BLS	6	262,800	tons BLS/yr	2.9E-04	1.3E-03	7	N/A	N/A	
Acetaldehyde	3.7E-03	lb/ton BLS	6	262,800	tons BLS/yr	1.1E-01	4.9E-01	7	N/A	N/A	
Anthracene	1.8E-06	lb/ton BLS	6	262,800	tons BLS/yr	5.3E-05	2.3E-04	7	N/A	N/A	
Antimony	3.2E-07	lb/ton BLS	6	262,800	tons BLS/yr	9.6E-06	4.2E-05	7	N/A	N/A	
Arsenic	3.2E-07	lb/ton BLS	6	262,800	tons BLS/yr	9.6E-06	4.2E-05	7	N/A	N/A	
Barium	1.9E-05	lb/ton BLS	6	262,800	tons BLS/yr	5.8E-04	2.5E-03	7	N/A	N/A	
Benzene	7.3E-04	lb/ton BLS	6	262,800	tons BLS/yr	2.2E-02	9.6E-02	7	N/A	N/A	
Benzo(a)anthracene	4.7E-07	lb/ton BLS	6	262,800	tons BLS/yr	1.4E-05	6.1E-05	7	N/A	N/A	
Benzo(a)phenanthrene	1.3E-06	lb/ton BLS	6	262,800	tons BLS/yr	3.8E-05	1.7E-04	7	N/A	N/A	
Benzo(a)pyrene	6.1E-08	lb/ton BLS	6	262,800	tons BLS/yr	1.8E-06	8.0E-06	7	N/A	N/A	
Benzo(b)fluoranthene	6.1E-07	lb/ton BLS	6	262,800	tons BLS/yr	1.8E-05	8.0E-05	7	N/A	N/A	
Benzo(e)pyrene	1.3E-06	lb/ton BLS	6	262,800	tons BLS/yr	3.8E-05	1.7E-04	7	N/A	N/A	
Benzo(g,h,i)perylene	1.1E-06	lb/ton BLS	6	262,800	tons BLS/yr	3.3E-05	1.4E-04	7	N/A	N/A	
Benzo(k)fluoranthene	1.3E-06	lb/ton BLS	6	262,800	tons BLS/yr	3.8E-05	1.7E-04	7	N/A	N/A	
Beryllium	4.1E-07	lb/ton BLS	6	262,800	tons BLS/yr	1.2E-05	5.3E-05	7	N/A	N/A	
Cadmium	6.4E-06	lb/ton BLS	6	262,800	tons BLS/yr	1.9E-04	8.4E-04	7	N/A	N/A	
Carbon Disulfide	6.6E-04	lb/ton BLS	6	262,800	tons BLS/yr	2.0E-02	8.7E-02	7	N/A	N/A	
Carbon Tetrachloride	1.2E-05	lb/ton BLS	6	262,800	tons BLS/yr	3.6E-04	1.6E-03	7	N/A	N/A	
Chlorobenzene	1.5E-05	lb/ton BLS	6	262,800	tons BLS/yr	4.4E-04	1.9E-03	7	N/A	N/A	
Chloroform	1.4E-05	lb/ton BLS	6	262,800	tons BLS/yr	4.3E-04	1.9E-03	7	N/A	N/A	
Chloromethane	5.4E-05	lb/ton BLS	6	262,800	tons BLS/yr	1.6E-03	7.1E-03	7	N/A	N/A	
Chromium	1.6E-05	lb/ton BLS	6	262,800	tons BLS/yr	4.9E-04	2.2E-03	7	N/A	N/A	
Chromium (VI)	8.3E-06	lb/ton BLS	6	262,800	tons BLS/yr	2.5E-04	1.1E-03	7	N/A	N/A	
Cobalt	1.6E-06	lb/ton BLS	6	262,800	tons BLS/yr	4.8E-05	2.1E-04	7	N/A	N/A	
Copper	2.0E-05	lb/ton BLS	6	262,800	tons BLS/yr	6.1E-04	2.7E-03	7	N/A	N/A	
Cumene	1.6E-03	lb/ton BLS	6	262,800	tons BLS/yr	4.9E-02	2.1E-01	7	N/A	N/A	
Dibenzo(a,h)anthracene	1.1E-08	lb/ton BLS	6	262,800	tons BLS/yr	3.2E-07	1.4E-06	7	N/A	N/A	
Ethyl Benzene	4.6E-05	lb/ton BLS	6	262,800	tons BLS/yr	1.4E-03	6.1E-03	7	N/A	N/A	
Fluoranthene	9.4E-06	lb/ton BLS	6	262,800	tons BLS/yr	2.8E-04	1.2E-03	7	N/A	N/A	
Fluorene	1.4E-06	lb/ton BLS	6	262,800	tons BLS/yr	4.3E-05	1.9E-04	7	N/A	N/A	
Formaldehyde	7.8E-03	lb/ton BLS	6	262,800	tons BLS/yr	2.3E-01	1.0E+00	7	N/A	N/A	
Hexachlorobenzene	1.4E-11	lb/ton BLS	6	262,800	tons BLS/yr	4.2E-10	1.8E-09	7	N/A	N/A	
Hydrochloric Acid	6.0E-02	lb/ton BLS	6	262,800	tons BLS/yr	1.8E+00	7.9E+00	7	N/A	N/A	
Indeno(1,2,3-c,d)pyrene	7.7E-08	lb/ton BLS	6	262,800	tons BLS/yr	2.3E-06	1.0E-05	7	N/A	N/A	
Lead	9.8E-06	lb/ton BLS	6	262,800	tons BLS/yr	2.9E-04	1.3E-03	7	N/A	N/A	
m,p-Xylene	4.4E-04	lb/ton BLS	6	262,800	tons BLS/yr	1.3E-02	5.8E-02	7	N/A	N/A	
Manganese	6.1E-05	lb/ton BLS	6	262,800	tons BLS/yr	1.8E-03	8.1E-03	7	N/A	N/A	
Mercury	3.4E-06	lb/ton BLS	6	262,800	tons BLS/yr	1.0E-04	4.4E-04	7	N/A	N/A	
Methanol	1.8E-02	lb/ton BLS	6	262,800	tons BLS/yr	5.4E-01	2.4E+00	7	N/A	N/A	
Methyl Isobutyl Ketone	4.7E-04	lb/ton BLS	6	262,800	tons BLS/yr	1.4E-02	6.2E-02	7	N/A	N/A	
Methylene Chloride	1.8E-04	lb/ton BLS	6	262,800	tons BLS/yr	5.4E-03	2.4E-02	7	N/A	N/A	
Naphthalene	1.6E-04	lb/ton BLS	6	262,800	tons BLS/yr	4.9E-03	2.2E-02	7	N/A	N/A	
n-Hexane	1.7E-04	lb/ton BLS	6	262,800	tons BLS/yr	5.0E-03	2.2E-02	7	N/A	N/A	
Nickel	3.2E-05	lb/ton BLS	6	262,800	tons BLS/yr	9.5E-04	4.2E-03	7	N/A	N/A	
o-Xylene	5.0E-04	lb/ton BLS	6	262,800	tons BLS/yr	1.5E-02	6.6E-02	7	N/A	N/A	
Phenanthrene	4.2E-05	lb/ton BLS	6	262,800	tons BLS/yr	1.3E-03	5.6E-03	7	N/A	N/A	
Phenol	1.4E-02	lb/ton BLS	6	262,800	tons BLS/yr	4.1E-01	1.8E+00	7	N/A	N/A	
Propionaldehyde	6.5E-03	lb/ton BLS	6	262,800	tons BLS/yr	2.0E-01	8.6E-01	7	N/A	N/A	
Pyrene	6.9E-06	lb/ton BLS	6	262,800	tons BLS/yr	2.1E-04	9.0E-04	7	N/A	N/A	
Selenium	2.5E-06	lb/ton BLS	6	262,800	tons BLS/yr	7.5E-05	3.3E-04	7	N/A	N/A	
Styrene	9.1E-05	lb/ton BLS	6	262,800	tons BLS/yr	2.7E-03	1.2E-02	7	N/A	N/A	
Tetrachloroethylene	2.2E-05	lb/ton BLS	6	262,800	tons BLS/yr	6.7E-04	2.9E-03	7	N/A	N/A	
Toluene	3.0E-04	lb/ton BLS	6	262,800	tons BLS/yr	8.9E-03	3.9E-02	7	N/A	N/A	
Trichloroethylene	7.9E-07	lb/ton BLS	6	262,800	tons BLS/yr	2.4E-05	1.0E-04	7	N/A	N/A	
Vinyl Chloride	3.1E-06	lb/ton BLS	6	262,800	tons BLS/yr	9.2E-05	4.0E-04	7	N/A	N/A	
Xylenes (mixed isomers)	5.0E-04	lb/ton BLS	6	262,800	tons BLS/yr	1.5E-02	6.6E-02	7	N/A	N/A	

Notes:
1. Emission factor calculated based on constraining permit limit (0.04 gr/dscf @ 8% O2) and standard industry conversion factors.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
3. Based on annual CEMS data for 2013.
4. Emission factor calculated based on constraining permit limit (15 ppm, assumed @ 8% O2) and standard industry conversion factors.
5. Based on methodolgy in 40 CFR 98 Subpart AA, including biogenic CO2.
6. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
7. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Black liquor solids (BLS)	30.0	tons BLS/hr
Black liquor solids (BLS)	262,800	tons BLS/yr

Emission Unit Number: PR9
Facility Point ID: 157
Emission Unit Group: No. 4 Smelt Dissolving Tank

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	0.20	lb/ton BLS	1	262,800	tons BLS/yr	6.00	26.3	6	N/A	N/A	
PM10	0.21	lb/ton BLS	1,2	262,800	tons BLS/yr	6.36	27.9	6	N/A	N/A	
PM2.5	0.21	lb/ton BLS	1,2	262,800	tons BLS/yr	6.36	27.9	6	N/A	N/A	
SO2	0.01	lb/ton BLS	2	262,800	tons BLS/yr	0.44	1.92	6	N/A	N/A	
CO	0.01	lb/ton BLS	2	262,800	tons BLS/yr	0.39	1.72	6	N/A	N/A	
NOx	0.03	lb/ton BLS	3	262,800	tons BLS/yr	0.99	4.34	6	N/A	N/A	
VOC	0.07	lb/ton BLS	2	262,800	tons BLS/yr	1.97	8.62	6	N/A	N/A	
TRS	0.03	lb/ton BLS	4	262,800	tons BLS/yr	0.99	4.34	6	N/A	N/A	
H2SO4											
GHGs (CO2e)											
1,1,1-Trichloroethane	5.5E-06	lb/ton BLS	5	262,800	tons BLS/yr	1.7E-04	7.2E-04	6	N/A	N/A	
1,1,2-Trichloroethane	1.0E-05	lb/ton BLS	5	262,800	tons BLS/yr	3.1E-04	1.4E-03	6	N/A	N/A	
1,2,4-Trichlorobenzene	2.8E-05	lb/ton BLS	5	262,800	tons BLS/yr	8.4E-04	3.7E-03	6	N/A	N/A	
1,2-Dichloroethane	7.2E-06	lb/ton BLS	5	262,800	tons BLS/yr	2.2E-04	9.5E-04	6	N/A	N/A	
1-Methylnaphthalene	7.6E-06	lb/ton BLS	5	262,800	tons BLS/yr	2.3E-04	9.9E-04	6	N/A	N/A	
2-Chloro-1,3-Butadiene	1.8E-05	lb/ton BLS	5	262,800	tons BLS/yr	5.4E-04	2.4E-03	6	N/A	N/A	
2-Methylnaphthalene	3.0E-03	lb/ton BLS	5	262,800	tons BLS/yr	9.0E-02	3.9E-01	6	N/A	N/A	
7,12-Dimethylbenz(a)anthracene	8.8E-08	lb/ton BLS	5	262,800	tons BLS/yr	2.6E-06	1.2E-05	6	N/A	N/A	
Acenaphthene	7.7E-07	lb/ton BLS	5	262,800	tons BLS/yr	2.3E-05	1.0E-04	6	N/A	N/A	
Acenaphthylene	1.4E-04	lb/ton BLS	5	262,800	tons BLS/yr	4.1E-03	1.8E-02	6	N/A	N/A	
Acetaldehyde	1.1E-03	lb/ton BLS	5	262,800	tons BLS/yr	3.3E-02	1.5E-01	6	N/A	N/A	
Acrolein	2.3E-04	lb/ton BLS	5	262,800	tons BLS/yr	6.8E-03	3.0E-02	6	N/A	N/A	
Anthracene	4.1E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.2E-03	5.4E-03	6	N/A	N/A	
Antimony	1.3E-07	lb/ton BLS	5	262,800	tons BLS/yr	3.8E-06	1.7E-05	6	N/A	N/A	
Arsenic	9.4E-07	lb/ton BLS	5	262,800	tons BLS/yr	2.8E-05	1.2E-04	6	N/A	N/A	
Barium	2.9E-06	lb/ton BLS	5	262,800	tons BLS/yr	8.7E-05	3.8E-04	6	N/A	N/A	
Benzene	1.6E-05	lb/ton BLS	5	262,800	tons BLS/yr	4.8E-04	2.1E-03	6	N/A	N/A	
Benzo(a)anthracene	4.5E-06	lb/ton BLS	5	262,800	tons BLS/yr	1.4E-04	5.9E-04	6	N/A	N/A	
Benzo(a)phenanthrene	1.1E-05	lb/ton BLS	5	262,800	tons BLS/yr	3.2E-04	1.4E-03	6	N/A	N/A	
Benzo(a)pyrene	3.6E-07	lb/ton BLS	5	262,800	tons BLS/yr	1.1E-05	4.7E-05	6	N/A	N/A	
Benzo(b)fluoranthene	9.2E-07	lb/ton BLS	5	262,800	tons BLS/yr	2.8E-05	1.2E-04	6	N/A	N/A	
Benzo(e)pyrene	4.7E-07	lb/ton BLS	5	262,800	tons BLS/yr	1.4E-05	6.2E-05	6	N/A	N/A	
Benzo(g,h,i)perylene	5.8E-08	lb/ton BLS	5	262,800	tons BLS/yr	1.7E-06	7.6E-06	6	N/A	N/A	
Benzo(k)fluoranthene	8.0E-07	lb/ton BLS	5	262,800	tons BLS/yr	2.4E-05	1.1E-04	6	N/A	N/A	
Beryllium	1.1E-07	lb/ton BLS	5	262,800	tons BLS/yr	3.3E-06	1.5E-05	6	N/A	N/A	
Biphenyl	3.6E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.1E-03	4.7E-03	6	N/A	N/A	
Bis(2-Ethylhexyl)phthalate	1.0E-05	lb/ton BLS	5	262,800	tons BLS/yr	3.0E-04	1.3E-03	6	N/A	N/A	
Bromomethane	1.3E-05	lb/ton BLS	5	262,800	tons BLS/yr	3.9E-04	1.7E-03	6	N/A	N/A	
Cadmium	5.2E-07	lb/ton BLS	5	262,800	tons BLS/yr	1.6E-05	6.8E-05	6	N/A	N/A	
Carbon Disulfide	3.4E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.0E-03	4.4E-03	6	N/A	N/A	
Carbon Tetrachloride	3.9E-06	lb/ton BLS	5	262,800	tons BLS/yr	1.2E-04	5.1E-04	6	N/A	N/A	
Chlorobenzene	1.9E-05	lb/ton BLS	5	262,800	tons BLS/yr	5.6E-04	2.4E-03	6	N/A	N/A	
Chloroform	7.1E-06	lb/ton BLS	5	262,800	tons BLS/yr	2.1E-04	9.3E-04	6	N/A	N/A	
Chloromethane	1.1E-04	lb/ton BLS	5	262,800	tons BLS/yr	3.4E-03	1.5E-02	6	N/A	N/A	
Chromium	2.1E-06	lb/ton BLS	5	262,800	tons BLS/yr	6.4E-05	2.8E-04	6	N/A	N/A	
Chromium (VI)	3.4E-06	lb/ton BLS	5	262,800	tons BLS/yr	1.0E-04	4.5E-04	6	N/A	N/A	
Cobalt	1.3E-07	lb/ton BLS	5	262,800	tons BLS/yr	3.9E-06	1.7E-05	6	N/A	N/A	
Copper	4.8E-06	lb/ton BLS	5	262,800	tons BLS/yr	1.4E-04	6.3E-04	6	N/A	N/A	
Cumene	1.4E-04	lb/ton BLS	5	262,800	tons BLS/yr	4.3E-03	1.9E-02	6	N/A	N/A	
Dibenzo(a,h)anthracene	3.6E-08	lb/ton BLS	5	262,800	tons BLS/yr	1.1E-06	4.7E-06	6	N/A	N/A	
Di-n-Butyl Phthalate	2.5E-04	lb/ton BLS	5	262,800	tons BLS/yr	7.4E-03	3.2E-02	6	N/A	N/A	
Ethyl Benzene	8.7E-06	lb/ton BLS	5	262,800	tons BLS/yr	2.6E-04	1.1E-03	6	N/A	N/A	
Fluoranthene	8.9E-05	lb/ton BLS	5	262,800	tons BLS/yr	2.7E-03	1.2E-02	6	N/A	N/A	
Fluorene	9.1E-06	lb/ton BLS	5	262,800	tons BLS/yr	2.7E-04	1.2E-03	6	N/A	N/A	
Formaldehyde	3.2E-04	lb/ton BLS	5	262,800	tons BLS/yr	9.5E-03	4.1E-02	6	N/A	N/A	
Indeno(1,2,3-c,d)pyrene	8.8E-08	lb/ton BLS	5	262,800	tons BLS/yr	2.6E-06	1.2E-05	6	N/A	N/A	
Lead	6.9E-07	lb/ton BLS	5	262,800	tons BLS/yr	2.1E-05	9.1E-05	6	N/A	N/A	
m,p-Xylene	6.0E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.8E-03	7.8E-03	6	N/A	N/A	
Manganese	1.5E-05	lb/ton BLS	5	262,800	tons BLS/yr	4.6E-04	2.0E-03	6	N/A	N/A	
Mercury	1.5E-07	lb/ton BLS	5	262,800	tons BLS/yr	4.6E-06	2.0E-05	6	N/A	N/A	
Methanol	7.3E-02	lb/ton BLS	5	262,800	tons BLS/yr	2.2E+00	9.6E+00	6	N/A	N/A	
Methyl Isobutyl Ketone	1.9E-04	lb/ton BLS	5	262,800	tons BLS/yr	5.8E-03	2.5E-02	6	N/A	N/A	
Methylene Chloride	3.9E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.2E-03	5.1E-03	6	N/A	N/A	
Naphthalene	7.9E-05	lb/ton BLS	5	262,800	tons BLS/yr	2.4E-03	1.0E-02	6	N/A	N/A	
n-Hexane	4.7E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.4E-03	6.1E-03	6	N/A	N/A	
Nickel	1.7E-06	lb/ton BLS	5	262,800	tons BLS/yr	5.0E-05	2.2E-04	6	N/A	N/A	
o-Xylene	1.1E-04	lb/ton BLS	5	262,800	tons BLS/yr	3.3E-03	1.4E-02	6	N/A	N/A	
Perylene	8.5E-08	lb/ton BLS	5	262,800	tons BLS/yr	2.5E-06	1.1E-05	6	N/A	N/A	
Phenanthrene	2.9E-04	lb/ton BLS	5	262,800	tons BLS/yr	8.6E-03	3.8E-02	6	N/A	N/A	
Phenol	6.1E-04	lb/ton BLS	5	262,800	tons BLS/yr	1.8E-02	8.1E-02	6	N/A	N/A	
Propionaldehyde	6.4E-04	lb/ton BLS	5	262,800	tons BLS/yr	1.9E-02	8.4E-02	6	N/A	N/A	
Pyrene	4.5E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.4E-03	6.0E-03	6	N/A	N/A	
Selenium	3.8E-07	lb/ton BLS	5	262,800	tons BLS/yr	1.1E-05	5.0E-05	6	N/A	N/A	
Styrene	5.6E-06	lb/ton BLS	5	262,800	tons BLS/yr	1.7E-04	7.3E-04	6	N/A	N/A	
Tetrachloroethylene	1.7E-05	lb/ton BLS	5	262,800	tons BLS/yr	5.1E-04	2.2E-03	6	N/A	N/A	
Toluene	3.8E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.1E-03	5.0E-03	6	N/A	N/A	
Trichloroethylene	2.8E-05	lb/ton BLS	5	262,800	tons BLS/yr	8.3E-04	3.6E-03	6	N/A	N/A	
Vinyl Acetate	4.4E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.3E-03	5.8E-03	6	N/A	N/A	
Xylenes (mixed isomers)	4.5E-05	lb/ton BLS	5	262,800	tons BLS/yr	1.4E-03	6.0E-03	6	N/A	N/A	

Notes:
1. Permit limit.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
3. NCASI TB 884 Table 4.15, pg. 17.
4. Emission factor set equal to NSPS subpart BB limit (estimate only, unit is not subject to NSPS).
5. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
6. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR10
Facility Point ID: 721
Emission Unit Group: No. 5 Recovery Furnace

Input Parameters:		
Black liquor solids (BLS)	92	tons BLS/hr
Black liquor solids (BLS)	805,920	tons BLS/yr
Black liquor solids (BLS)	1,206	MMBtu/hr
Black liquor solids (BLS)	10,568,835	MMBtu/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM						58.0	254	1	58	N/A	1
PM10						30.8	181	1,2	N/A	N/A	
PM2.5						22.9	100	1,2	N/A	N/A	
SO2						112	490	3	112	490	3
CO						880	3,850	3	880	3,850	3
NOx						160	700	3	160	700	3
VOC	0.15	lb/ton BLS	2	805,920	tons BLS/yr	13.9	60.9	7	N/A	N/A	
TRS	0.08	lb/ton BLS	4	805,920	tons BLS/yr	7.08	31.0	7	N/A	N/A	
H2SO4	0.01	lb/ton BLS	6	805,920	tons BLS/yr	0.76	3.32	7	N/A	N/A	
GHGs (CO2e)	213	lb/MMBtu	5	10,568,835	MMBtu/yr	257,045	1,125,859	7	N/A	N/A	
1,1,1-Trichloroethane	5.9E-07	lb/ton BLS	6	805,920	tons BLS/yr	5.4E-05	2.4E-04	7	N/A	N/A	
1,1,2-Trichloroethane	1.2E-05	lb/ton BLS	6	805,920	tons BLS/yr	1.1E-03	4.8E-03	7	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzofuran	1.1E-10	lb/ton BLS	6	805,920	tons BLS/yr	1.1E-08	4.6E-08	7	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	6.3E-10	lb/ton BLS	6	805,920	tons BLS/yr	5.8E-08	2.5E-07	7	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzofuran	2.6E-11	lb/ton BLS	6	805,920	tons BLS/yr	2.4E-09	1.1E-08	7	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	2.2E-10	lb/ton BLS	6	805,920	tons BLS/yr	2.0E-08	8.7E-08	7	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzofuran	1.8E-11	lb/ton BLS	6	805,920	tons BLS/yr	1.6E-09	7.1E-09	7	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzofuran	8.8E-12	lb/ton BLS	6	805,920	tons BLS/yr	8.1E-10	3.6E-09	7	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	8.8E-12	lb/ton BLS	6	805,920	tons BLS/yr	8.1E-10	3.6E-09	7	N/A	N/A	
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	2.2E-11	lb/ton BLS	6	805,920	tons BLS/yr	2.0E-09	8.9E-09	7	N/A	N/A	
1,2,3,7,8-pentachlorodibenzofuran	8.8E-12	lb/ton BLS	6	805,920	tons BLS/yr	8.1E-10	3.6E-09	7	N/A	N/A	
1,2,4-Trichlorobenzene	1.5E-04	lb/ton BLS	6	805,920	tons BLS/yr	1.4E-02	6.0E-02	7	N/A	N/A	
1,2-Dichloroethane	1.6E-07	lb/ton BLS	6	805,920	tons BLS/yr	1.4E-05	6.3E-05	7	N/A	N/A	
1,3-Butadiene	1.6E-04	lb/ton BLS	6	805,920	tons BLS/yr	1.5E-02	6.4E-02	7	N/A	N/A	
2,3,4,6,7,8-hexachlorodibenzofuran	1.8E-11	lb/ton BLS	6	805,920	tons BLS/yr	1.6E-09	7.1E-09	7	N/A	N/A	
2,3,4,7,8-pentachlorodibenzofuran	1.3E-11	lb/ton BLS	6	805,920	tons BLS/yr	1.2E-09	5.3E-09	7	N/A	N/A	
2,3,7,8-tetrachlorodibenzofuran	2.2E-11	lb/ton BLS	6	805,920	tons BLS/yr	2.0E-09	8.9E-09	7	N/A	N/A	
2-Methylnaphthalene	1.8E-06	lb/ton BLS	6	805,920	tons BLS/yr	1.6E-04	7.1E-04	7	N/A	N/A	
Acenaphthene	3.4E-07	lb/ton BLS	6	805,920	tons BLS/yr	3.2E-05	1.4E-04	7	N/A	N/A	
Acenaphthylene	9.7E-06	lb/ton BLS	6	805,920	tons BLS/yr	8.9E-04	3.9E-03	7	N/A	N/A	
Acetaldehyde	3.7E-03	lb/ton BLS	6	805,920	tons BLS/yr	3.4E-01	1.5E+00	7	N/A	N/A	
Anthracene	1.8E-06	lb/ton BLS	6	805,920	tons BLS/yr	1.6E-04	7.1E-04	7	N/A	N/A	
Antimony	3.2E-07	lb/ton BLS	6	805,920	tons BLS/yr	2.9E-05	1.3E-04	7	N/A	N/A	
Arsenic	3.2E-07	lb/ton BLS	6	805,920	tons BLS/yr	2.9E-05	1.3E-04	7	N/A	N/A	
Barium	1.9E-05	lb/ton BLS	6	805,920	tons BLS/yr	1.8E-03	7.8E-03	7	N/A	N/A	
Benzene	7.3E-04	lb/ton BLS	6	805,920	tons BLS/yr	6.7E-02	2.9E-01	7	N/A	N/A	
Benzo(a)anthracene	4.7E-07	lb/ton BLS	6	805,920	tons BLS/yr	4.3E-05	1.9E-04	7	N/A	N/A	
Benzo(a)phenanthrene	1.3E-06	lb/ton BLS	6	805,920	tons BLS/yr	1.2E-04	5.1E-04	7	N/A	N/A	
Benzo(a)pyrene	6.1E-08	lb/ton BLS	6	805,920	tons BLS/yr	5.6E-06	2.5E-05	7	N/A	N/A	
Benzo(b)fluoranthene	6.1E-07	lb/ton BLS	6	805,920	tons BLS/yr	5.6E-05	2.5E-04	7	N/A	N/A	
Benzo(e)pyrene	1.3E-06	lb/ton BLS	6	805,920	tons BLS/yr	1.2E-04	5.1E-04	7	N/A	N/A	
Benzo(g,h,i)perylene	1.1E-06	lb/ton BLS	6	805,920	tons BLS/yr	1.0E-04	4.4E-04	7	N/A	N/A	
Benzo(k)fluoranthene	1.3E-06	lb/ton BLS	6	805,920	tons BLS/yr	1.2E-04	5.1E-04	7	N/A	N/A	
Beryllium	4.1E-07	lb/ton BLS	6	805,920	tons BLS/yr	3.7E-05	1.6E-04	7	N/A	N/A	
Cadmium	6.4E-06	lb/ton BLS	6	805,920	tons BLS/yr	5.9E-04	2.6E-03	7	N/A	N/A	
Carbon Disulfide	6.6E-04	lb/ton BLS	6	805,920	tons BLS/yr	6.1E-02	2.7E-01	7	N/A	N/A	
Carbon Tetrachloride	1.2E-05	lb/ton BLS	6	805,920	tons BLS/yr	1.1E-03	4.9E-03	7	N/A	N/A	
Chlorobenzene	1.5E-05	lb/ton BLS	6	805,920	tons BLS/yr	1.3E-03	5.9E-03	7	N/A	N/A	
Chloroform	1.4E-05	lb/ton BLS	6	805,920	tons BLS/yr	1.3E-03	5.7E-03	7	N/A	N/A	
Chloromethane	5.4E-05	lb/ton BLS	6	805,920	tons BLS/yr	4.9E-03	2.2E-02	7	N/A	N/A	
Chromium	1.6E-05	lb/ton BLS	6	805,920	tons BLS/yr	1.5E-03	6.6E-03	7	N/A	N/A	
Chromium (VI)	8.3E-06	lb/ton BLS	6	805,920	tons BLS/yr	7.6E-04	3.3E-03	7	N/A	N/A	
Cobalt	1.6E-06	lb/ton BLS	6	805,920	tons BLS/yr	1.5E-04	6.5E-04	7	N/A	N/A	
Copper	2.0E-05	lb/ton BLS	6	805,920	tons BLS/yr	1.9E-03	8.2E-03	7	N/A	N/A	
Cumene	1.6E-03	lb/ton BLS	6	805,920	tons BLS/yr	1.5E-01	6.6E-01	7	N/A	N/A	
Dibenzo(a,h)anthracene	1.1E-08	lb/ton BLS	6	805,920	tons BLS/yr	9.7E-07	4.2E-06	7	N/A	N/A	
Ethyl Benzene	4.6E-05	lb/ton BLS	6	805,920	tons BLS/yr	4.3E-03	1.9E-02	7	N/A	N/A	
Fluoranthene	9.4E-06	lb/ton BLS	6	805,920	tons BLS/yr	8.7E-04	3.8E-03	7	N/A	N/A	
Fluorene	1.4E-06	lb/ton BLS	6	805,920	tons BLS/yr	1.3E-04	5.7E-04	7	N/A	N/A	
Formaldehyde	7.8E-03	lb/ton BLS	6	805,920	tons BLS/yr	7.2E-01	3.1E+00	7	N/A	N/A	
Hexachlorobenzene	1.4E-11	lb/ton BLS	6	805,920	tons BLS/yr	1.3E-09	5.7E-09	7	N/A	N/A	
Hydrochloric Acid	6.0E-02	lb/ton BLS	6	805,920	tons BLS/yr	5.5E+00	2.4E+01	7	N/A	N/A	
Indeno(1,2,3-c,d)pyrene	7.7E-08	lb/ton BLS	6	805,920	tons BLS/yr	7.0E-06	3.1E-05	7	N/A	N/A	
Lead	9.8E-06	lb/ton BLS	6	805,920	tons BLS/yr	9.0E-04	4.0E-03	7	N/A	N/A	
m,p-Xylene	4.4E-04	lb/ton BLS	6	805,920	tons BLS/yr	4.0E-02	1.8E-01	7	N/A	N/A	
Manganese	6.1E-05	lb/ton BLS	6	805,920	tons BLS/yr	5.6E-03	2.5E-02	7	N/A	N/A	
Mercury	3.4E-06	lb/ton BLS	6	805,920	tons BLS/yr	3.1E-04	1.4E-03	7	N/A	N/A	
Methanol	1.8E-02	lb/ton BLS	6	805,920	tons BLS/yr	1.7E+00	7.3E+00	7	N/A	N/A	
Methyl Isobutyl Ketone	4.7E-04	lb/ton BLS	6	805,920	tons BLS/yr	4.3E-02	1.9E-01	7	N/A	N/A	
Methylene Chloride	1.8E-04	lb/ton BLS	6	805,920	tons BLS/yr	1.6E-02	7.2E-02	7	N/A	N/A	
Naphthalene	1.6E-04	lb/ton BLS	6	805,920	tons BLS/yr	1.5E-02	6.6E-02	7	N/A	N/A	
n-Hexane	1.7E-04	lb/ton BLS	6	805,920	tons BLS/yr	1.5E-02	6.7E-02	7	N/A	N/A	
Nickel	3.2E-05	lb/ton BLS	6	805,920	tons BLS/yr	2.9E-03	1.3E-02	7	N/A	N/A	
o-Xylene	5.0E-04	lb/ton BLS	6	805,920	tons BLS/yr	4.6E-02	2.0E-01	7	N/A	N/A	
Phenanthrene	4.2E-05	lb/ton BLS	6	805,920	tons BLS/yr	3.9E-03	1.7E-02	7	N/A	N/A	
Phenol	1.4E-02	lb/ton BLS	6	805,920	tons BLS/yr	1.3E+00	5.5E+00	7	N/A	N/A	
Propionaldehyde	6.5E-03	lb/ton BLS	6	805,920	tons BLS/yr	6.0E-01	2.6E+00	7	N/A	N/A	
Pyrene	6.9E-06	lb/ton BLS	6	805,920	tons BLS/yr	6.3E-04	2.8E-03	7	N/A	N/A	
Selenium	2.5E-06	lb/ton BLS	6	805,920	tons BLS/yr	2.3E-04	1.0E-03	7	N/A	N/A	
Styrene	9.1E-05	lb/ton BLS	6	805,920	tons BLS/yr	8.3E-03	3.7E-02	7	N/A	N/A	
Tetrachloroethylene	2.2E-05	lb/ton BLS	6	805,920	tons BLS/yr	2.1E-03	9.0E-03	7	N/A	N/A	
Toluene	3.0E-04	lb/ton BLS	6	805,920	tons BLS/yr	2.7E-02	1.2E-01	7	N/A	N/A	
Trichloroethylene	7.9E-07	lb/ton BLS	6	805,920	tons BLS/yr	7.3E-05	3.2E-04	7	N/A	N/A	
Vinyl Chloride	3.1E-06	lb/ton BLS	6	805,920	tons BLS/yr	2.8E-04	1.2E-03	7	N/A	N/A	
Xylenes (mixed isomers)	5.0E-04	lb/ton BLS	6	805,920	tons BLS/yr	4.6E-02	2.0E-01	7	N/A	N/A	

Notes:
1. Permit limit (lb/hr); tpy = lb/hr * 8760 / 2000.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
3. Permit limit.
4. Emission factor calculated based on permit limit (5 ppm @ 8% O2) and standard industry conversion factors.
5. Based on methodolgy in 40 CFR 98 Subpart AA, including biogenic CO2.
6. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
7. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Black liquor solids (BLS)	92.0	tons BLS/hr
Black liquor solids (BLS)	805,920	tons BLS/yr

Emission Unit Number: PR11
Facility Point ID: 204
Emission Unit Group: No. 5 Smelt Dissolving Tank

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM						10.4	45.0	1	10.4	45	1
PM10						10.4	45.0	1,2	N/A	N/A	
PM2.5						10.4	45.0	1,2	N/A	N/A	
SO2	0.01	lb/ton BLS	2	805,920	tons BLS/yr	1.34	5.88		N/A	N/A	
CO	0.01	lb/ton BLS	2	805,920	tons BLS/yr	1.21	5.28		N/A	N/A	
NOx	0.03	lb/ton BLS	3	805,920	tons BLS/yr	3.04	13.3		N/A	N/A	
VOC	0.07	lb/ton BLS	2	805,920	tons BLS/yr	6.04	26.4		N/A	N/A	
TRS	0.03	lb/ton BLS	1	805,920	tons BLS/yr	3.04	13.3		N/A	N/A	
H2SO4											
GHGs (CO2e)											
1,1,1-Trichloroethane	5.5E-06	lb/ton BLS	4	805,920	tons BLS/yr	5.1E-04	2.2E-03	4	N/A	N/A	
1,1,2-Trichloroethane	1.0E-05	lb/ton BLS	4	805,920	tons BLS/yr	9.5E-04	4.2E-03	4	N/A	N/A	
1,2,4-Trichlorobenzene	2.8E-05	lb/ton BLS	4	805,920	tons BLS/yr	2.6E-03	1.1E-02	4	N/A	N/A	
1,2-Dichloroethane	7.2E-06	lb/ton BLS	4	805,920	tons BLS/yr	6.7E-04	2.9E-03	4	N/A	N/A	
1-Methylnaphthalene	7.6E-06	lb/ton BLS	4	805,920	tons BLS/yr	7.0E-04	3.0E-03	4	N/A	N/A	
2-Chloro-1,3-Butadiene	1.8E-05	lb/ton BLS	4	805,920	tons BLS/yr	1.7E-03	7.3E-03	4	N/A	N/A	
2-Methylnaphthalene	3.0E-03	lb/ton BLS	4	805,920	tons BLS/yr	2.8E-01	1.2E+00	4	N/A	N/A	
7,12-Dimethylbenz(a)anthracene	8.8E-08	lb/ton BLS	4	805,920	tons BLS/yr	8.1E-06	3.5E-05	4	N/A	N/A	
Acenaphthene	7.7E-07	lb/ton BLS	4	805,920	tons BLS/yr	7.1E-05	3.1E-04	4	N/A	N/A	
Acenaphthylene	1.4E-04	lb/ton BLS	4	805,920	tons BLS/yr	1.3E-02	5.5E-02	4	N/A	N/A	
Acetaldehyde	1.1E-03	lb/ton BLS	4	805,920	tons BLS/yr	1.0E-01	4.5E-01	4	N/A	N/A	
Acrolein	2.3E-04	lb/ton BLS	4	805,920	tons BLS/yr	2.1E-02	9.1E-02	4	N/A	N/A	
Anthracene	4.1E-05	lb/ton BLS	4	805,920	tons BLS/yr	3.8E-03	1.7E-02	4	N/A	N/A	
Antimony	1.3E-07	lb/ton BLS	4	805,920	tons BLS/yr	1.2E-05	5.2E-05	4	N/A	N/A	
Arsenic	9.4E-07	lb/ton BLS	4	805,920	tons BLS/yr	8.7E-05	3.8E-04	4	N/A	N/A	
Barium	2.9E-06	lb/ton BLS	4	805,920	tons BLS/yr	2.7E-04	1.2E-03	4	N/A	N/A	
Benzene	1.6E-05	lb/ton BLS	4	805,920	tons BLS/yr	1.5E-03	6.5E-03	4	N/A	N/A	
Benzo(a)anthracene	4.5E-06	lb/ton BLS	4	805,920	tons BLS/yr	4.2E-04	1.8E-03	4	N/A	N/A	
Benzo(a)phenanthrene	1.1E-05	lb/ton BLS	4	805,920	tons BLS/yr	9.8E-04	4.3E-03	4	N/A	N/A	
Benzo(a)pyrene	3.6E-07	lb/ton BLS	4	805,920	tons BLS/yr	3.3E-05	1.4E-04	4	N/A	N/A	
Benzo(b)fluoranthene	9.2E-07	lb/ton BLS	4	805,920	tons BLS/yr	8.4E-05	3.7E-04	4	N/A	N/A	
Benzo(e)pyrene	4.7E-07	lb/ton BLS	4	805,920	tons BLS/yr	4.4E-05	1.9E-04	4	N/A	N/A	
Benzo(g,h,i)perylene	5.8E-08	lb/ton BLS	4	805,920	tons BLS/yr	5.3E-06	2.3E-05	4	N/A	N/A	
Benzo(k)fluoranthene	8.0E-07	lb/ton BLS	4	805,920	tons BLS/yr	7.4E-05	3.2E-04	4	N/A	N/A	
Beryllium	1.1E-07	lb/ton BLS	4	805,920	tons BLS/yr	1.0E-05	4.5E-05	4	N/A	N/A	
Biphenyl	3.6E-05	lb/ton BLS	4	805,920	tons BLS/yr	3.3E-03	1.5E-02	4	N/A	N/A	
Bis(2-Ethylhexyl)phthalate	1.0E-05	lb/ton BLS	4	805,920	tons BLS/yr	9.2E-04	4.0E-03	4	N/A	N/A	
Bromomethane	1.3E-05	lb/ton BLS	4	805,920	tons BLS/yr	1.2E-03	5.2E-03	4	N/A	N/A	
Cadmium	5.2E-07	lb/ton BLS	4	805,920	tons BLS/yr	4.8E-05	2.1E-04	4	N/A	N/A	
Carbon Disulfide	3.4E-05	lb/ton BLS	4	805,920	tons BLS/yr	3.1E-03	1.3E-02	4	N/A	N/A	
Carbon Tetrachloride	3.9E-06	lb/ton BLS	4	805,920	tons BLS/yr	3.6E-04	1.6E-03	4	N/A	N/A	
Chlorobenzene	1.9E-05	lb/ton BLS	4	805,920	tons BLS/yr	1.7E-03	7.5E-03	4	N/A	N/A	
Chloroform	7.1E-06	lb/ton BLS	4	805,920	tons BLS/yr	6.5E-04	2.9E-03	4	N/A	N/A	
Chloromethane	1.1E-04	lb/ton BLS	4	805,920	tons BLS/yr	1.0E-02	4.5E-02	4	N/A	N/A	
Chromium	2.1E-06	lb/ton BLS	4	805,920	tons BLS/yr	2.0E-04	8.5E-04	4	N/A	N/A	
Chromium (VI)	3.4E-06	lb/ton BLS	4	805,920	tons BLS/yr	3.1E-04	1.4E-03	4	N/A	N/A	
Cobalt	1.3E-07	lb/ton BLS	4	805,920	tons BLS/yr	1.2E-05	5.3E-05	4	N/A	N/A	
Copper	4.8E-06	lb/ton BLS	4	805,920	tons BLS/yr	4.4E-04	1.9E-03	4	N/A	N/A	
Cumene	1.4E-04	lb/ton BLS	4	805,920	tons BLS/yr	1.3E-02	5.8E-02	4	N/A	N/A	
Dibenzo(a,h)anthracene	3.6E-08	lb/ton BLS	4	805,920	tons BLS/yr	3.3E-06	1.4E-05	4	N/A	N/A	
Di-n-Butyl Phthalate	2.5E-04	lb/ton BLS	4	805,920	tons BLS/yr	2.3E-02	9.9E-02	4	N/A	N/A	
Ethyl Benzene	8.7E-06	lb/ton BLS	4	805,920	tons BLS/yr	8.0E-04	3.5E-03	4	N/A	N/A	
Fluoranthene	8.9E-05	lb/ton BLS	4	805,920	tons BLS/yr	8.2E-03	3.6E-02	4	N/A	N/A	
Fluorene	9.1E-06	lb/ton BLS	4	805,920	tons BLS/yr	8.4E-04	3.7E-03	4	N/A	N/A	
Formaldehyde	3.2E-04	lb/ton BLS	4	805,920	tons BLS/yr	2.9E-02	1.3E-01	4	N/A	N/A	
Indeno(1,2,3-c,d)pyrene	8.8E-08	lb/ton BLS	4	805,920	tons BLS/yr	8.1E-06	3.5E-05	4	N/A	N/A	
Lead	6.9E-07	lb/ton BLS	4	805,920	tons BLS/yr	6.3E-05	2.8E-04	4	N/A	N/A	
m,p-Xylene	6.0E-05	lb/ton BLS	4	805,920	tons BLS/yr	5.5E-03	2.4E-02	4	N/A	N/A	
Manganese	1.5E-05	lb/ton BLS	4	805,920	tons BLS/yr	1.4E-03	6.2E-03	4	N/A	N/A	
Mercury	1.5E-07	lb/ton BLS	4	805,920	tons BLS/yr	1.4E-05	6.1E-05	4	N/A	N/A	
Methanol	7.3E-02	lb/ton BLS	4	805,920	tons BLS/yr	6.7E+00	3.0E+01	4	N/A	N/A	
Methyl Isobutyl Ketone	1.9E-04	lb/ton BLS	4	805,920	tons BLS/yr	1.8E-02	7.7E-02	4	N/A	N/A	
Methylene Chloride	3.9E-05	lb/ton BLS	4	805,920	tons BLS/yr	3.6E-03	1.6E-02	4	N/A	N/A	
Naphthalene	7.9E-05	lb/ton BLS	4	805,920	tons BLS/yr	7.2E-03	3.2E-02	4	N/A	N/A	
n-Hexane	4.7E-05	lb/ton BLS	4	805,920	tons BLS/yr	4.3E-03	1.9E-02	4	N/A	N/A	
Nickel	1.7E-06	lb/ton BLS	4	805,920	tons BLS/yr	1.5E-04	6.7E-04	4	N/A	N/A	
o-Xylene	1.1E-04	lb/ton BLS	4	805,920	tons BLS/yr	1.0E-02	4.4E-02	4	N/A	N/A	
Perylene	8.5E-08	lb/ton BLS	4	805,920	tons BLS/yr	7.8E-06	3.4E-05	4	N/A	N/A	
Phenanthrene	2.9E-04	lb/ton BLS	4	805,920	tons BLS/yr	2.6E-02	1.2E-01	4	N/A	N/A	
Phenol	6.1E-04	lb/ton BLS	4	805,920	tons BLS/yr	5.6E-02	2.5E-01	4	N/A	N/A	
Propionaldehyde	6.4E-04	lb/ton BLS	4	805,920	tons BLS/yr	5.9E-02	2.6E-01	4	N/A	N/A	
Pyrene	4.5E-05	lb/ton BLS	4	805,920	tons BLS/yr	4.2E-03	1.8E-02	4	N/A	N/A	
Selenium	3.8E-07	lb/ton BLS	4	805,920	tons BLS/yr	3.5E-05	1.5E-04	4	N/A	N/A	
Styrene	5.6E-06	lb/ton BLS	4	805,920	tons BLS/yr	5.1E-04	2.3E-03	4	N/A	N/A	
Tetrachloroethylene	1.7E-05	lb/ton BLS	4	805,920	tons BLS/yr	1.6E-03	6.9E-03	4	N/A	N/A	
Toluene	3.8E-05	lb/ton BLS	4	805,920	tons BLS/yr	3.5E-03	1.5E-02	4	N/A	N/A	
Trichloroethylene	2.8E-05	lb/ton BLS	4	805,920	tons BLS/yr	2.5E-03	1.1E-02	4	N/A	N/A	
Vinyl Acetate	4.4E-05	lb/ton BLS	4	805,920	tons BLS/yr	4.0E-03	1.8E-02	4	N/A	N/A	
Xylenes (mixed isomers)	4.5E-05	lb/ton BLS	4	805,920	tons BLS/yr	4.2E-03	1.8E-02	4	N/A	N/A	

Notes:
1. Permit limit.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
3. NCASI TB 884 Table 4.15, pg. 17.
4. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
5. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR12a
Facility Point ID: 1119
Emission Unit Group: No. 4 Recovery Saltcake System

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM						1.00	2.00	1	1.0	2.0	1
PM10						1.00	2.00	1	1.0	2.0	1
PM2.5						1.00	2.00	2			
SO2											
CO											
NOx											
VOC											
TRS											
H2SO4											
GHGs (CO2e)											

Notes:
1. Permit limit.
2. Assumed equal to PM.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PR12b
Facility Point ID: 1030
Emission Unit Group: No. 5 Recovery Saltcake System

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM						2.00	5.10	1	2.0	5.1	1
PM10						2.00	5.10	1	2.0	5.1	1
PM2.5						2.00	5.10	2			
SO2											
CO											
NOx											
VOC											
TRS											
H2SO4											
GHGs (CO2e)											

Notes:
1. Permit limit.
2. Assumed equal to PM.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Pulp prod.	74.6	ADTUBP/hr
Pulp prod.	653,350	ADTUBP/yr
Potential/actual pulp prod.	1.22	NA

Emission Unit Number: PR13
Facility Point ID: 1004, 1005, 1007, 1012, 1014
Emission Unit Group: Wastewater Treatment System

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	**Emission Factor**	**E.F. Units**	**Notes**	**Annual Potential**	**Units**	**PTE (lb/hr)**	**PTE (tpy)**	**Notes**	**(lb/hr)**	**(tpy)**	**Notes**
PM											
PM10											
PM2.5											
SO2											
CO											
NOx											
VOC						21.9	95.9	1	N/A	N/A	
TRS	0.05	lb/ADTUBP	2	653,350	ADTUBP/yr	3.89	17.0	3	N/A	N/A	
H2SO4											
GHGs (CO2e)											
1,2,3,4,6,7,8,9-octachlorodibenzofuran						7.0E-10	3.1E-09	4	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin						1.6E-08	6.9E-08	4	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzofuran						9.1E-10	4.0E-09	4	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin						2.9E-09	1.3E-08	4	N/A	N/A	
1,2,3,4,7,8,9-heptachlorodibenzofuran						3.7E-11	1.6E-10	4	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzofuran						1.5E-10	6.5E-10	4	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin						1.4E-10	6.1E-10	4	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzofuran						1.9E-11	8.2E-11	4	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin						1.6E-10	7.2E-10	4	N/A	N/A	
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin						1.7E-10	7.6E-10	4	N/A	N/A	
1,2,3,7,8-pentachlorodibenzofuran						4.7E-10	2.0E-09	4	N/A	N/A	
1,2,3,7,8-pentachlorodibenzo-p-dioxin						2.9E-10	1.3E-09	4	N/A	N/A	
2,3,4,6,7,8-hexachlorodibenzofuran						4.1E-11	1.8E-10	5	N/A	N/A	
2,3,4,7,8-pentachlorodibenzofuran						3.6E-10	1.6E-09	5	N/A	N/A	
2,3,7,8-tetrachlorodibenzofuran						1.4E-09	6.0E-09	5	N/A	N/A	
2,3,7,8-tetrachlorodibenzo-p-dioxin						1.5E-10	6.5E-10	5	N/A	N/A	
Acrolein						4.2E-04	1.8E-03	5	N/A	N/A	
Benzene						3.4E-06	1.5E-05	5	N/A	N/A	
Chloroform						2.9E-01	1.3E+00	6	N/A	N/A	
Cresols (mixed isomers)						1.3E-22	5.6E-22	5	N/A	N/A	
Ethyl Benzene						2.4E-06	1.0E-05	5	N/A	N/A	
Methanol						2.1E+01	9.4E+01	7	N/A	N/A	
Methyl Isobutyl Ketone						1.7E-05	7.6E-05	5	N/A	N/A	
Methylene Chloride						6.5E-06	2.9E-05	5	N/A	N/A	
Naphthalene						3.6E-06	1.6E-05	5	N/A	N/A	
n-Hexane						3.9E-06	1.7E-05	5	N/A	N/A	
Propionaldehyde						2.0E-01	9.0E-01	5	N/A	N/A	
Styrene						8.4E-06	3.7E-05	5	N/A	N/A	
Tetrachloroethylene						4.9E-06	2.2E-05	5	N/A	N/A	
Toluene						2.2E-06	9.7E-06	5	N/A	N/A	
Trichloroethylene						4.4E-06	1.9E-05	5	N/A	N/A	

Notes:

1. Calculated as sum of VOC compounds.
2. NCASI Wastewater Hydrogen Sulfide Emissions Simulator (H2SSIM) version 1.1, printed 1/29/2014
3. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
4. 2010-01-20 High Vol Dioxin Summary results as reported in 2012 Emissions Inventory × ratio of potential / actual pulp production.
5. WATER9 or SIMS model results as reported in 2012 Emissions Inventory × ratio of potential / actual pulp production.
6. From NCASI 313 Guidance for Chloroform as reported in 2012 Emissions Inventory × ratio of potential / actual pulp production.
7. Clean Condensate Alternative Tracking.xls - 2012 total lbs × ratio of potential / actual pulp production.

N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Group Number: UT1
Emission Point ID: 781
Emission Unit Group: No. 4 Power Boiler

Input Parameters:								
Woodwaste/Sludge	1,048	MMBtu/hr	Natural gas	728	MMBtu/hr	Fuel oil	695	MMBtu/hr
Woodwaste/Sludge	9,180,480	MMBtu/yr	Natural gas	6,377,280	MMBtu/yr	Fuel oil	6,088,200	MMBtu/yr
			Natural gas	0.71	MMscf/hr	Fuel oil	4.63	Kgal/hr
			Natural gas	6,252	MMscf/yr	Fuel oil	40,588	Kgal/yr

	Woodwaste/Sludge (a)			Natural Gas (b)			Fuel Oil (c)			Operational Data (Potential)									Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Emission Factor	E.F. Units	Notes	Emission Factor	E.F. Units	Notes	Wood/Sludge	Units	Nat. Gas	Units	Fuel Oil	Units	PTE (lb/hr) (a)	(b)	(c)	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	0.03	lb/MMBtu	1							9,180,480	MMBtu/yr					35.9			35.9	120	3a	N/A	120	3
PM10	0.03	lb/MMBtu	2							9,180,480	MMBtu/yr					35.9			35.9	157	11	N/A	N/A	
PM2.5	0.03	lb/MMBtu	2							9,180,480	MMBtu/yr					35.9			35.9	157	11	N/A	N/A	
SO2	0.60	lb/MMBtu	3							9,180,480	MMBtu/yr					838			838	100	3a	N/A	100	3
CO	0.82	lb/MMBtu	4	84	lb/MMscf	7	5	lb/Kgal	8	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	862	60.0	23.2	862	3,775	11	N/A	N/A	
NOx	0.30	lb/MMBtu	3							9,180,480	MMBtu/yr					314			314	842	3a	N/A	842	3
VOC	0.004	lb/MMBtu	5	5.5	lb/MMscf	7	0.28	lb/Kgal	8	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	4.7	3.93	1.30	4.7	20.4	11	N/A	N/A	
TRS																								
H2SO4																			13.4	1.60	10	N/A	N/A	
GHGs (CO2e)	211	lb/MMBtu	6	117	lb/MMBtu	6	166	lb/MMBtu	6	9,180,480	MMBtu/yr	6,377,280	MMBtu/yr	6,088,200	MMBtu/yr	221,458	85,182.3	115,457	221,458	969,984	11	N/A	N/A	
1,1,1-Trichloroethane							2.E-04	lb/Kgal	9				MMscf/yr	40,588	Kgal/yr			1.1E-03	1.1E-03	4.8E-03	11	N/A	N/A	
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	1.53E-10	lb/MMBtu	9				2.E-08	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	1.6E-07			1.6E-07	7.0E-07	11	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzofuran	3.37E-11	lb/MMBtu	9				1.E-09	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	3.5E-08		6.3E-09	3.5E-08	1.5E-07	11	N/A	N/A	
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	3.44E-10	lb/MMBtu	9				4.E-09	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	3.6E-07		1.6E-08	3.6E-07	1.6E-06	11	N/A	N/A	
1,2,3,4,7,8,9-heptachlorodibenzofuran	5.65E-12	lb/MMBtu	9							9,180,480	MMBtu/yr					6.1E-09			6.1E-09	2.7E-08	11	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzofuran	3.24E-11	lb/MMBtu	9				6.E-10	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	3.4E-08		3.0E-09	3.4E-08	1.5E-07	11	N/A	N/A	
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	7.11E-10	lb/MMBtu	9				5.E-10	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	7.5E-07		2.5E-09	7.5E-07	3.3E-06	11	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzofuran	3.65E-11	lb/MMBtu	9				3.E-10	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	3.8E-08		1.4E-09	3.8E-08	1.7E-07	11	N/A	N/A	
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	6.25E-11	lb/MMBtu	9				5.E-10	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	6.6E-08		2.5E-09	6.6E-08	2.9E-07	11	N/A	N/A	
1,2,3,7,8,9-hexachlorodibenzofuran	4.15E-11	lb/MMBtu	9							9,180,480	MMBtu/yr					4.3E-08			4.3E-08	1.9E-07	11	N/A	N/A	
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	4.20E-11	lb/MMBtu	9				7.E-10	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	4.4E-08		3.1E-09	4.4E-08	1.9E-07	11	N/A	N/A	
1,2,3,7,8-pentachlorodibenzofuran	6.64E-11	lb/MMBtu	9				5.E-10	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	7.0E-08		2.5E-09	7.0E-08	3.0E-07	11	N/A	N/A	
1,2,3,7,8-pentachlorodibenzo-p-dioxin	3.66E-11	lb/MMBtu	9				2.E-10	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	3.8E-08		9.6E-10	3.8E-08	1.7E-07	11	N/A	N/A	
1,2-Dichloroethane	2.92E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					3.1E-02			3.1E-02	1.3E-01	11	N/A	N/A	
1,2-Dichloropropane	1.68E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					1.8E-02			1.8E-02	7.7E-02	11	N/A	N/A	
2,3,4,6,7,8-hexachlorodibenzofuran	1.41E-11	lb/MMBtu	9				2.E-10	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	1.5E-08		9.2E-10	1.5E-08	6.5E-08	11	N/A	N/A	
2,3,4,7,8-pentachlorodibenzofuran	1.28E-10	lb/MMBtu	9				4.E-10	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	1.3E-07		1.9E-09	1.3E-07	5.9E-07	11	N/A	N/A	
2,3,7,8-tetrachlorodibenzofuran	1.51E-10	lb/MMBtu	9							9,180,480	MMBtu/yr					1.6E-07			1.6E-07	6.9E-07	11	N/A	N/A	
2,3,7,8-tetrachlorodibenzo-p-dioxin	1.34E-11	lb/MMBtu	9							9,180,480	MMBtu/yr					1.4E-08			1.4E-08	6.2E-08	11	N/A	N/A	
2,4,6-Trichlorophenol	2.73E-07	lb/MMBtu	9							9,180,480	MMBtu/yr					2.9E-04			2.9E-04	1.3E-03	11	N/A	N/A	
2,4-Dinitrophenol	1.30E-07	lb/MMBtu	9							9,180,480	MMBtu/yr					1.4E-04			1.4E-04	6.0E-04	11	N/A	N/A	
2,4-Dinitrotoluene	9.42E-07	lb/MMBtu	9							9,180,480	MMBtu/yr					9.9E-04			9.9E-04	4.3E-03	11	N/A	N/A	
2-Chloronaphthalene	1.20E-08	lb/MMBtu	9							9,180,480	MMBtu/yr					1.3E-05			1.3E-05	5.5E-05	11	N/A	N/A	
2-Methylnaphthalene	1.29E-06	lb/MMBtu	9	2.4E-05	lb/MMscf	9				9,180,480	MMBtu/yr	6,252	MMscf/yr			1.4E-03	1.7E-05		1.4E-03	5.9E-03	11	N/A	N/A	
4,6-Dinitro-2-methylphenol	2.10E-06	lb/MMBtu	9							9,180,480	MMBtu/yr					2.2E-03			2.2E-03	9.6E-03	11	N/A	N/A	
4-Nitrophenol	9.32E-08	lb/MMBtu	9							9,180,480	MMBtu/yr					9.8E-05			9.8E-05	4.3E-04	11	N/A	N/A	
Acenachthene	1.03E-07	lb/MMBtu	9				2.E-05	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	1.1E-04		9.6E-05	1.1E-04	4.7E-04	11	N/A	N/A	
Acenaphthylene	5.81E-07	lb/MMBtu	9				3.E-07	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	6.1E-04		1.2E-06	6.1E-04	2.7E-03	11	N/A	N/A	
Acetaldehyde	1.57E-04	lb/MMBtu	9							9,180,480	MMBtu/yr					1.6E-01			1.6E-01	7.2E-01	11	N/A	N/A	
Acetophenone	1.84E-06	lb/MMBtu	9							9,180,480	MMBtu/yr					1.9E-03			1.9E-03	8.4E-03	11	N/A	N/A	
Acrolein	1.27E-04	lb/MMBtu	9							9,180,480	MMBtu/yr					1.3E-01			1.3E-01	5.6E-01	11	N/A	N/A	
Anthracene	1.76E-07	lb/MMBtu	9				1.E-06	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	1.8E-04		5.7E-06	1.8E-04	8.1E-04	11	N/A	N/A	
Antimony	1.55E-07	lb/MMBtu	9				5.E-03	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	1.6E-04		2.4E-02	2.4E-02	1.1E-01	11	N/A	N/A	
Arsenic	3.69E-07	lb/MMBtu	9	2.2E-04	lb/MMscf	9	1.E-03	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	3.9E-04	1.6E-04	6.1E-03	6.2E-03	2.7E-02	11	N/A	N/A	
Barium	2.10E-04	lb/MMBtu	9	4.4E-03	lb/MMscf	9	3.E-03	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	2.2E-01	3.1E-03	1.2E-02	2.2E-01	9.6E-01	11	N/A	N/A	
Benzene	2.35E-04	lb/MMBtu	9	2.1E-03	lb/MMscf	9	2.E-04	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	2.5E-01	1.5E-03	9.9E-04	2.5E-01	1.1E+00	11	N/A	N/A	
Benzo(a)anthracene	1.26E-08	lb/MMBtu	9				4.E-06	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	1.3E-05		1.9E-05	2.3E-05	1.0E-04	11	N/A	N/A	
Benzo(a)phenanthrene	9.13E-09	lb/MMBtu	9				2.E-06	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	9.6E-06		1.1E-05	1.4E-05	6.2E-05	11	N/A	N/A	
Benzo(a)pyrene	1.52E-08	lb/MMBtu	9							9,180,480	MMBtu/yr					1.6E-05			1.6E-05	7.0E-05	11	N/A	N/A	
Benzo(b)fluoranthene	1.26E-08	lb/MMBtu	9							9,180,480	MMBtu/yr					1.3E-05			1.3E-05	5.8E-05	11	N/A	N/A	
Benzo(b,k)fluoranthene							1.E-06	lb/Kgal	9					40,588	Kgal/yr			6.9E-06	6.9E-06	3.0E-05	11	N/A	N/A	
Benzo(e)pyrene	7.95E-08	lb/MMBtu	9							9,180,480	MMBtu/yr					8.3E-05			8.3E-05	3.6E-04	11	N/A	N/A	
Benzo(g,h,i)perylene	9.91E-09	lb/MMBtu	9				2.E-06	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	1.0E-05		1.0E-05	1.4E-05	6.1E-05	11	N/A	N/A	
Benzo(j)fluoranthene	1.56E-07	lb/MMBtu	9							9,180,480	MMBtu/yr					1.6E-04			1.6E-04	7.2E-04	11	N/A	N/A	
Benzo(k)fluoranthene	1.83E-08	lb/MMBtu	9							9,180,480	MMBtu/yr					1.9E-05			1.9E-05	8.4E-05	11	N/A	N/A	
Beryllium	7.11E-09	lb/MMBtu	9				3.E-05	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	7.5E-06		1.3E-04	1.3E-04	5.8E-04	11	N/A	N/A	
Bis(2-Ethylhexyl)phthalate	4.65E-08	lb/MMBtu	9							9,180,480	MMBtu/yr					4.9E-05			4.9E-05	2.1E-04	11	N/A	N/A	
Bromomethane	3.67E-06	lb/MMBtu	9							9,180,480	MMBtu/yr					3.8E-03			3.8E-03	1.7E-02	11	N/A	N/A	
Cadmium	3.90E-07	lb/MMBtu	9	1.1E-03	lb/MMscf	9	4.E-04	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	4.1E-04	7.9E-04	1.8E-03	2.0E-03	8.7E-03	11	N/A	N/A	
Carbon Disulfide	1.25E-04	lb/MMBtu	9							9,180,480	MMBtu/yr					1.3E-01			1.3E-01	5.7E-01	11	N/A	N/A	
Carbon Tetrachloride	1.16E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					1.2E-02			1.2E-02	5.3E-02	11	N/A	N/A	
Chlorobenzene	1.66E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					1.7E-02			1.7E-02	7.6E-02	11	N/A	N/A	
Chloroform	2.55E-06	lb/MMBtu	9							9,180,480	MMBtu/yr					2.7E-03			2.7E-03	1.2E-02	11	N/A	N/A	
Chloromethane	2.66E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					2.8E-02			2.8E-02	1.2E-01	11	N/A	N/A	
Chromium	1.34E-06	lb/MMBtu	9	1.4E-03	lb/MMscf	9	6.E-04	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	1.4E-03	1.0E-03	3.9E-03	4.4E-03	1.9E-02	11	N/A	N/A	
Chromium (VI)	2.72E-07	lb/MMBtu	9				2.E-04	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	2.9E-04		1.1E-03	1.2E-03	5.5E-03	11	N/A	N/A	
Cobalt	1.03E-07	lb/MMBtu	9	8.4E-05	lb/MMscf	9	6.E-03	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	1.1E-04	6.0E-05	2.8E-02	2.8E-02	1.2E-01	11	N/A	N/A	
Copper	4.14E-06	lb/MMBtu	9	8.5E-04	lb/MMscf	9	2.E-03	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	4.3E-03	6.1E-04	8.2E-03	9.6E-03	4.2E-02	11	N/A	N/A	
Cumene	1.77E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					1.9E-02			1.9E-02	8.1E-02	11	N/A	N/A	
Decachlorobiphenyl	2.65E-10	lb/MMBtu	9							9,180,480	MMBtu/yr					2.8E-07			2.8E-07	1.2E-06	11	N/A	N/A	
Dibenzo(a,h)anthracene	8.88E-09	lb/MMBtu	9				2.E-06	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	9.3E-06		7.7E-06	9.3E-06	4.1E-05	11	N/A	N/A	
Dichlorobiphenyl	9.00E-10	lb/MMBtu	9							9,180,480	MMBtu/yr					9.4E-07			9.4E-07	4.1E-06	11	N/A	N/A	
Di-n-Butyl Phthalate	3.33E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					3.5E-02			3.5E-02	1.5E-01	11	N/A	N/A	
Ethyl Benzene	3.13E-05	lb/MMBtu	9				6.E-05	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	3.3E-02		2.9E-04	3.3E-02	1.4E-01	11	N/A	N/A	
Fluoranthene	4.57E-07	lb/MMBtu	9	3.0E-06	lb/MMscf	9	5.E-06	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	4.8E-04	2.1E-06	2.2E-05	4.8E-04	2.1E-03	11	N/A	N/A	
Fluorene	1.89E-07	lb/MMBtu	9	2.8E-06	lb/MMscf	9	4.E-06	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	2.0E-04	2.0E-06	2.1E-05	2.0E-04	8.7E-04	11	N/A	N/A	
Formaldehyde	3.77E-04	lb/MMBtu	9	7.5E-02	lb/MMscf	9	3.E-02	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	4.0E-01	5.4E-02	1.5E-01	4.0E-01	1.7E+00	11	N/A	N/A	
Hexachlorobenzene	1.03E-06	lb/MMBtu	9							9,180,480	MMBtu/yr					1.1E-03			1.1E-03	4.7E-03	11	N/A	N/A	
Hexachlorobiphenyl	5.45E-10	lb/MMBtu	9							9,180,480	MMBtu/yr					5.7E-07			5.7E-07	2.5E-06	11	N/A	N/A	
Hydrochloric Acid	3.46E-04	lb/MMBtu	9				1.E+00	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	3.6E-01		5.0E+00	5.1E+00	2.2E+01	11	N/A	N/A	
Hydrofluoric Acid							2.E-02	lb/Kgal	9					40,588	Kgal/yr			9.7E-02	9.7E-02	4.3E-01	11	N/A	N/A	
Hydrogen Fluoride	2.35E-04	lb/MMBtu	9							9,180,480	MMBtu/yr					2.5E-01			2.5E-01	1.1E+00	11	N/A	N/A	
Indeno(1,2,3-c,d)pyrene	9.13E-09	lb/MMBtu	9				2.E-06	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	9.6E-06		9.5E-06	1.3E-05	5.8E-05	11	N/A	N/A	
Lead	3.40E-06	lb/MMBtu	9	5.0E-04	lb/MMscf	9	2.E-03	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	3.6E-03	3.6E-04	7.0E-03	8.2E-03	3.6E-02	11	N/A	N/A	
m,p-Xylene	2.79E-06	lb/MMBtu	9							9,180,480	MMBtu/yr					2.9E-03			2.9E-03	1.3E-02	11	N/A	N/A	
Manganese	1.40E-05	lb/MMBtu	9	3.8E-04	lb/MMscf	9	3.E-03	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	1.5E-02	2.7E-04	1.4E-02	1.5E-02	6.4E-02	11	N/A	N/A	
Mercury	3.80E-07	lb/MMBtu	9	2.6E-04	lb/MMscf	9	1.E-04	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	4.0E-04	1.9E-04	5.2E-04	6.6E-04	2.9E-03	11	N/A	N/A	
Methanol	4.82E-04	lb/MMBtu	9							9,180,480	MMBtu/yr					5.1E-01			5.1E-01	2.2E+00	11	N/A	N/A	
Methyl Isobutyl Ketone	4.45E-04	lb/MMBtu	9							9,180,480	MMBtu/yr					4.7E-01			4.7E-01	2.0E+00	11	N/A	N/A	
Methylene Chloride	2.82E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					3.0E-02			3.0E-02	1.3E-01	11	N/A	N/A	
Monochlorobiphenyl	2.18E-10	lb/MMBtu	9							9,180,480	MMBtu/yr					2.3E-07			2.3E-07	1.0E-06	11	N/A	N/A	
Naphthalene	8.13E-06	lb/MMBtu	9	6.1E-04	lb/MMscf	9	1.E-03	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	8.5E-03	4.4E-04	5.2E-03	8.5E-03	3.7E-02	11	N/A	N/A	
n-Hexane	2.88E-04	lb/MMBtu	9	1.8E+00	lb/MMscf	9				9,180,480	MMBtu/yr	6,252	MMscf/yr			3.0E-01	1.3E+00		1.4E+00	6.0E+00	11	N/A	N/A	
Nickel	1.70E-06	lb/MMBtu	9	2.1E-03	lb/MMscf	9	8.E-02	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	1.8E-03	1.5E-03	3.9E-01	3.9E-01	1.7E+00	11	N/A	N/A	
o-Xylene	2.61E-06	lb/MMBtu	9				1.E-04	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	2.7E-03		5.1E-04	2.7E-03	1.2E-02	11	N/A	N/A	
Pentachlorobiphenyl	1.20E-09	lb/MMBtu	9							9,180,480	MMBtu/yr					1.3E-06			1.3E-06	5.5E-06	11	N/A	N/A	
Pentachlorophenol	4.48E-08	lb/MMBtu	9							9,180,480	MMBtu/yr					4.7E-05			4.7E-05	2.1E-04	11	N/A	N/A	
Perylene	6.58E-09	lb/MMBtu	9							9,180,480	MMBtu/yr					6.9E-06			6.9E-06	3.0E-05	11	N/A	N/A	
Phenanthrene	2.64E-06	lb/MMBtu	9	1.7E-05	lb/MMscf	9	1.E-05	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	2.8E-03	1.2E-05	4.9E-05	2.8E-03	1.2E-02	11	N/A	N/A	
Phenol	1.53E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					1.6E-02			1.6E-02	7.0E-02	11	N/A	N/A	
Propionaldehyde	2.14E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					2.2E-02			2.2E-02	9.8E-02	11	N/A	N/A	
Pyrene	9.88E-07	lb/MMBtu	9	5.0E-06	lb/MMscf	9	4.E-06	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	1.0E-03	3.6E-06	2.0E-05	1.0E-03	4.5E-03	11	N/A	N/A	
Selenium	2.10E-06	lb/MMBtu	9				7.E-04	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	2.2E-03		3.2E-03	3.9E-03	1.7E-02	11	N/A	N/A	
Styrene	1.54E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					1.6E-02			1.6E-02	7.1E-02	11	N/A	N/A	
Tetrachlorobiphenyl	2.50E-09	lb/MMBtu	9							9,180,480	MMBtu/yr					2.6E-06			2.6E-06	1.1E-05	11	N/A	N/A	
Tetrachloroethylene	2.46E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					2.6E-02			2.6E-02	1.1E-01	11	N/A	N/A	
Toluene	3.67E-06	lb/MMBtu	9	3.4E-03	lb/MMscf	9	6.E-03	lb/Kgal	9	9,180,480	MMBtu/yr	6,252	MMscf/yr	40,588	Kgal/yr	3.8E-03	2.4E-03	2.9E-02	3.0E-02	1.3E-01	11	N/A	N/A	
Trichlorobiphenyl	1.78E-09	lb/MMBtu	9							9,180,480	MMBtu/yr					1.9E-06			1.9E-06	8.2E-06	11	N/A	N/A	
Trichloroethylene	1.99E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					2.1E-02			2.1E-02	9.1E-02	11	N/A	N/A	
Vinyl Chloride	1.84E-05	lb/MMBtu	9							9,180,480	MMBtu/yr					1.9E-02			1.9E-02	8.4E-02	11	N/A	N/A	
Xylenes (mixed isomers)	5.22E-06	lb/MMBtu	9				1.E-04	lb/Kgal	9	9,180,480	MMBtu/yr			40,588	Kgal/yr	5.5E-03		5.1E-04	5.5E-03	2.4E-02	11	N/A	N/A	

Notes:
1. Calculated based on allowable emissions (0.015 gr/dscf @ 12% CO2).
2. Assumed equal to PM.
3. Permit limit.
3a. Permit limit (tpy only); lb/hr calculated as documented in Note 11 below.
4. Based on CEMS data
5. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
6. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
7. EPA AP-42, Chapter 1.4; 7/1998.
8. EPA AP-42, Chapter 1.3; 9/1998.
9. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
10. H2SO4 tpy calculated as 1.6% of allowable annual SO2 emission rate.
11. lb/hr emissions = maximum of following scenarios:
    A. (wood/sludge EF, lb/MMBtu) * (1048 MMBtu/hr)
    B. (fuel oil EF, lb/MMBtu) * (695 MMBtu/hr) + (wood/sludge EF, lb/MMBtu) * (1048 - 695 MMBtu/hr)
    C. (natural gas EF, lb/MMBtu) * (728 MMBtu/hr) + (wood/sludge EF, lb/MMBtu) * (1048 - 728 MMBtu/hr)
    tpy emissions = lb/hr * 8,760 hrs/yr / 2000 lb/ton

N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: UT3
Facility Point ID: Fugitive Emissions
Emission Unit Group: Hog Fuel System (Transfer and Pile)

Input Parameters:		
Hog fuel	83.3	BDT/hr
Hog fuel	730,000	BDT/yr
Transfer points	6	Points
Pile area	7.0	Acres

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	**Emission Factor**	**E.F. Units**	**Notes**	**Annual Potential**	**Units**	**PTE (lb/hr)**	**PTE (tpy)**	**Notes**	**(lb/hr)**	**(tpy)**	**Notes**
PM	See Note 1			See Input Parameters		1.20	5.27	3	N/A	N/A	
PM10	See Note 1			See Input Parameters		0.57	2.49	3	N/A	N/A	
PM2.5	See Note 1			See Input Parameters		0.09	0.38	3	N/A	N/A	
SO2											
CO											
NOx											
VOC	2.6	lb/acre/day	2			0.76	3.32	4	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)											

Notes:

1. AP-42 Chapter 13.2.4, 11/2006. Material moisture content = 4.8% (max of valid range for equation); wind speed = 13 mph.

PM EF =	2.41E-03	lb/ton/xfer
PM10 EF =	1.14E-03	lb/ton/xfer
PM2.5 EF =	1.72E-04	lb/ton/xfer

2. NCASI Special Technical Session, February 2, 1995, pg. B20.
3. lbs/hr = EF (lb/ton/xfer) * production rate (BDT/hr) * transfers (#); tons/yr = EF (lb/ton/xfer) * production rate (BDT/yr) * transfers (#) * (1 ton / 2000 lb)
4. lbs/hr = EF (lb/acre/day) * pile area (acres) * (1 day / 24 hrs); tons/yr = EF (lb/acre/day) * pile area (acres) * (365 days/yr) * (1 ton / 2000 lb)

N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Paperboard prod.	35.6	ADTFP/hr
Paperboard prod.	219,000	ADTFP/yr

Emission Unit Number: PM1
Facility Point ID: Multiple, see Table 2-1
Emission Unit Group: No. 1 Papermachine

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM											
PM10											
PM2.5											
SO2											
CO											
NOx											
VOC	0.07	lb/ADTFP	1	219,000	ADTFP/yr	2.46	7.56	3	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)											
1,2,4-Trichlorobenzene	1.8E-03	lb/ADTFP	2	219,000	ADTFP/yr	6.3E-02	1.9E-01	3	N/A	N/A	
Acetaldehyde	4.1E-03	lb/ADTFP	2	219,000	ADTFP/yr	1.4E-01	4.4E-01	3	N/A	N/A	
Acrolein	1.8E-03	lb/ADTFP	2	219,000	ADTFP/yr	6.4E-02	2.0E-01	3	N/A	N/A	
Benzene	2.3E-04	lb/ADTFP	2	219,000	ADTFP/yr	8.0E-03	2.5E-02	3	N/A	N/A	
Carbon Disulfide	7.4E-04	lb/ADTFP	2	219,000	ADTFP/yr	2.6E-02	8.1E-02	3	N/A	N/A	
Chlorobenzene	1.2E-04	lb/ADTFP	2	219,000	ADTFP/yr	4.1E-03	1.3E-02	3	N/A	N/A	
Chloroform	1.6E-04	lb/ADTFP	2	219,000	ADTFP/yr	5.7E-03	1.7E-02	3	N/A	N/A	
Ethyl Benzene	4.8E-06	lb/ADTFP	2	219,000	ADTFP/yr	1.7E-04	5.3E-04	3	N/A	N/A	
Formaldehyde	2.3E-03	lb/ADTFP	2	219,000	ADTFP/yr	8.2E-02	2.5E-01	3	N/A	N/A	
m,p-Xylene	9.0E-04	lb/ADTFP	2	219,000	ADTFP/yr	3.2E-02	9.9E-02	3	N/A	N/A	
Methanol	3.9E-02	lb/ADTFP	2	219,000	ADTFP/yr	1.4E+00	4.3E+00	3	N/A	N/A	
Methyl Isobutyl Ketone	3.6E-04	lb/ADTFP	2	219,000	ADTFP/yr	1.3E-02	3.9E-02	3	N/A	N/A	
Methylene Chloride	1.8E-03	lb/ADTFP	2	219,000	ADTFP/yr	6.4E-02	2.0E-01	3	N/A	N/A	
Naphthalene	4.2E-04	lb/ADTFP	2	219,000	ADTFP/yr	1.5E-02	4.6E-02	3	N/A	N/A	
n-Hexane	2.2E-04	lb/ADTFP	2	219,000	ADTFP/yr	7.9E-03	2.4E-02	3	N/A	N/A	
o-Xylene	1.4E-03	lb/ADTFP	2	219,000	ADTFP/yr	5.0E-02	1.5E-01	3	N/A	N/A	
Phenol	7.4E-03	lb/ADTFP	2	219,000	ADTFP/yr	2.6E-01	8.0E-01	3	N/A	N/A	
Propionaldehyde	7.4E-03	lb/ADTFP	2	219,000	ADTFP/yr	2.6E-01	8.1E-01	3	N/A	N/A	
Styrene	3.3E-04	lb/ADTFP	2	219,000	ADTFP/yr	1.2E-02	3.6E-02	3	N/A	N/A	
Tetrachloroethylene	5.1E-04	lb/ADTFP	2	219,000	ADTFP/yr	1.8E-02	5.6E-02	3	N/A	N/A	
Toluene	1.6E-04	lb/ADTFP	2	219,000	ADTFP/yr	5.7E-03	1.7E-02	3	N/A	N/A	
Trichloroethylene	3.0E-07	lb/ADTFP	2	219,000	ADTFP/yr	1.1E-05	3.3E-05	3	N/A	N/A	
Xylenes (mixed isomers)	1.6E-04	lb/ADTFP	2	219,000	ADTFP/yr	5.5E-03	1.7E-02	3	N/A	N/A	

Notes:
1. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
3. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: PM2
Facility Point ID: Multiple, see Table 2-1
Emission Unit Group: No. 2 Papermachine

Input Parameters:		
Paperboard prod.	44.3	ADTFP/hr
Paperboard prod.	242,725	ADTFP/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM											
PM10											
PM2.5											
SO2											
CO											
NOx											
VOC	0.07	lb/ADTFP	1	242,725	ADTFP/yr	3.06	8.37	3	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)											
1,2,4-Trichlorobenzene	1.8E-03	lb/ADTFP	2	242,725	ADTFP/yr	7.9E-02	2.2E-01	3	N/A	N/A	
Acetaldehyde	4.1E-03	lb/ADTFP	2	242,725	ADTFP/yr	1.8E-01	4.9E-01	3	N/A	N/A	
Acrolein	1.8E-03	lb/ADTFP	2	242,725	ADTFP/yr	8.0E-02	2.2E-01	3	N/A	N/A	
Benzene	2.3E-04	lb/ADTFP	2	242,725	ADTFP/yr	1.0E-02	2.7E-02	3	N/A	N/A	
Carbon Disulfide	7.4E-04	lb/ADTFP	2	242,725	ADTFP/yr	3.3E-02	8.9E-02	3	N/A	N/A	
Chlorobenzene	1.2E-04	lb/ADTFP	2	242,725	ADTFP/yr	5.1E-03	1.4E-02	3	N/A	N/A	
Chloroform	1.6E-04	lb/ADTFP	2	242,725	ADTFP/yr	7.0E-03	1.9E-02	3	N/A	N/A	
Ethyl Benzene	4.8E-06	lb/ADTFP	2	242,725	ADTFP/yr	2.1E-04	5.8E-04	3	N/A	N/A	
Formaldehyde	2.3E-03	lb/ADTFP	2	242,725	ADTFP/yr	1.0E-01	2.8E-01	3	N/A	N/A	
m,p-Xylene	9.0E-04	lb/ADTFP	2	242,725	ADTFP/yr	4.0E-02	1.1E-01	3	N/A	N/A	
Methanol	3.9E-02	lb/ADTFP	2	242,725	ADTFP/yr	1.7E+00	4.7E+00	3	N/A	N/A	
Methyl Isobutyl Ketone	3.6E-04	lb/ADTFP	2	242,725	ADTFP/yr	1.6E-02	4.4E-02	3	N/A	N/A	
Methylene Chloride	1.8E-03	lb/ADTFP	2	242,725	ADTFP/yr	8.0E-02	2.2E-01	3	N/A	N/A	
Naphthalene	4.2E-04	lb/ADTFP	2	242,725	ADTFP/yr	1.9E-02	5.1E-02	3	N/A	N/A	
n-Hexane	2.2E-04	lb/ADTFP	2	242,725	ADTFP/yr	9.9E-03	2.7E-02	3	N/A	N/A	
o-Xylene	1.4E-03	lb/ADTFP	2	242,725	ADTFP/yr	6.2E-02	1.7E-01	3	N/A	N/A	
Phenol	7.4E-03	lb/ADTFP	2	242,725	ADTFP/yr	3.3E-01	8.9E-01	3	N/A	N/A	
Propionaldehyde	7.4E-03	lb/ADTFP	2	242,725	ADTFP/yr	3.3E-01	9.0E-01	3	N/A	N/A	
Styrene	3.3E-04	lb/ADTFP	2	242,725	ADTFP/yr	1.5E-02	4.0E-02	3	N/A	N/A	
Tetrachloroethylene	5.1E-04	lb/ADTFP	2	242,725	ADTFP/yr	2.3E-02	6.2E-02	3	N/A	N/A	
Toluene	1.6E-04	lb/ADTFP	2	242,725	ADTFP/yr	7.0E-03	1.9E-02	3	N/A	N/A	
Trichloroethylene	3.0E-07	lb/ADTFP	2	242,725	ADTFP/yr	1.3E-05	3.6E-05	3	N/A	N/A	
Xylenes (mixed isomers)	1.6E-04	lb/ADTFP	2	242,725	ADTFP/yr	6.9E-03	1.9E-02	3	N/A	N/A	

Notes:
1. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
2. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
3. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Input Parameters:		
Pulp prod.	17.2	ADTFP/hr
Pulp prod.	150,563	ADTFP/yr

Emission Unit Number: FN1
Emission Point ID: 513, 514, 621
Emission Unit Group: Pulp Dryer

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	0.05	lb/ADTFP	1	150,563	ADTFP/yr	0.85	3.73	5	N/A	N/A	
PM10	0.05	lb/ADTFP	1	150,563	ADTFP/yr	0.85	3.73	5	N/A	N/A	
PM2.5	0.05	lb/ADTFP	2	150,563	ADTFP/yr	0.85	3.73	5	N/A	N/A	
SO2											
CO											
NOx											
VOC	0.07	lb/ADTFP	3	150,563	ADTFP/yr	1.19	5.19	5	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)											
1,2,4-Trichlorobenzene	1.8E-03	lb/ADTFP	4	150,563	ADTFP/yr	3.1E-02	1.3E-01	5	N/A	N/A	
Acetaldehyde	4.1E-03	lb/ADTFP	4	150,563	ADTFP/yr	7.0E-02	3.0E-01	5	N/A	N/A	
Acrolein	1.8E-03	lb/ADTFP	4	150,563	ADTFP/yr	3.1E-02	1.4E-01	5	N/A	N/A	
Benzene	2.3E-04	lb/ADTFP	4	150,563	ADTFP/yr	3.9E-03	1.7E-02	5	N/A	N/A	
Carbon Disulfide	7.4E-04	lb/ADTFP	4	150,563	ADTFP/yr	1.3E-02	5.5E-02	5	N/A	N/A	
Chlorobenzene	1.2E-04	lb/ADTFP	4	150,563	ADTFP/yr	2.0E-03	8.7E-03	5	N/A	N/A	
Chloroform	1.6E-04	lb/ADTFP	4	150,563	ADTFP/yr	2.7E-03	1.2E-02	5	N/A	N/A	
Ethyl Benzene	4.8E-06	lb/ADTFP	4	150,563	ADTFP/yr	8.3E-05	3.6E-04	5	N/A	N/A	
Formaldehyde	2.3E-03	lb/ADTFP	4	150,563	ADTFP/yr	4.0E-02	1.7E-01	5	N/A	N/A	
m,p-Xylene	9.0E-04	lb/ADTFP	4	150,563	ADTFP/yr	1.5E-02	6.8E-02	5	N/A	N/A	
Methanol	3.9E-02	lb/ADTFP	4	150,563	ADTFP/yr	6.7E-01	2.9E+00	5	N/A	N/A	
Methyl Isobutyl Ketone	3.6E-04	lb/ADTFP	4	150,563	ADTFP/yr	6.2E-03	2.7E-02	5	N/A	N/A	
Methylene Chloride	1.8E-03	lb/ADTFP	4	150,563	ADTFP/yr	3.1E-02	1.4E-01	5	N/A	N/A	
Naphthalene	4.2E-04	lb/ADTFP	4	150,563	ADTFP/yr	7.2E-03	3.2E-02	5	N/A	N/A	
n-Hexane	2.2E-04	lb/ADTFP	4	150,563	ADTFP/yr	3.8E-03	1.7E-02	5	N/A	N/A	
o-Xylene	1.4E-03	lb/ADTFP	4	150,563	ADTFP/yr	2.4E-02	1.0E-01	5	N/A	N/A	
Phenol	7.4E-03	lb/ADTFP	4	150,563	ADTFP/yr	1.3E-01	5.5E-01	5	N/A	N/A	
Propionaldehyde	7.4E-03	lb/ADTFP	4	150,563	ADTFP/yr	1.3E-01	5.6E-01	5	N/A	N/A	
Styrene	3.3E-04	lb/ADTFP	4	150,563	ADTFP/yr	5.6E-03	2.5E-02	5	N/A	N/A	
Tetrachloroethylene	5.1E-04	lb/ADTFP	4	150,563	ADTFP/yr	8.8E-03	3.8E-02	5	N/A	N/A	
Toluene	1.6E-04	lb/ADTFP	4	150,563	ADTFP/yr	2.7E-03	1.2E-02	5	N/A	N/A	
Trichloroethylene	3.0E-07	lb/ADTFP	4	150,563	ADTFP/yr	5.1E-06	2.2E-05	5	N/A	N/A	
Xylenes (mixed isomers)	1.6E-04	lb/ADTFP	4	150,563	ADTFP/yr	2.7E-03	1.2E-02	5	N/A	N/A	

Notes:
1. Stack test data, 2002.
2. Assumed equal to PM/PM10.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Criteria Pollutants.
4. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
5. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: FN2
Emission Point ID: 621
Emission Unit Group: Pulp Dryer Gas-fired Dryer

Input Parameters:		
Natural gas	38	MMBtu/hr
Natural gas	332,880	MMBtu/yr
Natural gas	0.04	MMscf/hr
Natural gas	326	MMscf/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	1.9	lb/MMscf	1	326	MMscf/yr	0.07	0.31	4	N/A	N/A	
PM10	7.6	lb/MMscf	1	326	MMscf/yr	0.28	1.24	4	N/A	N/A	
PM2.5	7.6	lb/MMscf	1	326	MMscf/yr	0.28	1.24	4	N/A	N/A	
SO2	0.6	lb/MMscf	1	326	MMscf/yr	0.02	0.10	4	N/A	N/A	
CO	84	lb/MMscf	1	326	MMscf/yr	3.13	13.7	4	N/A	N/A	
NOx	100	lb/MMscf	1	326	MMscf/yr	3.73	16.3	4	N/A	N/A	
VOC	5.5	lb/MMscf	1	326	MMscf/yr	0.20	0.90	4	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)	117	lb/MMBtu	2	332,880	MMBtu/yr	4,446	19,475	4	N/A	N/A	
2-Methylnaphthalene	2.4E-05	lb/MMscf	3	326	MMscf/yr	8.9E-07	3.9E-06	4	N/A	N/A	
Arsenic	2.2E-04	lb/MMscf	3	326	MMscf/yr	8.2E-06	3.6E-05	4	N/A	N/A	
Barium	4.4E-03	lb/MMscf	3	326	MMscf/yr	1.6E-04	7.2E-04	4	N/A	N/A	
Benzene	2.1E-03	lb/MMscf	3	326	MMscf/yr	7.8E-05	3.4E-04	4	N/A	N/A	
Cadmium	1.1E-03	lb/MMscf	3	326	MMscf/yr	4.1E-05	1.8E-04	4	N/A	N/A	
Chromium	1.4E-03	lb/MMscf	3	326	MMscf/yr	5.2E-05	2.3E-04	4	N/A	N/A	
Cobalt	8.4E-05	lb/MMscf	3	326	MMscf/yr	3.1E-06	1.4E-05	4	N/A	N/A	
Copper	8.5E-04	lb/MMscf	3	326	MMscf/yr	3.2E-05	1.4E-04	4	N/A	N/A	
Fluoranthene	3.0E-06	lb/MMscf	3	326	MMscf/yr	1.1E-07	4.9E-07	4	N/A	N/A	
Fluorene	2.8E-06	lb/MMscf	3	326	MMscf/yr	1.0E-07	4.6E-07	4	N/A	N/A	
Formaldehyde	7.5E-02	lb/MMscf	3	326	MMscf/yr	2.8E-03	1.2E-02	4	N/A	N/A	
Lead	5.0E-04	lb/MMscf	3	326	MMscf/yr	1.9E-05	8.2E-05	4	N/A	N/A	
Manganese	3.8E-04	lb/MMscf	3	326	MMscf/yr	1.4E-05	6.2E-05	4	N/A	N/A	
Mercury	2.6E-04	lb/MMscf	3	326	MMscf/yr	9.7E-06	4.2E-05	4	N/A	N/A	
Naphthalene	6.1E-04	lb/MMscf	3	326	MMscf/yr	2.3E-05	1.0E-04	4	N/A	N/A	
n-Hexane	1.8E+00	lb/MMscf	3	326	MMscf/yr	6.7E-02	2.9E-01	4	N/A	N/A	
Nickel	2.1E-03	lb/MMscf	3	326	MMscf/yr	7.8E-05	3.4E-04	4	N/A	N/A	
Phenanthrene	1.7E-05	lb/MMscf	3	326	MMscf/yr	6.3E-07	2.8E-06	4	N/A	N/A	
Pyrene	5.0E-06	lb/MMscf	3	326	MMscf/yr	1.9E-07	8.2E-07	4	N/A	N/A	
Toluene	3.4E-03	lb/MMscf	3	326	MMscf/yr	1.3E-04	5.5E-04	4	N/A	N/A	

Notes:
1. EPA AP-42, Chapter 1.4; 7/98.
2. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
3. Master Summary Table of NCASI Emission Factors for Pulp and Paper Mills - Air Toxics.
4. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: DW1
Facility Point ID: Fugitive Emissions
Emission Unit Group: Division Roads - Fugitive Air Emissions

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM						15.1	66.2	1	N/A	N/A	
PM10						3.55	15.5	1	N/A	N/A	
PM2.5						0.62	2.70	1	N/A	N/A	
SO2											
CO											
NOx											
VOC											
TRS											
H2SO4											
GHGs (CO2e)											

Notes:
1. AP-42 Chapter 13.2 - Fugitive Dust, 1/2011; actual 2013 results multiplied by ratio of potential over actual total ADTFP/yr (sum of Nos. 1 & 2 PMs & Pulp Dryer) = 1.2.
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: IC5
Emission Point ID: 788
Emission Unit Group: Effluent Lift Pump Standby Generator (Emergency CI RICE)

Input Parameters:		
Rated HP	1,180	HP
Fuel use	8.26	MMBtu/hr
Hrs/yr	500	hrs/yr
Fuel use	4,130	MMBtu/yr

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	0.1	lb/MMBtu	1	4,130	MMBtu/yr	0.83	0.21	3	N/A	N/A	
PM10	0.1	lb/MMBtu	1	4,130	MMBtu/yr	0.83	0.21	3	N/A	N/A	
PM2.5	0.1	lb/MMBtu	1	4,130	MMBtu/yr	0.83	0.21	3	N/A	N/A	
SO2	0.29	lb/MMBtu	1	4,130	MMBtu/yr	2.40	0.60	3	N/A	N/A	
CO	0.85	lb/MMBtu	1	4,130	MMBtu/yr	7.02	1.76	3	N/A	N/A	
NOx	3.2	lb/MMBtu	1	4,130	MMBtu/yr	26.4	6.61	3	N/A	N/A	
VOC	0.09	lb/MMBtu	1	4,130	MMBtu/yr	0.74	0.19	3	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)	164	lb/MMBtu	2	4,130	MMBtu/yr	1,351	338	3	N/A	N/A	
Acetaldehyde	2.5E-05	lb/MMBtu	1	4,130	MMBtu/yr	2.1E-04	5.2E-05	3	N/A	N/A	
Acetophenone	7.9E-06	lb/MMBtu	1	4,130	MMBtu/yr	6.5E-05	1.6E-05	3	N/A	N/A	
Benzene	7.8E-04	lb/MMBtu	1	4,130	MMBtu/yr	6.4E-03	1.6E-03	3	N/A	N/A	
Formaldehyde	7.9E-05	lb/MMBtu	1	4,130	MMBtu/yr	6.5E-04	1.6E-04	3	N/A	N/A	
PAH	2.1E-04	lb/MMBtu	1	4,130	MMBtu/yr	1.8E-03	4.4E-04	3	N/A	N/A	
Toluene	2.8E-04	lb/MMBtu	1	4,130	MMBtu/yr	2.3E-03	5.8E-04	3	N/A	N/A	
Xylenes (mixed isomers)	1.9E-04	lb/MMBtu	1	4,130	MMBtu/yr	1.6E-03	4.0E-04	3	N/A	N/A	

Notes:
1. AP-42 Chapter 3.4; 10/96.
2. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
3. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: IC Group 2 (IC3, 4, 6 - 10)
Emission Point ID: See listing to right
Emission Unit Group: CI RICE < 600 HP
(Emergency CI RICE subject to 40 CFR 63 subpart ZZZZ, see unit listing to right)

Input Parameters:			Units:
Rated HP	2,441	HP	#3 & #4 Turbine Standy Generator: IC6
Fuel use	17.09	MMBtu/hr	Firewater Pumps #1 - #4 (4): IC7, IC8, IC9, IC10
Hrs/yr	500	hrs/yr	Lurgi North & South Standby Generators (2): IC3, IC4
Fuel use	8,544	MMBtu/yr	EPs: 103a, 103b, 324, 1155, 1157, 1159, 1161

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	Emission Factor	E.F. Units	Notes	Annual Potential	Units	PTE (lb/hr)	PTE (tpy)	Notes	(lb/hr)	(tpy)	Notes
PM	0.31	lb/MMBtu	1	8,544	MMBtu/yr	5.30	1.32	3	N/A	N/A	
PM10	0.31	lb/MMBtu	1	8,544	MMBtu/yr	5.30	1.32	3	N/A	N/A	
PM2.5	0.31	lb/MMBtu	1	8,544	MMBtu/yr	5.30	1.32	3	N/A	N/A	
SO2	0.29	lb/MMBtu	1	8,544	MMBtu/yr	4.96	1.24	3	N/A	N/A	
CO	0.85	lb/MMBtu	1	8,544	MMBtu/yr	14.5	3.63	3	N/A	N/A	
NOx	4.41	lb/MMBtu	1	8,544	MMBtu/yr	75.4	18.84	3	N/A	N/A	
VOC	0.36	lb/MMBtu	1	8,544	MMBtu/yr	6.15	1.54	3	N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)	164	lb/MMBtu	2	8,544	MMBtu/yr	2,796	699	3	N/A	N/A	
Acetaldehyde	7.7E-04	lb/MMBtu	1	8,544	MMBtu/yr	1.3E-02	3.3E-03	3	N/A	N/A	
Benzene	9.3E-04	lb/MMBtu	1	8,544	MMBtu/yr	1.6E-02	4.0E-03	3	N/A	N/A	
Formaldehyde	1.1E-03	lb/MMBtu	1	8,544	MMBtu/yr	1.9E-02	4.7E-03	3	N/A	N/A	
Naphthalene	8.5E-05	lb/MMBtu	1	8,544	MMBtu/yr	1.4E-03	3.6E-04	3	N/A	N/A	
PAH	1.7E-04	lb/MMBtu	1	8,544	MMBtu/yr	2.9E-03	7.2E-04	3	N/A	N/A	
Toluene	4.1E-04	lb/MMBtu	1	8,544	MMBtu/yr	7.0E-03	1.7E-03	3	N/A	N/A	
Xylenes (mixed isomers)	2.9E-04	lb/MMBtu	1	8,544	MMBtu/yr	4.9E-03	1.2E-03	3	N/A	N/A	

Notes:
1. AP-42 Chapter 3.3; 10/96.
2. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
3. lbs/hr = EF (lb/unit) * production rate (units/hr); tons/yr = EF (lb/unit) * production rate (units/yr) * (1 ton / 2000 lb)
N/A - no lb/hr or tpy emission limits applicable.

Clearwater Paper - Pulp and Paperboard Division

Emission Unit Number: IC Group 3 (IC1, IC2, IC11, IC12)
Emission Point ID: 1169, 1170, 1171, 1172
Emission Unit Group: SI RICE (gasoline)
(Emergency SI RICE subject to 40 CFR 63 subpart ZZZZ , see listing to right)

Input Parameters:			Units:
Rated HP	148	HP	Pony Motor #3 Kiln: IC1
Fuel use	1.04	MMBtu/hr	Pony Motor #4 Kiln: IC2
Hrs/yr	500	hrs/yr	Caust Plant North Mud Storage Backup Generator: IC11
Fuel use	518	MMBtu/yr	Caust Plant South Mud Storage Backup Generator: IC12

				Operational Data		Estimated or Measured Emissions			Allowable Emissions		
Pollutants	**Emission Factor**	**E.F. Units**	**Notes**	**Annual Potential**	**Units**	**PTE (lb/hr)**	**PTE (tpy)**	**Notes**	**(lb/hr)**	**(tpy)**	**Notes**
PM	0.10	lb/MMBtu	1	518	MMBtu/yr	0.10	0.03		N/A	N/A	
PM10	0.10	lb/MMBtu	1	518	MMBtu/yr	0.10	0.03		N/A	N/A	
PM2.5	0.10	lb/MMBtu	1	518	MMBtu/yr	0.10	0.03		N/A	N/A	
SO2	0.08	lb/MMBtu	1	518	MMBtu/yr	0.09	0.02		N/A	N/A	
CO	62.7	lb/MMBtu	1	518	MMBtu/yr	65.0	16.24		N/A	N/A	
NOx	1.63	lb/MMBtu	1	518	MMBtu/yr	1.69	0.42		N/A	N/A	
VOC	3.03	lb/MMBtu	1	518	MMBtu/yr	3.14	0.78		N/A	N/A	
TRS											
H2SO4											
GHGs (CO2e)	155	lb/MMBtu	2	518	MMBtu/yr	160.6	40.1		N/A	N/A	

Notes:
1. AP-42 Chapter 3.3; 10/96.
2. Default emission factors from 40 CFR 98 Tables C-1 & C-2 converted to CO2e basis using GWPs from 40 CFR 98 Subpart A Table A-1.
N/A - no lb/hr or tpy emission limits applicable.

Appendix B – Boiler MACT (40 CFR 63 Subpart DDDDD)

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

~~SOURCE: 76 FR 15664, Mar. 21, 2011, unless otherwise noted.~~

~~WHAT THIS SUBPART COVERS~~

~~§63.7480 What is the purpose of this subpart?~~

~~This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards.~~

~~§63.7485 Am I subject to this subpart?~~

~~You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. For purposes of this subpart, a major source of HAP is as defined in §63.2, except that for oil and natural gas production facilities, a major source of HAP is as defined in §63.7575.~~

~~[78 FR 7162, Jan. 31, 2013]~~

§63.7490 What is the affected source of this subpart?

(a) This subpart applies to new, reconstructed, and existing affected sources as described in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory as defined in §63.7575.

~~(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or process heater, as defined in §63.7575, located at a major source.~~

~~(b) A boiler or process heater is new if you commence construction of the boiler or process heater after June 4, 2010, and you meet the applicability criteria at the time you commence construction.~~

(c) ~~A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in §63.2, you commence reconstruction after June 4, 2010, and you meet the applicability criteria at the time you commence reconstruction.~~

(d) A boiler or process heater is existing if it is not new or reconstructed.

~~(e) An existing electric utility steam generating unit (EGU) that meets the applicability requirements of this subpart after the effective date of this final rule due to a change (e.g., fuel switch) is considered to be an existing source under this subpart.~~

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7162, Jan. 31, 2013]

~~§63.7491 Are any boilers or process heaters not subject to this subpart?~~

~~The types of boilers and process heaters listed in paragraphs (a) through (n) of this section are not subject to this subpart.~~

~~(a) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part.~~

~~(b) A recovery boiler or furnace covered by subpart MM of this part.~~

~~(c) A boiler or process heater that is used specifically for research and development, including test steam boilers used to provide steam for testing the propulsion systems on military vessels. This does not include units that provide heat or steam to a process at a research and development facility.~~

~~(d) A hot water heater as defined in this subpart.~~

~~(e) A refining kettle covered by subpart X of this part.~~

~~(f) An ethylene cracking furnace covered by subpart YY of this part.~~

~~(g) Blast furnace stoves as described in EPA-453/R-01-005 (incorporated by reference, see § 63.14).~~

~~(h) Any boiler or process heater that is part of the affected source subject to another subpart of this part, such as boilers and process heaters used as control devices to comply with subparts JJJ, OOO, PPP, and U of this part.~~

~~(i) Any boiler or process heater that is used as a control device to comply with another subpart of this part, or part 60, part 61, or part 65 of this chapter provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler or process heater is provided by regulated gas streams that are subject to another standard.~~

~~(j) Temporary boilers as defined in this subpart.~~

~~(k) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.~~

~~(l) Any boiler specifically listed as an affected source in any standard(s) established under section 129 of the Clean Air Act.~~

~~(m) A unit that burns hazardous waste covered by Subpart EEE of this part. A unit that is exempt from Subpart EEE as specified in § 63.1200(b) is not covered by Subpart EEE.~~

~~[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7162, Jan. 31, 2013]~~

~~EDITORIAL NOTE: At 78 FR 7162, Jan. 31, 2013, § 63.7491 was amended by revising paragraph (n). However, there is no paragraph (n) to be revised.~~

§ 63.7495 When do I have to comply with this subpart?

~~(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by January 31, 2013, or upon startup of your boiler or process heater, whichever is later.~~

(b) If you have an existing boiler or process heater, you must comply with this subpart no later than January 31, 2016, except as provided in § 63.6(i).

~~(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.~~

~~(1) Any new or reconstructed boiler or process heater at the existing source must be in compliance with this subpart upon startup.~~

~~(2) Any existing boiler or process heater at the existing source must be in compliance with this subpart within 3 years after the source becomes a major source.~~

~~(d) You must meet the notification requirements in § 63.7545 according to the schedule in § 63.7545 and in subpart A of this part. Some of the notifica- tions must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.~~

~~(e) If you own or operate an industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for the exemption in § 63.7491(l) for commercial and industrial solid waste incineration units covered by part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the switch from waste to fuel.~~

~~(f) If you own or operate an existing EGU that becomes subject to this subpart after January 31, 2013, you must be in compliance with the applicable existing source provisions of this subpart on the effective date such unit becomes subject to this subpart.~~

~~(g) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for a exemption in § 63.7491(i) that becomes subject to this subpart after~~

~~January 31, 2013, you must be in compliance with the applicable existing source provisions of this subpart within 3 years after such unit becomes subject to this subpart.~~

~~[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7162, Jan. 31, 2013]~~

~~EDITORIAL NOTE: At 78 FR 7162, Jan. 31, 2013, § 63.7495 was amended by adding paragraph (e). However, there is already a paragraph (e).~~

EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS

§ 63.7499 What are the subcategories of boilers and process heaters?

The subcategories of boilers and process heaters, as defined in § 63.7575 are:

~~(a) Pulverized coal/solid fossil fuel units.~~

~~(b) Stokers designed to burn coal/solid fossil fuel.~~

~~(c) Fluidized bed units designed to burn coal/solid fossil fuel.~~

~~(d) Stokers/sloped grate/other units designed to burn kiln dried biomass/bio-based solid.~~

~~(e) Fluidized bed units designed to burn biomass/bio-based solid.~~

~~(f) Suspension burners designed to burn biomass/bio-based solid.~~

~~(g) Fuel cells designed to burn biomass/bio-based solid.~~

(h) Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid.

~~(i) Stokers/sloped grate/other units designed to burn wet biomass/bio-based solid.~~

~~(j) Dutch ovens/pile burners designed to burn biomass/bio-based solid.~~

~~(k) Units designed to burn liquid fuel that are non-continental units.~~

(l) Units designed to burn gas 1 fuels.

~~(m) Units designed to burn gas 2 (other) gases.~~

~~(n) Metal process furnaces.~~

~~(o) Limited-use boilers and process heaters.~~

~~(p) Units designed to burn solid fuel.~~

~~(q) Units designed to burn liquid fuel.~~

~~(r) Units designed to burn coal/solid fossil fuel.~~

~~(s) Fluidized bed units with an integrated fluidized bed heat exchanger designed to burn coal/solid fossil fuel.~~

~~(t) Units designed to burn heavy liquid fuel.~~

~~(u) Units designed to burn light liq- uid fuel.~~

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7163, Jan. 31, 2013]

§ 63.7500 What emission limitations, work practice standards, and operating limits must I meet?

(a) You must meet the requirements in paragraphs (a)(1) through (3) of this section, except as provided in paragraphs (b), through (e) of this section. You must meet these requirements at all times the affected unit is operating, except as provided in paragraph (f) of this section.

~~(1)~~ You must meet each emission limit and work practice standard in Tables 1 through 3, and 11 through 13 to this subpart that applies to your boiler or process heater, for each boiler or process heater at your source, except as provided under § 63.7522. The output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers and process heaters that generate steam. The output-based emission limits, in units of pounds per megawatt-hour, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers that generate electricity. ~~If you operate a new boiler or process heater, you can choose to comply with alternative limits as discussed in paragraphs (a)(1)(i) through (a)(1)(iii) of this section, but on or after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.~~

~~(i) If your boiler or process heater commenced construction or reconstruction after June 4, 2010 and before May 20, 2011, you may comply with the emission limits in Table 1 or 11 to this subpart until January 31, 2016.~~

~~(ii) If your boiler or process heater commenced construction or reconstruction after May 20, 2011 and before December 23, 2011, you may comply with the emission limits in Table 1 or 12 to this subpart until January 31, 2016.~~

~~(iii) If your boiler or process heater commenced construction or reconstruction after December 23, 2011 and~~

~~before January 31, 2013, you may comply with the emission limits in Table 1 or 13 to this subpart until January 31, 2016.~~

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

(3) At all times, you must operate and maintain any affected source (as defined in § 63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

~~(b) As provided in § 63.6(g), EPA may approve use of an alternative to the work practice standards in this section.~~

~~(c) Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in § 63.7540. They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, the annual tune-up, or the energy assessment requirements in Table 3 to this subpart, or the oper- ating limits in Table 4 to this subpart.~~

~~(d) Boilers and process heaters with a heat input capacity of less than or equal to 5 million Btu per hour in the units designed to burn gas 2 (other) fuels subcategory or units designed to burn light liquid fuels subcategory must complete a tune-up every 5 years as specified in § 63.7540.~~

(e) Boilers and process heaters in the units designed to burn gas 1 fuels subcategory with a heat input capacity of less than or equal to 5 million Btu per hour must complete a tune-up every 5 years as specified in § 63.7540. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory with a heat input capacity greater than 5 million Btu per hour and less than 10 million Btu per hour must complete a tune-up every 2 years as specified in § 63.7540. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, or the operating limits in Table 4 to this subpart.

(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7163, Jan. 31, 2013]

§ 63.7501 Affirmative Defense for Violation of Emission Standards During Malfunction.

In response to an action to enforce the standards set forth in § 63.7500 you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at § 63.2. Appropriate penalties may be assessed 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) *Assertion of affirmative defense.* To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control 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) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred; and

(3) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation 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 violation on ambient air quality, the environ- ment, 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 violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source 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 violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in §63.7500 of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

[78 FR 7163, Jan. 31, 2013]

GENERAL COMPLIANCE REQUIREMENTS

§ 63.7505 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These limits apply to you at all times the affected unit is operating except for the periods noted in § 63.7500(f).

(b) [Reserved]

(c) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), continuous opacity monitoring system (COMS), continuous parameter monitoring system (CPMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. You may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis if the emission rate calculated according to §63.7530(c) is less than the applicable emission limit. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) Otherwise, you must demonstrate compliance for HCl, mercury, or TSM using performance testing, if subject to an applicable emission limit listed in Tables 1, 2, or 11 through 13 to this subpart.

(d) If you demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits (including the use of CPMS), or with a CEMS, or COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses design, data collection, and the quality assurance and quality control elements outlined in § 63.8(d) and the elements described in paragraphs (d)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of § 63.7525. Using the process described in § 63.8(f)(4), you may request approval of alternative monitoring system quality assurance and quality control procedures in place of those specified in this paragraph and, if approved, include the alternatives in your site-specific monitoring plan.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations, accuracy audits, analytical drift).

(2) In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c) (as applicable in Table 10 to this subpart), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7164, Jan. 31, 2013]

TESTING, FUEL ANALYSES, AND INITIAL COMPLIANCE REQUIREMENTS

§ 63.7510 What are my initial compliance requirements and by what date must I conduct them?

(a) For each boiler or process heater that is required or that you elect to demonstrate compliance with any of the applicable emission limits in Tables 1 or 2 or 11 through 13 of this subpart through performance testing, your initial compliance requirements include all the following:

(1) Conduct performance tests according to § 63.7520 and Table 5 to this subpart.

(2) Conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to § 63.7521 and Table 6 to this subpart, except as specified in paragraphs (a)(2)(i) through (iii) of this section.

(i) For each boiler or process heater that burns a single type of fuel, you are not required to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to § 63.7521 and Table 6 to this subpart. For purposes of this subpart, units that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as units that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under § 63.7521 and Table 6 to this subpart.

(ii) When natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels, you are not required to conduct a fuel analysis of those fuels according to § 63.7521 and Table 6 to this subpart. If gaseous fuels other than natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels and those gas- eous fuels are subject to another sub- part of this part, part 60, part 61, or part 65, you are not required to conduct a fuel analysis of those fuels according to § 63.7521 and Table 6 to this subpart.

(iii) You are not required to conduct a chlorine fuel analysis for any gaseous fuels. You must conduct a fuel analysis for mercury on gaseous fuels unless the fuel is exempted in paragraphs (a)(2)(i) and (ii) of this section.

(3) Establish operating limits according to § 63.7530 and Table 7 to this subpart.

(4) Conduct CMS performance evaluations according to § 63.7525.

(b) For each boiler or process heater that you elect to demonstrate compliance with the applicable emission limits in Tables 1 or 2 or 11 through 13 to this subpart for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to § 63.7521 and Table 6 to this subpart and establish operating limits according to § 63.7530 and Table 8 to this subpart. The fuels described in paragraph (a)(2)(i) and (ii) of this section are exempt from these fuel analysis and operating limit requirements. The fuels described in paragraph (a)(2)(ii) of this section are exempt from the chloride fuel analysis and operating limit requirements. Boilers and process heaters that use a CEMS for mercury or HCl are exempt from the performance testing and operating limit requirements specified in paragraph (a) of this section for the HAP for which CEMS are used.

(c) If your boiler or process heater is subject to a carbon monoxide (CO) limit, your initial compliance demonstration for CO is to conduct a performance test for CO according to Table 5 to this subpart or conduct a performance evaluation of your continuous CO monitor, if applicable, according to § 63.7525(a). Boilers and process heaters that use a CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 12, or 11 through 13 to this subpart, as specified in § 63.7525(a), are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in paragraph (a) of this section.

(d) If your boiler or process heater is subject to a PM limit, your initial compliance demonstration for PM is to conduct a performance test in accordance with § 63.7520 and Table 5 to this subpart.

(e) For existing affected sources (as defined in § 63.7490), you must complete the initial compliance demonstration, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the compliance date that is specified for your source in § 63.7495 and according to the applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart, except as specified in paragraph (j) of this section. You must complete an initial tune-up by fol- lowing the procedures described in § 63.7540(a)(10)(i) through (vi) no later than the compliance date specified in § 63.7495, except as specified in paragraph (j) of this section. You must complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in § 63.7495, except as specified in paragraph (j) of this section.

~~(f) For new or reconstructed affected sources (as defined in § 63.7490), you must complete the initial compliance demonstration with the emission lim- its no later than July 30, 2013 or within 180 days after startup of the source, whichever is later. If you are demonstrating compliance with an emission limit in Tables 11 through 13 to this subpart that is less stringent (that is, higher) than the applicable emission limit in Table 1 to this subpart, you must demonstrate compliance with the applicable emission limit in Table 1 no later than July 29, 2016.~~

~~(g) For new or reconstructed affected sources (as defined in § 63.7490), you must demonstrate initial compliance with the applicable work practice standards in Table 3 to this subpart within the applicable annual, biennial, or 5-year schedule as specified in § 63.7540(a) following the initial compliance date specified in § 63.7495(a). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in § 63.7540(a).~~

~~(h) For affected sources (as defined in § 63.7490) that ceased burning solid waste consistent with § 63.7495(e) and for which the initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.~~

~~(i) For an existing EGU that becomes subject after January 31, 2013, you must demonstrate compliance within 180 days after becoming an affected source.~~

~~(j) For existing affected sources (as defined in § 63.7490) that have not operated between the effective date of the rule and the compliance date that is specified for your source in § 63.7495, you must complete the initial compliance demonstration, if subject to the emission limits in Table 2 to this subpart, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the re-start of the affected source and according to the applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart. You must complete an initial tune-up by following the procedures described in § 63.7540(a)(10)(i) through (vi) no later than 30 days after the re-start of the affected source and, if applicable, complete the one-time energy assessment specified in Table 3 to this subpart, no later than the compliance date speci-fied in § 63.7495.~~

[78 FR 7164, Jan. 31, 2013]

§ 63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?

(a) You must conduct all applicable performance tests according to § 63.7520 on an annual basis, except as specified in paragraphs (b) through (e), (g), and (h) of this section. Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in paragraphs (b) through (e), (g), and (h) of this section.

(b) If your performance tests for a given pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emis- sion limit (or, in limited instances as specified in Tables 1 and 2 or 11 through 13 to this subpart, at or below the emission limit) for the pollutant, and if there are no changes in the operation of the individual boiler or process heater or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If you elect to demonstrate compliance using emission averaging under § 63.7522, you must continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM.

(c) If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit (as specified in Tables 1 and 2 or 11 through 13 to this subpart) for a pollutant, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Tables 1 and 2 or 11 through 13 to this subpart).

(d) If you are required to meet an applicable tune-up work practice standard, you must conduct an annual, biennial, or 5-year performance tune-up according to § 63.7540(a)(10), (11), or (12), respectively. Each annual tune-up specified in § 63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in § 63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune- up specified in § 63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in § 63.7490), the first annual, biennial, or 5-year tune-up must be no later than 13 months, 25 months, or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

(e) If you demonstrate compliance with the mercury, HCl, or TSM based on fuel analysis, you must conduct a monthly fuel analysis according to § 63.7521 for each type of fuel burned that is subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart. You may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If you burn a new type of fuel, you must con- duct a fuel analysis before burning the new type of fuel in your boiler or proc- ess heater. You must still meet all applicable continuous compliance requirements in § 63.7540. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, you may decrease the fuel analysis frequency to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or you begin burning a new type of fuel, you must return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level.

(f) You must report the results of performance tests and the associated fuel analyses within 60 days after the completion of the performance tests. This report must also verify that the operating limits for each boiler or process heater have not changed or provide documentation of revised operating limits established according to § 63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests must include all applicable information required in § 63.7550.

~~(g) For affected sources (as defined in § 63.7490) that have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, you must complete the subsequent compliance demonstration, if subject to the emission limits in Tables 1, 2, or 11 through 13 to this subpart, no later than 180 days after the re-start of the affected source and according to the applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart. You must complete a subsequent tune-up by following the procedures described in § 63.7540(a)(10)(i) through (vi) and the schedule described in § 63.7540(a)(13) for units that are not operating at the time of their sched- uled tune-up.~~

~~(h) If your affected boiler or process heater is in the unit designed to burn light liquid subcategory and you combust ultra low sulfur liquid fuel, you do not need to conduct further performance tests if the pollutants measured during the initial compliance performance tests meet the emission limits in Tables 1 or 2 of this subpart providing you demonstrate ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis. If you intend to use a fuel other than ultra low sulfur liquid fuel, natural gas, refinery gas, or other gas 1 fuel, you must conduct new performance tests within 60 days of burning the new fuel type.~~

(i) If you operate a CO CEMS that meets the Performance Specifications outlined in § 63.7525(a)(3) of this subpart to demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, you are not required to conduct CO performance tests and are not subject to the oxygen concentration operating limit requirement specified in § 63.7510(a).

[78 FR 7165, Jan. 31, 2013]

§ 63.7520 What stack tests and procedures must I use?

(a) You must conduct all performance tests according to § 63.7(c), (d), (f), and (h). You must also develop a site-specific stack test plan according to the requirements in § 63.7(c). You shall conduct all performance tests under such conditions as the Administrator specifies to you based on the representative performance of each boiler or process heater for the period being tested. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests.

(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.

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

(d) You must conduct a minimum of three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must comply with the minimum applicable sampling times or volumes specified in Tables 1 and 2 or 11 through 13 to this subpart.

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 at 40 CFR part 60, appendix A–7 of this chapter to convert the measured particulate matter (PM) concentrations, the measured HCl concentrations, the measured mercury concentrations, and the measured TSM concentrations that result from the performance test to pounds per million Btu heat input emission rates.

(f) Except for a 30-day rolling average based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7166, Jan. 31, 2013]

§ 63.7521 What fuel analyses, fuel specification, and procedures must I use?

(a) For solid and liquid fuels, you must conduct fuel analyses for chloride and mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. For solid fuels and liquid fuels, you must also conduct fuel analyses for TSM if you are opting to comply with the TSM alternative standard. For gas 2 (other) fuels, you must conduct fuel analyses for mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) For purposes of complying with this section, a fuel gas system that consists of multiple gaseous fuels collected and mixed with each other is considered a single fuel type and sampling and analysis is only required on the combined fuel gas system that will feed the boiler or process heater. Sampling and analysis of the individual gaseous streams prior to combining is not required. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury, HCl, or TSM in Tables 1 and 2 or 11 through 13 to this subpart. Gaseous and liquid fuels are exempt from the sampling requirements in paragraphs (c) and (d) of this section and Table 6 to this subpart.

(b) You must develop a site-specific fuel monitoring plan according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section, if you are required to conduct fuel analyses as specified in § 63.7510.

(1) If you intend to use an alternative analytical method other than those required by Table 6 to this subpart, you must submit the fuel analysis plan to the Administrator for review and approval no later than 60 days before the date that you intend to conduct the initial compliance demonstration described in § 63.7510.

(2) You must include the information contained in paragraphs (b)(2)(i) through (vi) of this section in your fuel analysis plan.

(i) The identification of all fuel types anticipated to be burned in each boiler or process heater.

(ii) For each anticipated fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis.

(iii) For each anticipated fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from paragraph (c) or (d) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types.

(iv) For each anticipated fuel type, the analytical methods from Table 6, with the expected minimum detection levels, to be used for the measurement of chlorine or mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that you are proposing to use. Methods in Table 6 shall be used until the requested alternative is approved.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(c) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section, or the methods listed in Table 6 to this subpart, or use an automated sampling mechanism that provides representative composite fuel samples for each fuel type that includes both coarse and fine material.

(1) If sampling from a belt (or screw) feeder, collect fuel samples according to paragraphs (c)(1)(i) and (ii) of this section.

(i) Stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. You must collect all the material (fines and coarse) in the full cross-section. You must transfer the sample to a clean plastic bag.

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal one-hour intervals during the testing period for sampling during performance stack testing. For monthly sampling, each composite sample shall be collected at approximately equal 10-day intervals during the month.

(2) If sampling from a fuel pile or truck, you must collect fuel samples according to paragraphs (c)(2)(i) through (iii) of this section.

(i) For each composite sample, you must select a minimum of five sampling locations uniformly spaced over the surface of the pile.

(ii) At each sampling site, you must dig into the pile to a uniform depth of approximately 18 inches. You must insert a clean shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling; use the same shovel to collect all samples.

(iii) You must transfer all samples to a clean plastic bag for further processing.

(d) You must prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section.

(1) You must thoroughly mix and pour the entire composite sample over a clean plastic sheet.

(2) You must break large sample pieces (e.g., larger than 3 inches) into smaller sizes.

(3) You must make a pie shape with the entire composite sample and subdivide it into four equal parts.

(4) You must separate one of the quarter samples as the first subset.

(5) If this subset is too large for grinding, you must repeat the procedure in paragraph (d)(3) of this section

with the quarter sample and obtain a one-quarter subset from this sample.

(6) You must grind the sample in a mill.

(7) You must use the procedure in paragraph (d)(3) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure.

(e) You must determine the concentration of pollutants in the fuel (mercury and/or chlorine and/or TSM) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart, for use in Equations 7, 8, and 9 of this subpart.

(f) To demonstrate that a gaseous fuel other than natural gas or refinery gas qualifies as an other gas 1 fuel, as defined in § 63.7575, you must conduct a fuel specification analyses for mercury according to the procedures in paragraphs (g) through (i) of this section and Table 6 to this subpart, as applicable, except as specified in paragraph (f)(1) through (4) of this section.

(1) You are not required to conduct the fuel specification analyses in paragraphs (g) through (i) of this section for natural gas or refinery gas.

(2) You are not required to conduct the fuel specification analyses in paragraphs (g) through (i) of this section for gaseous fuels that are subject to another subpart of this part, part 60, part 61, or part 65.

(3) You are not required to conduct the fuel specification analyses in paragraphs (g) through (i) of this section on gaseous fuels for units that are complying with the limits for units designed to burn gas 2 (other) fuels.

(4) You are not required to conduct the fuel specification analyses in paragraphs (g) through (i) of this section for gas streams directly derived from natural gas at natural gas production sites or natural gas plants.

(g) You must develop and submit a site-specific fuel analysis plan for other gas 1 fuels to the EPA Adminis- trator for review and approval accord- ing to the following procedures and requirements in paragraphs (g)(1) and (2) of this section.

(1) If you intend to use an alternative analytical method other than those required by Table 6 to this subpart, you must submit the fuel analysis plan to the Administrator for review and approval no later than 60 days before the date that you intend to conduct the initial compliance demonstration described in § 63.7510.

(2) You must include the information contained in paragraphs (g)(2)(i) through (vi) of this section in your fuel analysis plan.

(i) The identification of all gaseous fuel types other than those exempted from fuel specification analysis under (f)(1) through (3) of this section anticipated to be burned in each boiler or process heater.

(ii) For each anticipated fuel type, the notification of whether you or a fuel supplier will be conducting the fuel specification analysis.

(iii) For each anticipated fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the samples if your procedures are different from the sampling methods contained in Table 6 to this subpart. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types. If multiple boilers or process heaters are fueled by a common fuel stream it is permissible to conduct a single gas specification at the common point of gas distribution.

(iv) For each anticipated fuel type, the analytical methods from Table 6 to this subpart, with the expected minimum detection levels, to be used for the measurement of mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that you are proposing to use. Methods in Table 6 to this subpart shall be used until the requested alternative is approved.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(h) You must obtain a single fuel sample for each fuel type according to the sampling procedures listed in Table 6 for fuel specification of gaseous fuels.

(i) You must determine the concentration in the fuel of mercury, in units of microgram per cubic meter, dry basis, of each sample for each other gas 1 fuel type according to the procedures in Table 6 to this subpart.

[78 FR 7167, Jan. 31, 2013]

~~§ 63.7522 Can I use emissions averaging to comply with this subpart?~~

~~(a) As an alternative to meeting the requirements of § 63.7500 for PM (or TSM), HCl, or mercury on a boiler or process heater-specific basis, if you have more than one existing boiler or process heater in any subcategories located at your facility, you may demonstrate compliance by emissions averaging, if your averaged emissions are not more than 90 percent of the applicable emission limit, according to the procedures in this section. You may not include new boilers or process heat- ers in an emissions average.~~

~~(b) For a group of two or more existing boilers or process heaters in the same subcategory that each vent to a separate stack, you may average PM (or TSM), HCl, or mercury emissions among existing units to demonstrate compliance with the limits in Table 2 to this subpart as specified in paragraph (b)(1) through (3) of this section, if you satisfy the requirements in paragraphs (c) through (g) of this section.~~

~~(1) You may average units using a CEMS or PM CPMS for demonstrating compliance.~~

~~(2) For mercury and HCl, averaging is allowed as follows:~~

~~(i) You may average among units in any of the solid fuel subcategories.~~

~~(ii) You may average among units in any of the liquid fuel subcategories.~~

~~(iii) You may average among units in a subcategory of units designed to burn gas 2 (other) fuels.~~

~~(iv) You may not average across the units designed to burn liquid, units designed to burn solid fuel, and units designed to burn gas 2 (other) subcategories.~~

~~(3) For PM (or TSM), averaging is only allowed between units within each of the following subcategories and you may not average across subcategories:~~

~~(i) Units designed to burn coal/solid fossil fuel.~~

~~(ii) Stokers/sloped grate/other units designed to burn kiln dried biomass/bio-based solids.~~

~~(iii) Stokers/sloped grate/other units designed to burn wet biomass/bio-based solids.~~

~~(iv) Fluidized bed units designed to burn biomass/bio-based solid.~~

~~(v) Suspension burners designed to burn biomass/bio-based solid.~~

~~(vi) Dutch ovens/pile burners designed to burn biomass/bio-based solid.~~

~~(vii) Fuel Cells designed to burn biomass/bio-based solid.~~

~~(viii) Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid.~~

~~(ix) Units designed to burn heavy liquid fuel.~~

~~(x) Units designed to burn light liq- uid fuel.~~

~~(xi) Units designed to burn liquid fuel that are non-continental units.~~

~~(xii) Units designed to burn gas 2 (other) gases.~~

~~(c) For each existing boiler or process heater in the averaging group, the emission rate achieved during the ini- tial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on January 31, 2013 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on January 31, 2013.~~

~~(d) The averaged emissions rate from the existing boilers and process heaters participating in the emissions averaging option must not exceed 90 percent of the limits in Table 2 to this subpart at all times the affected units are operating following the compliance date specified in § 63.7495.~~

~~(e) You must demonstrate initial compliance according to paragraph (e)(1) or (2) of this section using the maximum rated heat input capacity or maximum steam generation capacity of each unit and the results of the initial performance tests or fuel analysis.~~

(1) ~~You must use Equation 1a or 1b or 1c of this section to demonstrate that the PM (or TSM), HCl, or mercury emissions from all existing units participating in the emissions averaging~~

~~option for that pollutant do not exceed the emission limits in Table 2 to this subpart. Use Equation 1a if you are complying with the emission limits on a heat input basis, use Equation 1b if you are complying with the emission limits on a steam generation (output) basis, and use Equation 1c if you are complying with the emission limits on a electric generation (output) basis.~~

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Hm) \div \sum_{i=1}^{n} Hm \qquad \text{(Eq.1a)}$$

~~Where:~~

~~AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.~~

~~Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c).~~

~~Hm = Maximum rated heat input capacity of unit, i, in units of million Btu per hour.~~

~~n = Number of units participating in the emissions averaging option.~~

~~1.1 = Required discount factor.~~

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times So) \div \sum_{i=1}^{n} So \qquad \text{(Eq.1b)}$$

~~Where:~~

~~AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output.~~

~~Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of steam output. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c). If you are taking credit for energy conservation measures from a unit according to §63.7533, use the adjusted emission level for that unit, Eadj, determined according to §63.7533 for that unit.~~

~~So = Maximum steam output capacity of unit, i, in units of million Btu per hour, as defined in §63.7575.~~

~~n = Number of units participating in the emissions averaging option.~~

~~1.1 = Required discount factor.~~

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Eo) \div \sum_{i=1}^{n} Eo \qquad \text{(Eq.1c)}$$

~~Where:~~

~~AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour.~~

~~Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per megawatt hour. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this sub-~~

~~part, or by fuel analysis for HCl or mer- cury or TSM using the applicable equa- tion in § 63.7530(c). If you are taking cred- it for energy conservation measures from a unit according to § 63.7533, use the ad- justed emission level for that unit, Eadj, determined according to § 63.7533 for that unit.~~

~~Eo = Maximum electric generating output capacity of unit, i, in units of megawatt hour, as defined in § 63.7575.~~

~~n = Number of units participating in the emissions averaging option.~~
~~1.1 = Required discount factor.~~

~~(2) If you are not capable of determining the maximum rated heat input capacity of one or more boilers that generate steam, you may use Equation 2 of this section as an alternative to using Equation 1a of this section to demonstrate that the PM (or TSM), HCl, or mercury emissions from all existing units participating in the emissions averaging option do not exceed the emission limits for that pollutant in Table 2 to this subpart that are in pounds per million Btu of heat input.~~

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} \left(Er \times Sm \times Cfi\right) \div \sum_{i=1}^{n} \left(Sm \times Cfi\right) \qquad \text{(Eq. 2)}$$

~~Where:~~
~~AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.~~
~~Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c).~~
~~Sm = Maximum steam generation capacity by unit, i, in units of pounds per hour.~~
~~Cfi = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of steam generated for unit, i.~~
~~1.1 = Required discount factor.~~

~~(f) After the initial compliance demonstration described in paragraph (c) of this section, you must demonstrate compliance on a monthly basis determined at the end of every month (12 times per year) according to paragraphs (f)(1) through (3) of this section. The first monthly period begins on the compliance date specified in §63.7495. If the affected source elects to collect monthly data for up the 11 months preceding the first monthly period, these additional data points can be used to compute the 12-month rolling average in paragraph (f)(3) of this section.~~

~~(1) For each calendar month, you must use Equation 3a or 3b or 3c of this section to calculate the average weighted emission rate for that month. Use Equation 3a and the actual heat input for the month for each existing unit participating in the emissions averaging option if you are complying with emission limits on a heat input basis. Use Equation 3b and the actual steam generation for the month if you are complying with the emission limits on a steam generation (output) basis. Use Equation 3c and the actual steam generation for the month if you are complying with the emission limits on a electrical generation (output) basis.~~

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} \left(Er \times Hb\right) \div \sum_{i=1}^{n} Hb \qquad \text{(Eq. 3a)}$$

~~Where:~~
~~AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input, for that calendar month.~~
~~Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission~~

~~rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel anal- ysis for HCl or mercury or TSM accord- ing to Table 6 to this subpart.~~

~~Hb = The heat input for that calendar month to unit, i, in units of million Btu.~~

~~n = Number of units participating in the emissions averaging option.~~

~~1.1 = Required discount factor.~~

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times So) \div \sum_{i=1}^{n} So \quad \text{(Eq. 3b)}$$

~~Where:~~

~~AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output, for that calendar month.~~

~~Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of steam output. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit according to § 63.7533, use the adjusted emission level for that unit, E_{adj}, determined according to § 63.7533 for that unit.~~

~~So = The steam output for that calendar month from unit, i, in units of million Btu, as defined in § 63.7575.~~

~~n = Number of units participating in the emissions averaging option.~~

~~1.1 = Required discount factor.~~

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Eo) \div \sum_{i=1}^{n} Eo \quad \text{(Eq. 3c)}$$

~~Where:~~

~~AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour, for that calendar month.~~

~~Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per megawatt hour. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit according to § 63.7533, use the adjusted emission level for that unit, E_{adj}, determined according to § 63.7533 for that unit.~~

~~Eo = The electric generating output for that calendar month from unit, i, in units of megawatt hour, as defined in § 63.7575.~~

~~n = Number of units participating in the emissions averaging option.~~

~~1.1 = Required discount factor.~~

~~(2) If you are not capable of monitoring heat input, you may use Equation 4 of this section as an alternative to using Equation 3a of this section to calculate the average weighted emission rate using the actual steam generation from the boilers participating in the emissions averaging option.~~

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Sa \times Cfi) \div \sum_{i=1}^{n} (Sa \times Cfi) \quad \text{(Eq. 4)}$$

~~Where:~~

~~AveWeightedEmissions = average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input for that calendar month.~~

~~Er = Emission rate (as determined during the most recent compliance demonstration of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission~~

~~rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel anal- ysis for HCl or mercury or TSM accord- ing to Table 6 to this subpart.~~

~~Sa = Actual steam generation for that cal- endar month by boiler, i, in units of pounds.~~

~~Cfi = Conversion factor, as calculated during the most recent compliance test, in units~~

~~of million Btu of heat input per pounds of steam generated for boiler, i.~~
~~1.1 = Required discount factor.~~

~~(3) Until 12 monthly weighted average emission rates have been accumulated, calculate and report only the average weighted emission rate determined under paragraph (f)(1) or (2) of this section for each calendar month. After 12 monthly weighted average emission rates have been accumulated, for each subsequent calendar month, use Equation 5 of this section to calculate the 12-month rolling average of the monthly weighted average emission rates for the current calendar month and the previous 11 calendar months.~~

$$Eavg = \sum_{i=1}^{n} ERi \div 12 \quad \text{(Eq. 5)}$$

~~Where:~~

~~Eavg = 12-month rolling average emission rate, (pounds per million Btu heat input)~~
~~ERi = Monthly weighted average, for calendar month "i" (pounds per million Btu heat input), as calculated by paragraph (f)(1) or (2) of this section.~~

~~(g) You must develop, and submit upon request to the applicable Administrator for review and approval, an implementation plan for emission averaging according to the following procedures and requirements in paragraphs (g)(1) through (4) of this section.~~

~~(1) You must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.~~

~~(2) You must include the information contained in paragraphs (g)(2)(i) through (vii) of this section in your implementation plan for all emission sources included in an emissions average:~~

~~(i) The identification of all existing boilers and process heaters in the averaging group, including for each either the applicable HAP emission level or the control technology installed as of January 31, 2013 and the date on which you are requesting emission averaging to commence;~~

~~(ii) The process parameter (heat input or steam generated) that will be monitored for each averaging group;~~

~~(iii) The specific control technology or pollution prevention measure to be used for each emission boiler or process heater in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from~~

~~multiple boilers or process heaters, the owner or operator must identify each boiler or process heater;~~

~~(iv) The test plan for the measure- ment of PM (or TSM), HCl, or mercury emissions in accordance with the re- quirements in § 63.7520;~~

~~(v) The operating parameters to be monitored for each control system or device consistent with § 63.7500 and Table 4, and a description of how the operating limits will be determined;~~

~~(vi) If you request to monitor an al- ternative operating parameter pursu- ant to § 63.7525, you must also include:~~

~~(A) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the param- eter(s); and~~

~~(B) A description of the methods and procedures that will be used to dem- onstrate that the parameter indicates proper operation of the control device; the frequency and content of moni- toring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the Administrator, that the proposed monitoring fre- quency is sufficient to represent con- trol device operating conditions; and~~

~~(vii) A demonstration that compli- ance with each of the applicable emis- sion limit(s) will be achieved under representative operating load condi- tions. Following each compliance dem- onstration and until the next compli- ance demonstration, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart.~~

~~(3) The Administrator shall review and approve or disapprove the plan according to the following criteria:~~

~~(i) Whether the content of the plan includes all of the information specified in paragraph (g)(2) of this section; and~~

~~(ii) Whether the plan presents sufficient information to determine that compliance will be achieved and maintained.~~

~~(4) The applicable Administrator shall not approve an emission averaging implementation plan containing any of the following provisions:~~

~~(i) Any averaging between emissions of differing pollutants or between differing sources; or~~

~~(ii) The inclusion of any emission source other than an existing unit in the same subcategories.~~

~~(h) For a group of two or more existing affected units, each of which vents through a single common stack, you may average PM (or TSM), HCl, or mercury emissions to demonstrate compliance with the limits for that pollutant in Table 2 to this subpart if you satisfy the requirements in paragraph (i) or (j) of this section.~~

~~(i) For a group of two or more existing units in the same subcategories, each of which vents through a common emissions control system to a common stack, that does not receive emissions from units in other subcategories or categories, you may treat such averaging group as a single existing unit for purposes of this subpart and comply with the requirements of this subpart as if the group were a single unit.~~

~~(j) For all other groups of units subject to the common stack requirements of paragraph (h) of this section, including situations where the exhaust of affected units are each individually controlled and then sent to a common stack, the owner or operator may elect to:~~

~~(1) Conduct performance tests according to procedures specified in §63.7520 in the common stack if affected units from other subcategories vent to the common stack. The emission limits that the group must comply with are determined by the use of Equation 6 of this section.~~

$$En = \sum_{i=1}^{n} (ELi \times Hi) \div \sum_{i=1}^{n} Hi \qquad \text{(Eq. 6)}$$

~~Where:~~

~~En = HAP emission limit, pounds per million British thermal units (lb/MMBtu), parts per million (ppm), or nanograms per dry standard cubic meter (ng/dscm).~~

~~ELi = Appropriate emission limit from Table 2 to this subpart for unit i, in units of lb/MMBtu, ppm or ng/dscm.~~

~~Hi = Heat input from unit i, MMBtu.~~

~~(2) Conduct performance tests according to procedures specified in §63.7520 in the common stack. If affected units and non-affected units vent to the common stack, the non-affected units must be shut down or vented to a different stack during the performance test unless the facility determines to demonstrate compliance with the non-affected units venting to the stack; and~~

~~(3) Meet the applicable operating limit specified in §63.7540 and Table 8 to this subpart for each emissions control system (except that, if each unit venting to the common stack has an applicable opacity operating limit, then a single continuous opacity monitoring system may be located in the common stack instead of in each duct to the common stack).~~

~~(k) The common stack of a group of two or more existing boilers or process heaters in the same subcategories subject to paragraph (h) of this section may be treated as a separate stack for purposes of paragraph (b) of this section and included in an emissions averaging group subject to paragraph (b) of this section.~~

~~[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7168, Jan. 31, 2013]~~

§ 63.7525 What are my monitoring, installation, operation, and maintenance requirements?

~~(a)~~ If your boiler or process heater is subject to a CO emission limit in Ta- bles 1, 2, or 11 through 13 to this sub- part, you must install, operate, and maintain an oxygen analyzer system, as defined in § 63.7575, ~~or install, cer- tify, operate and maintain continuous emission monitoring systems for CO and oxygen according to the procedures in paragraphs (a)(1) through (7) of this section.~~

~~(1) Install the CO CEMS and oxygen analyzer by the compliance date specified in § 63.7495. The CO and oxygen levels shall be monitored at the same location at the outlet of the boiler or process heater.~~

~~(2) To demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, you must install, certify, operate, and maintain a CO CEMS and an oxygen analyzer according to the applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, the site-specific monitoring plan developed according to § 63.7505(d), and the requirements in § 63.7540(a)(8) and paragraph (a) of this section. Any boiler or process heater that has a CO CEMS that is compliant with Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, a site-specific monitoring plan developed according to § 63.7505(d), and the requirements in § 63.7540(a)(8) and paragraph (a) of this section must use the CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart.~~

~~(i) You must conduct a performance evaluation of each CO CEMS according to the requirements in § 63.8(e) and according to Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B.~~

~~(ii) During each relative accuracy test run of the CO CEMS, you must be collect emission data for CO concurrently (or within a 30- to 60-minute period) by both the CO CEMS and by Method 10, 10A, or 10B at 40 CFR part 60, appendix A–4. The relative accuracy testing must be at representative operating conditions.~~

~~(iii) You must follow the quality assurance procedures (e.g., quarterly accuracy determinations and daily calibration drift tests) of Procedure 1 of appendix F to part 60. The measurement span value of the CO CEMS must be two times the applicable CO emission limit, expressed as a concentration.~~

~~(iv) Any CO CEMS that does not comply with § 63.7525(a) cannot be used to meet any requirement in this subpart to demonstrate compliance with a CO emission limit listed in Tables 1, 2, or 11 through 13 to this subpart.~~

~~(v) For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016.~~

~~(3) Complete a minimum of one cycle of CO and oxygen CEMS operation (sampling, analyzing, and data recording) for each successive 15-minute period. Collect CO and oxygen data concurrently. Collect at least four CO and oxygen CEMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed.~~

~~(4) Reduce the CO CEMS data as specified in § 63.8(g)(2).~~

~~(5) Calculate one-hour arithmetic averages, corrected to 3 percent oxygen from each hour of CO CEMS data in parts per million CO concentration. The one-hour arithmetic averages re- quired shall be used to calculate the 30- day or 10-day rolling average emis- sions. Use Equation 19 19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A–7 for calculating the average CO concentration from the hourly values.~~

~~(6) For purposes of collecting CO data, operate the CO CEMS as specified in § 63.7535(b). You must use all the data collected during all periods in calculating data averages and assessing compliance, except that you must exclude certain data as specified in § 63.7535(c). Periods when CO data are~~

~~unavailable may constitute monitoring deviations as specified in § 63.7535(d).~~

~~(7) Operate an oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test as the operating limit for oxygen according to Table 7 to this subpart.~~

~~(b) If your boiler or process heater is in the unit designed to burn coal/solid fossil fuel subcategory or the unit designed to burn heavy liquid subcategory and has an average annual heat input rate greater than 250 MMBtu per hour from solid fossil fuel and/or heavy liquid, and you demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, certify, maintain, and operate a PM CPMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (b)(1) through (4) of this section. As an alternative to use of a PM CPMS to demonstrate compliance with the PM limit, you may choose to use a PM CEMS. If you choose to use a PM CEMS to demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, certify, maintain, and operate a PM CEMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraph (b)(5) through (8) of this section. For other boilers or process heaters, you may elect to use a PM CPMS or PM CEMS operated in accordance with this section in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure). Owners of boilers and process heaters who elect to comply with the alternative TSM limit are not required to install a PM CPMS.~~

~~(1) Install, certify, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with § 63.7505(d), the requirements in § 63.7540(a)(9), and paragraphs (b)(1)(i) through (iii) of this section.~~

~~(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation detection of PM in the exhaust gas or representative exhaust gas sample. The reportable measurement output from the PM CPMS must be expressed as milliamps.~~

~~(ii) The PM CPMS must have a cycle time (i.e., period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes.~~

~~(iii) The PM CPMS must be capable of detecting and responding to PM concentrations of no greater than 0.5 milligram per actual cubic meter.~~

~~(2) For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016.~~

~~(3) Collect PM CPMS hourly average output data for all boiler or process heater operating hours except as indicated in § 63.7535(a) through (d). Express the PM CPMS output as milliamps.~~

~~(4) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output data collected during all boiler or process heater operating hours (milliamps).~~

~~(5) Install, certify, operate, and maintain your PM CEMS according to the procedures in your approved site-specific monitoring plan developed in accordance with § 63.7505(d), the requirements in § 63.7540(a)(9), and paragraphs (b)(5)(i) through (iv) of this section.~~

~~(i) You shall conduct a performance evaluation of the PM CEMS according to the applicable requirements of § 60.8(e), and Performance Specification 11 at 40 CFR part 60, appendix B of this chapter.~~

~~(ii) During each PM correlation testing run of the CEMS required by Performance Specification 11 at 40 CFR part 60, appendix B of this chapter, you shall collect PM and oxygen (or carbon dioxide) data concurrently (or within a 30-to 60-minute period) by both the CEMS and conducting performance tests using Method 5 at 40 CFR part 60, appendix A-3 or Method 17 at 40 CFR part 60, appendix A-6 of this chapter.~~

(iii) ~~You shall perform quarterly accuracy determinations and daily calibration drift tests in accordance with Procedure 2 at 40 CFR part 60, appendix F of this chapter. You must perform~~

~~Relative Response Audits annually and perform Response Correlation Audits every 3 years.~~

~~(iv) Within 60 days after the date of completing each CEMS relative accuracy test audit or performance test conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and performance test data to the EPA by successfully submitting the data electronically into the EPA's Central Data Exchange by using the Electronic Reporting Tool (see *http://www.epa.gov/ttn/chief/ert/erttool.html/*).~~

~~(6) For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016.~~

~~(7) Collect PM CEMS hourly average output data for all boiler or process heater operating hours except as indicated in § 63.7535(a) through (d).~~

~~(8) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CEMS output data collected during all boiler or process heater operating hours.~~

(c) If you have an applicable opacity operating limit in this rule, and are not otherwise required or elect to in- stall and operate a PM CPMS, PM CEMS, or a bag leak detection system, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (c)(1) through (7) of this section by the compliance date specified in § 63.7495.

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 at appendix B to part 60 of this chapter.

(2) You must conduct a performance evaluation of each COMS according to the requirements in § 63.8(e) and according to Performance Specification 1 at appendix B to part 60 of this chapter.

(3) As specified in § 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in § 63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in § 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of § 63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit. Any 6-minute period for which the monitoring system is out of control and data are not available for a required calculation constitutes a deviation from the monitoring requirements.

(7) You must determine and record all the 6-minute averages (and daily block averages as applicable) collected for periods during which the COMS is not out of control.

~~(d) If you have an operating limit that requires the use of a CMS other than a PM CPMS or COMS, you must install, operate, and maintain each CMS according to the procedures in paragraphs (d)(1) through (5) of this section by the compliance date speci- fied in § 63.7495.~~

~~(1) The CPMS must complete a minimum of one cycle of operation every 15-minutes. You must have a minimum of four successive cycles of operation, one representing each of the four 15- minute periods in an hour, to have a valid hour of data.~~

~~(2) You must operate the monitoring system as specified in § 63.7535(b), and comply with the data calculation requirements specified in § 63.7535(c).~~

(3) ~~Any 15-minute period for which the monitoring system is out-of-control and data are not available for a required calculation constitutes a deviation from the monitoring requirements. Other situations that constitute a monitoring deviation are specified in § 63.7535(d).~~

~~(4) You must determine the 30-day rolling average of all recorded readings, except as provided in §63.7535(c).~~

~~(5) You must record the results of each inspection, calibration, and validation check.~~

~~(e) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (d) and (e)(1) through (4) of this section.~~

~~(1) You must install the flow sensor and other necessary equipment in a position that provides a representative flow.~~

~~(2) You must use a flow sensor with a measurement sensitivity of no greater than 2 percent of the design flow rate.~~

~~(3) You must minimize, consistent with good engineering practices, the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.~~

~~(4) You must conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.~~

~~(f) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (d) and (f)(1) through (6) of this section.~~

~~(1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (*e.g.*, PM scrubber pressure drop).~~

~~(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion consistent with good engineering practices.~~

~~(3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less.~~

~~(4) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (*e.g.*, check for pressure tap pluggage daily).~~

~~(5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.~~

~~(6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in you monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.~~

~~(g) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in paragraphs (d) and (g)(1) through (4) of this section.~~

~~(1) Install the pH sensor in a position that provides a representative measurement of scrubber effluent pH.~~

~~(2) Ensure the sample is properly mixed and representative of the fluid to be measured.~~

~~(3) 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.~~

~~(h) If you have an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator (ESP) operated with a wet scrubber, you must meet the requirements in paragraphs (h)(1) and (2) of this section.~~

~~(1) Install sensors to measure (secondary) voltage and current to the precipitator collection plates.~~

~~(2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.~~

~~(i) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (d) and (i)(1) through (2) of this section.~~

~~(1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate.~~

~~(2) Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.~~

~~(j) If you are not required to use a PM CPMS and elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (j)(1) through (6) of this section.~~

~~(1) You must install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute PM loadings for each exhaust stack, roof vent, or compartment (e.g., for a positive pressure fabric filter) of the fabric filter.~~

~~(2) Conduct a performance evaluation of the bag leak detection system in accordance with your monitoring plan and consistent with the guidance pro- vided in EPA-454/R-98-015 (incor- porated by reference, see § 63.14).~~

~~(3) Use a bag leak detection system certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter or less.~~

~~(4) Use a bag leak detection system equipped with a device to record continuously the output signal from the sensor.~~

~~(5) Use a bag leak detection system equipped with a system that will alert plant operating personnel when an increase in relative PM emissions over a preset level is detected. The alert must easily recognizable (e.g., heard or seen) by plant operating personnel.~~

~~(6) Where multiple bag leak detectors are required, the system's instrumentation and alert may be shared among detectors.~~

~~(k) For each unit that meets the definition of limited-use boiler or process heater, you must keep fuel use records for the days the boiler or process heater was operating.~~

~~(l) For each unit for which you decide to demonstrate compliance with the mercury or HCl emissions limits in Tables 1 or 2 or 11 through 13 of this subpart by use of a CEMS for mercury or HCl, you must install, certify, maintain, and operate a CEMS measuring emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (l)(1) through (8) of this section. For HCl, this option for an affected unit takes effect on the date a final performance specification for a HCl CEMS is published in the FEDERAL REGISTER or the date of approval of a site-specific monitoring plan.~~

~~(1) Notify the Administrator one month before starting use of the CEMS, and notify the Administrator one month before stopping use of the CEMS.~~

~~(2) Each CEMS shall be installed, certified, operated, and maintained according to the requirements in § 63.7540(a)(14) for a mercury CEMS and § 63.7540(a)(15) for a HCl CEMS.~~

~~(3) For a new unit, you must complete the initial performance evaluation of the CEMS by the latest of the dates specified in paragraph (l)(3)(i) through (iii) of this section.~~

~~(i) No later than July 30, 2013.~~

~~(ii) No later 180 days after the date of initial startup.~~

~~(iii) No later 180 days after notifying the Administrator before starting to use the CEMS in place of performance testing or fuel analysis to demonstrate compliance.~~

~~(4) For an existing unit, you must complete the initial performance evaluation by the latter of the two dates specified in paragraph (l)(4)(i) and (ii) of this section.~~

~~(i) No later than July 29, 2016.~~

~~(ii) No later 180 days after notifying the Administrator before starting to use the CEMS in place of performance testing or fuel analysis to demonstrate compliance.~~

~~(5) Compliance with the applicable emissions limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates using the continuous monitoring system outlet data. The 30-day rolling arithmetic average emission rate (lb/MMBtu) shall be calculated using the equations in EPA Reference Method 19 at 40 CFR part 60, appendix~~

~~A–7, but substituting the mercury or HCl concentration for the pollutant concentrations normally used in Method 19.~~

~~(6) Collect CEMS hourly averages for all operating hours on a 30-day rolling average basis. Collect at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.~~

~~(7) The one-hour arithmetic averages required shall be expressed in lb/MMBtu and shall be used to calculate the boiler 30-day and 10-day rolling average emissions.~~

~~(8) You are allowed to substitute the use of the PM, mercury or HCl CEMS for the applicable fuel analysis, annual performance test, and operating limits specified in Table 4 to this subpart to demonstrate compliance with the PM, mercury or HCl emissions limit, and if you are using an acid gas wet scrubber or dry sorbent injection control technology to comply with the HCl emission limit, you are allowed to substitute the use of a sulfur dioxide (SO_2) CEMS for the applicable fuel analysis, annual performance test, and operating limits specified in Table 4 to this subpart to demonstrate compliance with HCl emissions limit.~~

~~(m) If your unit is subject to a HCl emission limit in Tables 1, 2, or 11 through 13 of this subpart and you have an acid gas wet scrubber or dry sorbent injection control technology and you use an SO_2 CEMS, you must install the monitor at the outlet of the boiler or process heater, downstream of all emission control devices, and you must install, certify, operate, and maintain the CEMS according to part 75 of this chapter.~~

~~(1) The SO_2 CEMS must be installed by the compliance date specified in § 63.7495.~~

~~(2) For on-going quality assurance (QA), the SO_2 CEMS must meet the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1 through 2.3 of appendix B to part 75 of this chapter, with the following addition: You must perform the linearity checks required in section 2.2 of appendix B to part 75 of this chapter if the SO_2 CEMS has a span value of 30 ppm or less.~~

~~(3) For a new unit, the initial performance evaluation shall be completed no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, the initial performance evaluation shall be completed no later than July 29, 2016.~~

~~(4) For purposes of collecting SO_2 data, you must operate the SO_2 CEMS as specified in § 63.7535(b). You must use all the data collected during all periods in calculating data averages and assessing compliance, except that you must exclude certain data as specified in § 63.7535(c). Periods when SO_2 data are unavailable may constitute monitoring deviations as specified in § 63.7535(d).~~

~~(5) Collect CEMS hourly averages for all operating hours on a 30-day rolling average basis.~~

~~(6) Use only unadjusted, quality-assured SO_2 concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO_2 data and do not use part 75 substitute data values.~~

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7171, Jan. 31, 2013]

§ 63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?

(a) You must demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuel analyses and establishing operating limits, as applicable, according to § 63.7520, paragraphs (b) and (c) of this section, and Tables 5 and 7 to this subpart. The requirement to conduct a fuel analysis is not applicable for units that burn a single type of fuel, as specified by § 63.7510(a)(2)(i). If applicable, you must also install, operate, and maintain all applicable CMS (including CEMS, COMS, and CPMS) according to § 63.7525.

(b) If you demonstrate compliance through performance testing, you must establish each site-specific operating limit in Table 4 to this subpart that applies to you according to the requirements in § 63.7520, Table 7 to this subpart, and paragraph (b)(4) of this section, as applicable. You must also conduct fuel analyses according to § 63.7521 and establish maximum fuel pollutant input levels according to paragraphs (b)(1) through (3) of this section, as applicable, and as specified in § 63.7510(a)(2). (Note that § 63.7510(a)(2) exempts certain fuels from the fuel analysis requirements.) However, if you switch fuel(s) and cannot show that the new fuel(s) does (do) not increase the chlorine, mercury, or TSM input into the unit through the results of fuel analysis, then you must repeat the performance test to demonstrate compliance while burning the new fuel(s).

(1) You must establish the maximum chlorine fuel input (Clinput) during the initial fuel analysis according to the procedures in paragraphs (b)(1)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of chlorine.

(ii) During the fuel analysis for hydrogen chloride, you must determine the fraction of the total heat input for each fuel type burned (Qi) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned (Ci).

(iii) You must establish a maximum chlorine input level using Equation 7 of this section.

$$Clinput = \sum_{i=1}^{n} (Ci \times Qi) \quad \text{(Eq. 7)}$$

Where:

Clinput = Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.

Ci = Arithmetic average concentration of chlorine in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types dur- ing the performance testing, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

(2) You must establish the maximum mercury fuel input level (Mercuryinput) during the initial fuel analysis using the procedures in paragraphs (b)(2)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury.

(ii) During the compliance demonstration for mercury, you must determine the fraction of total heat input for each fuel burned (Qi) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned (HGi).

(iii) You must establish a maximum mercury input level using Equation 8 of this section.

$$Mercuryinput = \sum_{i=1}^{n} (HGi \times Qi) \quad \text{(Eq. 8)}$$

Where:

Mercuryinput = Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.

HGi = Arithmetic average concentration of mercury in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of mercury.

(3) If you opt to comply with the alternative TSM limit, you must establish the maximum TSM fuel input (TSMinput) for solid or liquid fuels during the initial fuel analysis according to the procedures in paragraphs (b)(3)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of TSM.

(ii) During the fuel analysis for TSM, you must determine the fraction of the total heat input for each fuel type burned (Qi) based on the fuel mixture that has the highest content of TSM, and the average TSM concentration of each fuel type burned (TSMi).

(iii) You must establish a maximum TSM input level using Equation 9 of this section.

$$TSMinput = \sum_{i=1}^{n} (TSMi \times Qi) \qquad \text{(Eq. 9)}$$

Where:

TSMinput = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.

TSMi = Arithmetic average concentration of TSM in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of TSM. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

~~(4) You must establish parameter operating limits according to paragraphs (b)(4)(i) through (ix) of this section. As indicated in Table 4 to this subpart, you are not required to establish and comply with the operating parameter limits when you are using a CEMS to monitor and demonstrate compliance with the applicable emission limit for that control device parameter.~~

~~(i) For a wet acid gas scrubber, you must establish the minimum scrubber effluent pH and liquid flow rate as defined in § 63.7575, as your operating limits during the performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for HCl and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flow rate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate operating limit at the higher of the minimum values established during the performance tests.~~

~~(ii) For any particulate control device (e.g., ESP, particulate wet scrubber, fabric filter) for which you use a PM CPMS, you must establish your PM CPMS operating limit and determine compliance with it according to paragraphs (b)(4)(ii)(A) through (F) of this section.~~

~~(A) Determine your operating limit as the average PM CPMS output value recorded during the most recent performance test run demonstrating compliance with the filterable PM emission limit or at the PM CPMS output value corresponding to 75 percent of the emission limit if your PM performance test demonstrates compliance below 75 percent of the emission limit. You must verify an existing or establish a~~

~~new operating limit after each repeated performance test. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.~~

~~(1) Your PM CPMS must provide a 4–20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps.~~

~~(2) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to at least two times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to two times your allowable emission limit.~~

~~(3) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs).~~

~~(B) If the average of your three PM performance test runs are below 75 percent of your PM emission limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or performance test with the procedures in paragraphs (b)(4)(ii)(B)(*1*) through (*4*) of this section.~~

~~(1) Determine your instrument zero output with one of the following procedures:~~

~~(i) Zero point data for *in-situ* instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.~~

~~(ii) Zero point data for *extractive* instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air.~~

~~(iii) The zero point may also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (e.g., when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.~~

~~(iv) If none of the steps in paragraphs (b)(4)(ii)(B)(*1*)(*i*) through (*iii*) of this section are possible, you must use a zero output value provided by the manufacturer.~~

~~(2) Determine your PM CPMS instrument average in milliamps, and the average of your corresponding three PM compliance test runs, using equation 10.~~

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 , \bar{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1 \qquad \text{(Eq. 10)}$$

~~Where:~~

~~X_1 = the PM CPMS data points for the three runs constituting the performance test,~~

~~Y_1 = the PM concentration value for the three runs constituting the performance test, and~~

~~n = the number of data points.~~

~~(3) With your instrument zero expressed in milliamps, your three run average PM CPMS milliamp value, and your three run average PM concentration from your three compliance tests, determine a relationship of lb/MMBtu per milliamp with equation 11.~~

$$R = \frac{Y_1}{(X_1 - z)} \qquad \text{(Eq. 11)}$$

~~Where:~~

~~R = the relative lb/MMBtu per milliamp for your PM CPMS,~~

~~Y_1 = the three run average lb/MMBtu PM concentration,~~

~~X_1 = the three run average milliamp output from you PM CPMS, and~~

~~z = the milliamp equivalent of your instrument zero determined from (B)(i).~~

~~(4) Determine your source specific 30-day rolling average operating limit using the lb/MMBtu per milliamp value from Equation 11 in equation 12, below. This sets your operating limit at the PM CPMS output value corresponding to 75 percent of your emission limit.~~

$$O_l = z + \frac{0.75(L)}{R} \qquad \text{(Eq. 12)}$$

~~Where:~~

~~O_l = the operating limit for your PM CPMS on a 30-day rolling average, in milliamps.~~

~~L = your source emission limit expressed in lb/MMBtu,~~

~~z = your instrument zero in milliamps, determined from (B)(i), and~~

~~R = the relative lb/MMBtu per milliamp for your PM CPMS, from Equation 11.~~

~~(C) If the average of your three PM compliance test runs is at or above 75 percent of your PM emission limit you must determine your 30-day rolling average operating limit by averaging the PM CPMS milliamp output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using equation 13 and you must submit all compliance test and PM CPMS data according to the reporting requirements in paragraph (b)(4)(ii)(F) of this section.~~

$$O_h = \frac{1}{n}\sum_{i=1}^{n} X_1 \qquad \text{(Eq. 13)}$$

~~Where:~~

~~X_1 = the PM CPMS data points for all runs i,~~

~~n = the number of data points, and~~

~~O_h = your site specific operating limit, in milliamps.~~

~~(D) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis, updated at the end of each new operating hour. Use Equation 14 to determine the 30-day rolling average.~~

$$30-\text{day}=\frac{\sum_{i=1}^{n} Hpvi}{n} \qquad \text{(Eq. 14)}$$

~~Where:~~
~~30-day = 30-day average.~~
~~Hpvi = is the hourly parameter value for hour i~~
~~n = is the number of valid hourly parameter values collected over the previous 720 operating hours.~~

(E) Use EPA Method 5 of appendix A to part 60 of this chapter to determine PM emissions. For each performance test, conduct three separate runs under the conditions that exist when the affected source is operating at the highest load or capacity level reasonably expected to occur. Conduct each test run to collect a minimum sample volume specified in Tables 1, 2, or 11 through 13 to this subpart, as applicable, for determining compliance with a new source limit or an existing source limit. Calculate the average of the results from three runs to determine compliance. You need not determine the PM collected in the impingers ("back half") of the Method 5 particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requir- ing a determination of the "back half" for other purposes.

(F) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g. beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run. (iii) For a particulate wet scrubber, you must establish the minimum pressure drop and liquid flow rate as defined in § 63.7575, as your operating limits during the three-run performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for PM and TSM emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests.

(iii) For an electrostatic precipitator (ESP) operated with a wet scrubber, you must establish the minimum total secondary electric power input, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit. (These operating limits do not apply to ESP that are operated as dry controls without a wet scrubber.)

(iv) For a dry scrubber, you must establish the minimum sorbent injection rate for each sorbent, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(v) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(vi) The operating limit for boilers or process heaters with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in § 63.7525, and that each fabric filter must be operated such that the bag leak detection system alert is not activated more than 5 percent of the operating time during a 6-month period.

(vii) For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.

(viii) The operating limit for boilers or process heaters that demonstrate continuous compliance with the HCl emission limit using a SO_2 CEMS is to install and operate the SO_2 according to the requirements in § 63.7525(m) establish a maximum SO_2 emission rate equal to the highest hourly average SO_2 measurement during the most re- cent three-run performance test for HCl.

(c) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to § 63.7521 and follow the procedures in paragraphs (c)(1) through (5) of this section.

(1) If you burn more than one fuel type, you must determine the fuel mixture you could burn in your boiler or process heater that would result in the maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis.

(2) You must determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided t-statistic test described in Equation 15 of this section.

$$P90 = mean + (SD \times t) \quad \text{(Eq. 15)}$$

Where:

P90 = 90th percentile confidence level pollutant concentration, in pounds per million Btu.

Mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to § 63.7521, in units of pounds per million Btu.

SD = Standard deviation of the mean of pollutant concentration in the fuel samples analyzed according to § 63.7521, in units of pounds per million Btu. SD is calculated as the sample standard deviation divided by the square root of the number of samples.

t = t distribution critical value for 90th percentile ($t_{0.1}$) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a t-Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable emission limit for HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 16 of this section must not exceed the applicable emission limit for HCl.

$$HCl = \sum_{i=1}^{n} (Ci90 \times Qi \times 1.028) \quad \text{(Eq. 16)}$$

Where:

HCl = HCl emission rate from the boiler or process heater in units of pounds per million Btu.

Ci90 = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 11 of this section.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.

n = Number of different fuel types burned in your boiler or process heater for the mix- ture that has the highest content of chlo- rine.

1.028 = Molecular weight ratio of HCl to chlo- rine.

(4) To demonstrate compliance with the applicable emission limit for mer- cury, the mercury emission rate that

you calculate for your boiler or process heater using Equation 17 of this section must not exceed the applicable emission limit for mercury.

$$Mercury = \sum_{i=1}^{n} \left(Hgi90 \times Qi \right) \qquad \text{(Eq. 17)}$$

Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.

Hgi90 = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 11 of this section.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.

(5) To demonstrate compliance with the applicable emission limit for TSM for solid or liquid fuels, the TSM emission rate that you calculate for your boiler or process heater from solid fuels using Equation 18 of this section must not exceed the applicable emission limit for TSM.

$$Metals = \sum_{i=1}^{n} \left(TSM90i \times Qi \right) \qquad \text{(Eq. 18)}$$

Where:

Metals = TSM emission rate from the boiler or process heater in units of pounds per million Btu.

TSMi90 = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 11 of this section.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest TSM content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest TSM content.

(d) If you own or operate an existing unit with a heat input capacity of less than 10 million Btu per hour or a unit in the unit designed to burn gas 1 subcategory, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the unit.

(e) You must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 to this subpart and is an accu- rate depiction of your facility at the time of the assessment.

(f) You must submit the Notification of Compliance Status containing the results of the initial compliance dem- onstration according to the require- ments in § 63.7545(e).

(g) If you elect to demonstrate that a gaseous fuel meets the specifications of another gas 1 fuel as defined in § 63.7575, you must conduct an initial fuel speci- fication analyses according to § 63.7521(f) through (i) and according to the frequency listed in § 63.7540(c) and maintain records of the results of the testing as outlined in § 63.7555(g). For samples where the initial mercury specification has not been exceeded, you will include a signed certification with the Notification of Compliance Status that the initial fuel specifica- tion test meets the gas specification outlined in the definition of other gas 1 fuels.

(h) If you own or operate a unit sub- ject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart, you must meet the work practice standard according to Table 3 of this subpart. During startup and shutdown, you must only follow the work practice standards according to item 5 of Table 3 of this subpart.

(i) If you opt to comply with the alternative SO_2 CEMS operating limit in Tables 4 and 8 to this subpart, you may do so only if your affected boiler or process heater:

(1) Has a system using wet scrubber or dry sorbent injection and SO_2 CEMS installed on the unit; and

(2) At all times, you operate the wet scrubber or dry sorbent injection for acid gas control on the unit consistent with § 63.7500(a)(3); and

(3) You establish a unit-specific maximum SO_2 operating limit by collecting the minimum hourly SO_2 emission rate on the SO_2 CEMS during the paired 3-run test for HCl. The maximum SO_2 operating limit is equal to the highest hourly average SO_2 concentration measured during the most recent HCl performance test.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7174, Jan. 31, 2013]

§ 63.7533 ~~Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?~~

~~(a) If you elect to comply with the alternative equivalent output-based emission limits, instead of the heat input-based limits listed in Table 2 to this subpart, and you want to take credit for implementing energy conservation measures identified in an energy assessment, you may demonstrate compliance using efficiency credits according to the procedures in this section. You may use this compliance approach for an existing affected boiler for demonstrating initial compliance according to §63.7522(e) and for demonstrating monthly compliance according to §63.7522(f). Owners or operators using this compliance approach must establish an emissions benchmark, calculate and document the efficiency credits, develop an Implementation Plan, comply with the general reporting requirements, and apply the efficiency credit according to the procedures in paragraphs (b) through (f) of this section. You cannot use this compliance approach for a new or reconstructed affected boiler. Additional guidance from the Department of Energy on efficiency credits is available at: *http://www.epa.gov/ttn/atw/boiler/boilerpg.html*.~~

~~(b) For each existing affected boiler for which you intend to apply emissions credits, establish a benchmark from which emission reduction credits may be generated by determining the actual annual fuel heat input to the affected boiler before initiation of an energy conservation activity to reduce energy demand (*i.e.*, fuel usage) according to paragraphs (b)(1) through (4) of this section. The benchmark shall be expressed in trillion Btu per year heat input.~~

~~(1) The benchmark from which efficiency credits may be generated shall be determined by using the most representative, accurate, and reliable process available for the source. The benchmark shall be established for a one-year period before the date that an energy demand reduction occurs, unless it can be demonstrated that a different time period is more representative of historical operations.~~

~~(2) Determine the starting point from which to measure progress. Inventory all fuel purchased and generated on-site (off-gases, residues) in physical units (MMBtu, million cubic feet, etc.).~~

~~(3) Document all uses of energy from the affected boiler. Use the most recent data available.~~

~~(4) Collect non-energy related facility and operational data to normalize, if necessary, the benchmark to current operations, such as building size, operating hours, etc. If possible, use actual data that are current and timely rather than estimated data.~~

~~(c) Efficiency credits can be generated if the energy conservation measures were implemented after January 1, 2008 and if sufficient information is available to determine the appropriate value of credits.~~

~~(1) The following emission points cannot be used to generate efficiency credits:~~

~~(i) Energy conservation measures implemented on or before January 1, 2008, unless the level of energy demand reduction is increased after January 1,~~

~~2008, in which case credit will be allowed only for change in demand reduction achieved after January 1, 2008.~~

~~(ii) Efficiency credits on shut-down boilers. Boilers that are shut down cannot be used to generate credits unless the facility provides documentation linking the permanent shutdown to energy conservation measures identified in the energy assessment. In this case, the bench established for the affected boiler to which the credits from the shutdown will be applied must be revised to include the benchmark established for the shutdown boiler.~~

~~(2) For all points included in calculating emissions credits, the owner or operator shall:~~

~~(i) Calculate annual credits for all energy demand points. Use Equation 19 to calculate credits. Energy conservation measures that meet the criteria of paragraph (c)(1) of this section shall not be included, except as specified in paragraph (c)(1)(i) of this section.~~

~~(3) Credits are generated by the difference between the benchmark that is established for each affected boiler, and the actual energy demand reductions from energy conservation measures implemented after January 1, 2008. Credits shall be calculated using Equation 19 of this section as follows:~~

~~(i) The overall equation for calculating credits is:~~

$$ECredits = \left(\sum_{i=1}^{n} EIS_{iactual} \right) \div EI_{baseline} \qquad \text{(Eq. 19)}$$

~~Where:~~

~~ECredits = Energy Input Savings for all energy conservation measures implemented for an affected boiler, expressed as a decimal fraction of the baseline energy input.~~

~~$EIS_{iactual}$ = Energy Input Savings for each energy conservation measure, i, implemented for an affected boiler, million Btu per year.~~

~~$EI_{baseline}$ = Energy Input baseline for the affected boiler, million Btu per year.~~

~~n = Number of energy conservation measures included in the efficiency credit for the affected boiler.~~

~~(ii) [Reserved]~~

~~(d) The owner or operator shall develop, and submit for approval upon request by the Administrator, an Implementation Plan containing all of the information required in this paragraph for all boilers to be included in an efficiency credit approach. The Implementation Plan shall identify all existing affected boilers to be included in applying the efficiency credits. The Implementation Plan shall include a description of the energy conservation measures implemented and the energy savings generated from each measure and an explanation of the criteria used for determining that savings. If requested, you must submit the implementation plan for efficiency credits to the Administrator for review and approval no later than 180 days before the date on which the facility intends to demonstrate compliance using the efficiency credit approach.~~

~~(e) The emissions rate as calculated using Equation 20 of this section from each existing boiler participating in the efficiency credit option must be in compliance with the limits in Table 2 to this subpart at all times the affected unit is operating, following the compliance date specified in § 63.7495.~~

~~(f) You must use Equation 20 of this section to demonstrate initial compliance by demonstrating that the emissions from the affected boiler participating in the efficiency credit compliance approach do not exceed the emission limits in Table 2 to this subpart.~~

$$E_{adj} = E_m \times (1 - ECredits) \qquad \text{(Eq. 20)}$$

~~Where:~~

~~E_{adj} = Emission level adjusted by applying the efficiency credits earned, lb per million Btu steam output (or lb per MWh) for the affected boiler.~~

~~E_m = Emissions measured during the performance test, lb per million Btu steam output (or lb per MWh) for the affected boiler.~~

~~ECredits = Efficiency credits from Equation 19 for the affected boiler.~~

(g) ~~As part of each compliance report submitted as required under § 63.7550, you must include documentation that the energy conservation measures implemented continue to generate the credit for use in demonstrating compliance with the emission limits.~~

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7178, Jan. 31, 2013]

CONTINUOUS COMPLIANCE REQUIREMENTS

§ 63.7535 Is there a minimum amount of monitoring data I must obtain?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.7505(d).

(b) You must operate the monitoring system and collect data at all required intervals at all times that each boiler or process heater is operating and compliance is required, except for periods of monitoring system malfunctions or out of control periods (see § 63.8(c)(7) of this part), and required monitoring system quality assurance or control activities, including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data recorded during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in data averages and calculations used to report emissions or operating levels. You must record and make available upon request results of CMS performance audits and dates and duration of periods when the CMS is out of control to completion of the corrective actions necessary to return the CMS to operation consistent with your site-specific monitoring plan. You must use all the data collected during all other periods in assessing compliance and the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits, calibration checks, and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements. In calculating monitoring results, do not use any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities. You must calculate monitoring results using all other monitoring data collected while the process is operating. You must report all periods when the monitoring system is out of control in your annual report.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7179, Jan. 31, 2013]

§ 63.7540 How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?

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

(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.7510, whichever date comes first, operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits listed in Table 4 of this subpart except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits must be confirmed or re-established during performance tests.

(2) As specified in §63.7550(c), you must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in either of the following:

~~(i) Lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis.~~

(ii) Lower fuel input of chlorine, mercury, and TSM than the maximum values calculated during the last performance test, if you demonstrate compliance through performance testing.

~~(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis for a solid or liquid fuel and you plan to burn a new type of solid or liquid fuel, you must recalculate the HCl emission rate using Equation 12 of §63.7530 according to paragraphs (a)(3)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the HCl emission rate.~~

~~(i) You must determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).~~

~~(ii) You must determine the new mixture of fuels that will have the highest content of chlorine.~~

~~(iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 12 of §63.7530. The recalculated HCl emission rate must be less than the applicable emission limit.~~

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

~~(5) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 13 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate.~~

~~(i) You must determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).~~

~~(ii) You must determine the new mixture of fuels that will have the highest content of mercury.~~

~~(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 13 of §63.7530. The recalculated mercury emission rate must~~

~~be less than the applicable emission limit.~~

(6) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 8 of § 63.7530. If the results of recalculating the maximum mercury input using Equation 8 of § 63.7530 are higher than the maximum mercury input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(b). You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in § 63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate.

~~(7) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alert and complete corrective actions as soon as practical, and operate and maintain the fabric filter system such that the periods which would cause an alert are no more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alert, the time corrective action was initiated and completed, and a brief description of the cause of the alert and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the conditions exist for an alert. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alert time is counted. If corrective action is required, each alert shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alert time shall be counted as the actual amount of time taken to initiate corrective action.~~

~~(8) To demonstrate compliance with the applicable alternative CO CEMS emission limit listed in Tables 1, 2, or 11 through 13 to this subpart, you must meet the requirements in paragraphs (a)(8)(i) through (iv) of this section.~~

~~(i) Continuously monitor CO according to §§ 63.7525(a) and 63.7535.~~

~~(ii) Maintain a CO emission level below or at your applicable alternative CO CEMS-based standard in Tables 1 or 2 or 11 through 13 to this subpart at all times the affected unit is operating.~~

~~(iii) Keep records of CO levels according to § 63.7555(b).~~

~~(iv) You must record and make available upon request results of CO CEMS performance audits, dates and duration of periods when the CO CEMS is out of control to completion of the corrective actions necessary to return the CO CEMS to operation consistent with your site-specific monitoring plan.~~

~~(9) The owner or operator of a boiler or process heater using a PM CPMS or a PM CEMS to meet requirements of this subpart shall install, certify, operate, and maintain the PM CPMS or PM CEMS in accordance with your site-specific monitoring plan as required in § 63.7505(d).~~

(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. This frequency does not apply to limited-use boilers and process heaters, as defined in § 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.

(i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

(ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

(iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;

(iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject;

(v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and

(vi) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,

(A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;

(B) A description of any corrective actions taken as a part of the tune-up; and

(C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

(11) If your boiler or process heater has a heat input capacity of less than 10 million Btu per hour (except as specified in paragraph (a)(12) of this section), you must conduct a biennial tune-up of the boiler or process heater as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance.

(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in §63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.

(13) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

~~(14) If you are using a CEMS measuring mercury emissions to meet requirements of this subpart you must install, certify, operate, and maintain the mercury CEMS as specified in paragraphs (a)(14)(i) and (ii) of this section.~~

~~(i) Operate the mercury CEMS in accordance with performance specification 12A of 40 CFR part 60, appendix B or operate a sorbent trap based integrated monitor in accordance with performance specification 12B of 40 CFR part 60, appendix B. The duration of the performance test must be the maximum of 30 unit operating days or 720 hours. For each day in which the unit operates, you must obtain hourly mercury concentration data, and stack gas volumetric flow rate data.~~

~~(ii) If you are using a mercury CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the mercury mass emissions rate to the atmosphere according to the requirements of performance specifications 6 and 12A of 40 CFR part 60, appendix B, and quality assurance procedure 6 of 40 CFR part 60, appendix F.~~

~~(15) If you are using a CEMS to measure HCl emissions to meet requirements of this subpart, you must install, certify, operate, and maintain the HCl CEMS as specified in paragraphs (a)(15)(i) and (ii) of this section. This option for an affected unit takes effect on the date a final performance specification for an HCl CEMS is published in the FEDERAL REGISTER or the date of approval of a site-specific monitoring plan.~~

~~(i) Operate the continuous emissions monitoring system in accordance with the applicable performance specification in 40 CFR part 60, appendix B. The duration of the performance test must be the maximum of 30 unit operating days or 720 hours. For each day in which the unit operates, you must obtain hourly HCl concentration data, and stack gas volumetric flow rate data.~~

~~(ii) If you are using a HCl CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the HCl mass emissions rate to the atmosphere according to the requirements of the applicable performance specification of 40 CFR part 60, appendix B, and the quality assurance procedures of 40 CFR part 60, appendix F.~~

~~(16) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum TSM input using Equation 9 of §63.7530. If the results of recalculating the maximum TSM input using Equation 9 of §63.7530 are higher than the maximum total selected input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the TSM emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(b). You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate.~~

~~(17) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis for solid or liquid fuels, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 14 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in § 63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate.~~

~~(i) You must determine the TSM concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).~~

~~(ii) You must determine the new mixture of fuels that will have the highest content of TSM.~~

~~(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 14 of §63.7530. The recalculated TSM emission rate must be less than the applicable emission limit.~~

~~(18) If you demonstrate continuous PM emissions compliance with a PM CPMS you will use a PM CPMS to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. You will conduct your performance test using the test method criteria in Table 5 of this subpart. You will use the PM CPMS to demonstrate continuous compliance with this operating limit. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.~~

~~(i) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the~~

~~arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis, updated at the end of each new boiler or process heater operating hour.~~

~~(ii) For any deviation of the 30-day rolling PM CPMS average value from the established operating parameter limit, you must:~~

~~(A) Within 48 hours of the deviation, visually inspect the air pollution control device (APCD);~~

~~(B) If inspection of the APCD identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and~~

~~(C) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph.~~

(iii) ~~PM CPMS deviations from the operating limit leading to more than four required performance tests in a 12-month operating period constitute a separate violation of this subpart.~~

~~(19) If you choose to comply with the PM filterable emissions limit by using PM CEMS you must install, certify, operate, and maintain a PM CEMS and record the output of the PM CEMS as specified in paragraphs (a)(19)(i) through (vii) of this section. The compliance limit will be expressed as a 30-day rolling average of the numerical emissions limit value applicable for your unit in Tables 1 or 2 or 11 through 13 of this subpart.~~

~~(i) Install and certify your PM CEMS according to the procedures and requirements in Performance Specification 11—Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to part 60 of this chapter, using test criteria outlined in Table V of this rule. The reportable measurement output from the PM CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh).~~

~~(ii) Operate and maintain your PM CEMS according to the procedures and requirements in Procedure 2—Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix F to part 60 of this chapter.~~

~~(A) You must conduct the relative response audit (RRA) for your PM CEMS at least once annually.~~

~~(B) You must conduct the relative correlation audit (RCA) for your PM CEMS at least once every 3 years.~~

~~(iii) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (i) of this section.~~

~~(iv) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CEMS output data collected during all nonexempt boiler or process heater operating hours.~~

~~(v) You must collect data using the PM CEMS at all times the unit is operating and at the intervals specified this paragraph (a), except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities.~~

~~(vi) You must use all the data collected during all boiler or process heater operating hours in assessing the compliance with your operating limit except:~~

~~(A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in your annual deviation report;~~

~~(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in your annual deviation report;~~

~~(C) Any data recorded during periods of startup or shutdown.~~

~~(vii) You must record and make available upon request results of PM CEMS system performance audits, dates and duration of periods when the PM CEMS is out of control to completion of the corrective actions necessary to return the PM CEMS to operation consistent with your site-specific monitoring plan.~~

~~(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 through 4 or 11 through 13 to this subpart that apply to you. These instances are deviations from the emission limits or operating limits, respectively, in this subpart. These deviations must be reported according to the requirements in §63.7550.~~

~~(c) If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, you must follow the sampling frequency specified in paragraphs (c)(1) through (4) of this section and conduct this sampling according to the procedures in §63.7521(f) through (i).~~

~~(1) If the initial mercury constituents in the gaseous fuels are measured to be equal to or less than half of the mercury specification as defined in §63.7575, you do not need to conduct further sampling.~~

~~(2) If the initial mercury constituents are greater than half but equal to or less than 75 percent of the mercury specification as defined in §63.7575, you will conduct semi-annual sampling. If 6 consecutive semi-annual fuel analyses demonstrate 50 percent or less of the mercury specification, you do not need to conduct further sampling. If any semi-annual sample exceeds 75 percent of the mercury specification, you must return to monthly sampling for that fuel, until 12 months of fuel analyses again are less than 75 percent of the compliance level.~~

~~(3) If the initial mercury constituents are greater than 75 percent of the mercury specification as defined in § 63.7575, you will conduct monthly sampling. If 12 consecutive monthly fuel analyses demonstrate 75 percent or less of the mercury specification, you may decrease the fuel analysis frequency to semi-annual for that fuel.~~

~~(4) If the initial sample exceeds the mercury specification as defined in §63.7575, each affected boiler or process heater combusting this fuel is not part of the unit designed to burn gas 1 subcategory and must be in compliance with the emission and operating limits for the appropriate subcategory. You may elect to conduct additional monthly sampling while complying with these emissions and operating limits to demonstrate that the fuel qualifies as another gas 1 fuel. If 12 consecutive monthly fuel analyses samples are at or below the mercury specification as defined in § 63.7575, each affected boiler or process heater combusting the fuel can elect to switch back into the unit designed to burn gas 1 subcategory until the mercury specification is exceeded.~~

(d) For startup and shutdown, you must meet the work practice standards according to item 5 of Table 3 of this subpart.

[78 FR 7179, Jan. 31, 2013]

~~§ 63.7541 How do I demonstrate continuous compliance under the emissions averaging provision?~~

~~(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (5) of this section.~~

~~(1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing units participating in the emissions averaging option as determined in §63.7522(f) and (g).~~

~~(2) You must maintain the applicable opacity limit according to paragraphs (a)(2)(i) and (ii) of this section.~~

~~(i) For each existing unit participating in the emissions averaging option that is equipped with a dry control system and not vented to a common stack, maintain opacity at or below the applicable limit.~~

~~(ii) For each group of units participating in the emissions averaging option where each unit in the group is equipped with a dry control system and vented to a common stack that does~~

~~not receive emissions from non-affected units, maintain opacity at or below the applicable limit at the common stack.~~

~~(3) For each existing unit participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 30-day rolling average parameter values at or above the operating limits established during the most recent performance test.~~

~~(4) For each existing unit participating in the emissions averaging option that has an approved alternative operating parameter, maintain the 30-day rolling average parameter values consistent with the approved monitoring plan.~~

~~(5) For each existing unit participating in the emissions averaging option venting to a common stack configuration containing affected units from other subcategories, maintain the appropriate operating limit for each unit as specified in Table 4 to this subpart that applies.~~

~~(b) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (5) of this section is a deviation.~~

~~[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7182, Jan. 31, 2013]~~

NOTIFICATION, REPORTS, AND RECORDS

§ 63.7545 What notifications must I submit and when?

(a) You must submit to the Administrator all of the notifications in §§ 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified.

(b) As specified in § 63.9(b)(2), if you startup your affected source before January 31, 2013, you must submit an Initial Notification not later than 120 days after January 31, 2013.

~~(c) As specified in § 63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.~~

(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.

(e) If you are required to conduct an initial compliance demonstration as specified in § 63.7530, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to § 63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8), as applicable. If you are not required to conduct an initial compliance demonstration as specified in § 63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8).

(1) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under § 241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of § 241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.

(2) Summary of the results of all performance tests and fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits, and including:

(i) Identification of whether you are complying with the PM emission limit or the alternative TSM emission limit.

(ii) Identification of whether you are complying with the output-based emission limits or the heat input-based (i.e., lb/MMBtu or ppm) emission limits,

(3) A summary of the maximum CO emission levels recorded during the performance test to show that you have met any applicable emission standard in Tables 1, 2, or 11 through 13 to this subpart, if you are not using a CO CEMS to demonstrate compliance.

(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing, a CEMS, or fuel analysis.

(5) Identification of whether you plan to demonstrate compliance by emissions averaging and identification of whether you plan to demonstrate compliance by using efficiency credits through energy conservation:

(i) If you plan to demonstrate compliance by emission averaging, report the emission level that was being achieved or the control technology employed on January 31, 2013.

(ii) [Reserved]

(6) A signed certification that you have met all applicable emission limits and work practice standards.

(7) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.

(8) In addition to the information required in § 63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the required initial tune-up according to the procedures in § 63.7540(a)(10)(i) through (vi)."

(ii) "This facility has had an energy assessment performed according to § 63.7530(e)."

(iii) Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: "No secondary materials that are solid waste were combusted in any affected unit."

(f) If you operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to this subpart, and you intend to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of this part, part 60, 61, or 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in § 63.7575, you must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in § 63.7575. The notification must include the information specified in paragraphs (f)(1) through (5) of this section.

(1) Company name and address.

(2) Identification of the affected unit.

(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

(4) Type of alternative fuel that you intend to use.

(5) Dates when the alternative fuel use is expected to begin and end.

(g) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:

(1) The name of the owner or operator of the affected source, as defined in § 63.7490, the location of the source, the boiler(s) or process heater(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategories under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.

(4) The date upon which you will commence combusting solid waste.

(h) If you have switched fuels or made a physical change to the boiler and the fuel switch or physical change resulted in the applicability of a different subcategory, you must provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:

(1) The name of the owner or operator of the affected source, as defined in § 63.7490, the location of the source, the boiler(s) and process heater(s) that

have switched fuels, were physically changed, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date upon which the fuel switch or physical change occurred.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7183, Jan. 31, 2013]

§ 63.7550 What reports must I submit and when?

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

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct an annual, biennial, or 5-year tune-up according to § 63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in § 63.7495 and ending on July 31 or January 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5-year compliance report) after the compliance date that is speci- fied for your source in § 63.7495.

(2) The first compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in § 63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.

(4) Each subsequent compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.

(c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule.

(1) If the facility is subject to a the requirements of a tune up they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv) and (xiv) of this section.

(2) If a facility is complying with the fuel analysis they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv), (vi), (x), (xi), (xiii), (xv) and paragraph (d) of this section.

(3) If a facility is complying with the applicable emissions limit with performance testing they must submit a compliance report with the information in (c)(5)(i) through (iv), (vi), (vii), (ix), (xi), (xiii), (xv) and paragraph (d) of this section.

(4) If a facility is complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (vi), (xi), (xiii), (xv) through (xvii), and paragraph (e) of this section.

(5)(i) Company and Facility name and address.

(ii) Process unit information, emissions limitations, and operating parameter limitations.

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

(iv) The total operating time during the reporting period.

(v) If you use a CMS, including CEMS, COMS, or CPMS, you must include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit.

(vi) The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.

(vii) If you are conducting performance tests once every 3 years consistent with § 63.7515(b) or (c), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.

(viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of § 63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 12 of § 63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of § 63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 13 of § 63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of § 63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 14 of § 63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(ix) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of § 63.7530 or the maximum mercury input operating limit using Equation 8 of § 63.7530, or the maximum TSM input operating limit using Equation 9 of § 63.7530 you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(x) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§ 63.7521 and 63.7530 for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to §§ 63.7521(f) and 63.7530(g).

(xi) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period.

(xii) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in § 63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period.

(xiii) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with § 63.7500(a)(3), including actions taken to correct the malfunction.

(xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an an- nual, biennial, or 5-year tune-up ac- cording to § 63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.

(xv) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status in § 63.7545(e)(5)(i).

(xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values based on the daily CEMS (CO and mercury) and CPMS (PM CPMS output, scrubber pH, scrubber liquid flow rate, scrubber pressure drop) data.

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

(d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section.

(1) A description of the deviation and which emission limit or operating limit from which you deviated.

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

(3) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed.

(e) For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (e)(1) through (9) of this section. This includes any deviations from your site-specific monitoring plan as required in § 63.7505(d).

(1) The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from).

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out of control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped.

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

(6) A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) A brief description of the source for which there was a deviation.

(9) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f)–(g) [Reserved]

(h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section.

(1) Within 60 days after the date of completing each performance test (defined in § 63.2) as required by this subpart you must submit the results of the

performance tests, including any associated fuel analyses, required by this subpart and the compliance reports required in § 63.7550(b) to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph. At the discretion of the Administrator, you must also submit these reports, including the confidential business information, to the Administrator in the format specified by the Administrator. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator.

(2) Within 60 days after the date of completing each CEMS performance evaluation test (defined in 63.2) you must submit the relative accuracy test audit (RATA) data to the EPA's Central Data Exchange by using CEDRI as mentioned in paragraph (h)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator.

(3) You must submit all reports required by Table 9 of this subpart electronically using CEDRI that is accessed through the 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 report you must submit the report to the Administrator at the appropriate address listed in § 63.13. At the discretion of the Administrator, you must also submit these reports, to the Administrator in the format specified by the Administrator.

[78 FR 7183, Jan. 31, 2013]

§ 63.7555 What records must I keep?

(a) You must keep records according to paragraphs (a)(1) and (2) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in § 63.10(b)(2)(viii).

(b) For each CEMS, COMS, and continuous monitoring system you must keep records according to paragraphs (b)(1) through (5) of this section.

(1) Records described in § 63.10(b)(2)(vii) through (xi).

(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in § 63.6(h)(7)(i) and (ii).

(3) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(4) Request for alternatives to relative accuracy test for CEMS as required in § 63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped.

(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies to you.

(d) For each boiler or process heater subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart, you must also keep the applicable records in paragraphs (d)(1) through (11) of this section.

(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.

(2) If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1) and (2) of this chapter, you must keep a record that documents how the secondary material meets each of the legitimacy criteria under § 241.3(d)(1) of this chapter. If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to § 241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfy the definition of processing in § 241.2 of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under § 241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per § 241.4 of this chapter, you must keep records documenting that the material is listed as a non- waste under § 241.4(a) of this chapter. Units exempt from the incinerator standards under section 129(g)(1) of the Clean Air Act because they are quali- fying facilities burning a homogeneous waste stream do not need to maintain the records described in this paragraph (d)(2).

(3) For units in the limited use subcategory, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and fuel use records for the days the boiler or process heater was operating.

(4) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of § 63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 12 of § 63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.

(5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of § 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 13 of § 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.

(6) If, consistent with § 63.7515(b), you choose to stack test less frequently than annually, you must keep a record that documents that your emissions in the previous stack test(s) were less than 75 percent of the applicable emis- sion limit (or, in specific instances noted in Tables 1 and 2 or 11 through 13 to this subpart, less than the applica- ble emission limit), and document that

there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.

(7) Records of the occurrence and duration of each malfunction of the boiler or process heater, or of the associated air pollution control and monitoring equipment.

(8) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in § 63.7500(a)(3), including corrective actions to restore the malfunctioning boiler or process heater, air pollution control, or monitoring equipment to its normal or usual manner of oper- ation.

(9) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 9 of § 63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 14 of § 63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.

(10) You must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.

(11) You must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.

(e) If you elect to average emissions consistent with § 63.7522, you must additionally keep a copy of the emission averaging implementation plan required in § 63.7522(g), all calculations required under § 63.7522, including monthly records of heat input or steam generation, as applicable, and monitoring records consistent with § 63.7541.

(f) If you elect to use efficiency credits from energy conservation measures to demonstrate compliance according to § 63.7533, you must keep a copy of the Implementation Plan required in § 63.7533(d) and copies of all data and calculations used to establish credits according to § 63.7533(b), (c), and (f).

(g) If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, you must maintain monthly records (or at the frequency required by § 63.7540(c)) of the calculations and results of the fuel specification for mercury in Table 6.

(h) If you operate a unit in the unit designed to burn gas 1 subcategory that is subject to this subpart, and you use an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under this part, other gas 1 fuel, or gaseous fuel subject to another subpart of this part or part 60, 61, or 65, you must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.

(i) You must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.

(j) You must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7185, Jan. 31, 2013]

§ 63.7560 In what form and how long must I keep my records?

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

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

(c) You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to

§ 63.10(b)(1). You can keep the records off site for the remaining 3 years.

OTHER REQUIREMENTS AND INFORMATION

§ 63.7565 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

~~**§ 63.7570 Who implements and enforces this subpart?**~~

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

~~(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency, however, the EPA retains oversight of this subpart and can take enforcement actions, as appropriate.~~

~~(1) Approval of alternatives to the non-opacity emission limits and work practice standards in § 63.7500(a) and (b) under § 63.6(g).~~

~~(2) Approval of alternative opacity emission limits in § 63.7500(a) under § 63.6(h)(9).~~

~~(3) Approval of major change to test methods in Table 5 to this subpart under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90, and alternative analytical methods requested under § 63.7521(b)(2).~~

~~(4) Approval of major change to monitoring under § 63.8(f) and as defined in § 63.90, and approval of alternative operating parameters under § 63.7500(a)(2) and § 63.7522(g)(2).~~

~~(5) Approval of major change to recordkeeping and reporting under § 63.10(e) and as defined in § 63.90.~~

~~[76 FR 15664, Mar. 21, 2011 as amended at 78 FR 7186, Jan. 31, 2013]~~

§ 63.7575 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2 (the General Provisions), and in this section as follows:

10-day rolling average means the arithmetic mean of the previous 240 hours of valid operating data. Valid data excludes hours during startup and shutdown, data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of con- trol, or while conducting required monitoring system quality assurance or quality control activities, and periods when this unit is not operating. The 240 hours should be consecutive, but not necessarily continuous if operations were intermittent.

30-day rolling average means the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes hours during startup and shutdown, data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of con- trol, or while conducting required monitoring system quality assurance or quality control activities, and periods when this unit is not operating. The 720 hours should be consecutive, but not necessarily continuous if operations were intermittent.

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.

Annual capacity factor means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year and the potential heat input to the boiler or process heater had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.

Annual heat input means the heat input for the 12 months preceding the compliance demonstration.

Average annual heat input rate means total heat input divided by the hours of operation for the 12 months preceding the compliance demonstration.

Bag leak detection system means a group of instruments that are capable of monitoring particulate matter loadings in the exhaust of a fabric filter (*i.e.*, baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

Benchmark means the fuel heat input for a boiler or process heater for the one-year period before the date that an energy demand reduction occurs, unless it can be demonstrated that a different time period is more representative of historical operations.

Biodiesel means a mono-alkyl ester derived from biomass and conforming to ASTM D6751–11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels (incorporated by reference, see § 63.14).

Biomass or bio-based solid fuel means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue; wood products (*e.g.*, trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (*e.g.*, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. This definition of biomass is not intended to suggest that these materials are or are not solid waste.

Blast furnace gas fuel-fired boiler or process heater means an industrial/commercial/institutional boiler or process heater that receives 90 percent or more of its total annual gas volume from blast furnace gas.

Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/ or oxidizer feed rates are controlled. A device combusting solid waste, as defined in § 241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers are excluded from this definition.

Boiler system means the boiler and associated components, such as, the feed water system, the combustion air system, the fuel system (including burners), blowdown system, combustion control systems, steam systems, and condensate return systems.

Calendar year means the period between January 1 and December 31, inclusive, for a given year.

Coal means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by ASTM D388 (incorporated by reference, see § 63.14), coal refuse, and petroleum coke. For the purposes of this subpart, this definition of "coal" includes synthetic fuels derived from coal, including but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mix- tures. Coal derived gases are excluded from this definition.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (6,000 Btu per pound) on a dry basis.

Commercial/institutional boiler means a boiler used in commercial establishments or institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, governmental buildings, hotels, restaurants, and laundries to provide electricity, steam, and/or hot water.

Common stack means the exhaust of emissions from two or more affected units through a single flue. Affected units with a common stack may each have separate air pollution control systems located before the common stack, or may have a single air pollution control system located after the exhausts come together in a single flue.

Cost-effective energy conservation measure means a measure that is implemented to improve the energy efficiency of the boiler or facility that has a payback (return of investment) period of 2 years or less.

Daily block average means the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown or downtime.

Deviation. (1) *Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any applicable requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

(2) A deviation is not always a violation.

Dioxins/furans means tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incor- porated by reference, see § 63.14) or die- sel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incor- porated by reference, see § 63.14), ker- osene, and biodiesel as defined by the American Society of Testing and Materials in ASTM D6751–11b (incorporated by reference, see § 60.14).

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems used as control devices in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

Dutch oven means a unit having a refractory-walled cell connected to a conventional boiler setting. Fuel materials are introduced through an opening in the roof of the dutch oven and burn in a pile on its floor. Fluidized bed boilers are not part of the dutch oven design category.

Efficiency credit means emission reductions above those required by this subpart. Efficiency credits generated may be used to comply with the emissions limits. Credits may come from pollution prevention projects that result in reduced fuel use by affected units. Boilers that are shut down cannot be used to generate credits unless the facility provides documentation linking the permanent shutdown to implementation of the energy conservation measures identified in the energy assessment.

Electric utility steam generating unit (EGU) means a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 MWe output to any utility power distribution system for sale is considered an electric utility steam generating unit. To be "capable of combusting" fossil fuels, an EGU would need to have these fuels allowed in their operating permits and have the appropriate fuel handling facilities on-site or otherwise available (e.g., coal handling equipment, including coal storage area, belts and conveyers, pulverizers, etc.; oil storage facilities). In addition, fossil fuel-fired EGU means any EGU that fired fossil fuel for more than 10.0 percent of the average annual heat input in any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year after April 16, 2012.

Electrostatic precipitator (ESP) means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.

Energy assessment means the following for the emission units covered by this subpart:

(1) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of less than 0.3 trillion Btu (TBtu) per year will be 8 on-site tech- nical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) account- ing for at least 50 percent of the af- fected boiler(s) energy (e.g., steam, hot water, process heat, or electricity) pro- duction, as applicable, will be evalu- ated to identify energy savings oppor- tunities, within the limit of performing an 8-hour on-site energy assessment.

(2) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of 0.3 to 1.0 TBtu/year will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler sys- tem(s) and any on-site energy use sys- tem(s) accounting for at least 33 per- cent of the energy (e.g., steam, hot water, process heat, or electricity) pro- duction, as applicable, will be evalu- ated to identify energy savings oppor- tunities, within the limit of performing a 24-hour on-site energy assessment.

(3) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity greater than 1.0 TBtu/year will be up to 24 on-site technical labor hours in length for the first TBtu/yr plus 8 on-site technical labor hours for every additional 1.0 TBtu/yr not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 20 percent of the energy (e.g., steam, process heat, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.

(4) The on-site energy use systems serving as the basis for the percent of affected boiler(s) and process heater(s) energy production in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (e.g., product X manufacturing area; product Y drying area; Building Z).

Energy management practices means the set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility.

Energy management program means a program that includes a set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility. Facilities may establish their program through energy management systems compatible with ISO 50001.

Energy use system includes the following systems located on-site that use energy (steam, hot water, or electricity) provided by the affected boiler or process heater: process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air-conditioning systems; hot water systems; building envelop; and lighting; or other systems that use steam, hot water, process heat, or electricity provided by the affected boiler or process heater. Energy use systems are only those systems using energy clearly produced by affected boilers and process heaters.

Equivalent means the following only as this term is used in Table 6 to this subpart:

(1) An equivalent sample collection procedure means a published voluntary consensus standard or practice (VCS) or EPA method that includes collection of a minimum of three composite fuel samples, with each composite consisting of a minimum of three increments collected at approximately equal intervals over the test period.

(2) An equivalent sample compositing procedure means a published VCS or EPA method to systematically mix and obtain a representative subsample (part) of the composite sample.

(3) An equivalent sample preparation procedure means a published VCS or EPA method that: Clearly states that the standard, practice or method is appropriate for the pollutant and the fuel matrix; or is cited as an appropriate sample preparation standard, practice or method for the pollutant in the chosen VCS or EPA determinative or analytical method.

(4) An equivalent procedure for determining heat content means a published VCS or EPA method to obtain gross calorific (or higher heating) value.

(5) An equivalent procedure for determining fuel moisture content means a published VCS or EPA method to obtain moisture content. If the sample analysis plan calls for determining metals (especially the mercury, selenium, or arsenic) using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing these metals. On the other hand, if metals analysis is done on an "as received" basis, a separate aliquot can be dried to determine moisture content and the metals concentration mathematically adjusted to a dry basis.

(6) An equivalent pollutant (mercury, HCl) determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for the pollutant and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 6 to this subpart for the same purpose.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse. A fabric filter is a dry control system.

Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including, but not limited to, the requirements of 40 CFR parts 60, 61, 63, and 65, requirements within any applicable state implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed boiler means a boiler utilizing a fluidized bed combustion process that is not a pulverized coal boiler.

Fluidized bed boiler with an integrated fluidized bed heat exchanger means a boiler utilizing a fluidized bed combustion where the entire tube surface area is located outside of the furnace section at the exit of the cyclone section and exposed to the flue gas stream for conductive heat transfer. This design applies only to boilers in the unit designed to burn coal/solid fossil fuel subcategory that fire coal refuse.

Fluidized bed combustion means a process where a fuel is burned in a bed of granulated particles, which are maintained in a mobile suspension by the forward flow of air and combustion products.

Fuel cell means a boiler type in which the fuel is dropped onto suspended fixed grates and is fired in a pile. The refractory-lined fuel cell uses combustion air preheating and positioning of secondary and tertiary air injection ports to improve boiler efficiency. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, and suspension burners are not part of the fuel cell subcategory.

Fuel type means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, distillate oil, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.

Gaseous fuel includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Blast furnace gas and process gases that are regulated under another subpart of this part, or part 60, part 61, or part 65 of this chapter, are exempted from this definition.

Heat input means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, returned condensate, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.

Heavy liquid includes residual oil and any other liquid fuel not classified as a light liquid.

Hourly average means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assur- ance, or maintenance activities are being performed.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass/bio-based solid fuel and is withdrawn for use external to the vessel. Hot water boilers (i.e., not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 MMBtu/hr heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on demand hot water.

Hybrid suspension grate boiler means a boiler designed with air distributors to spread the fuel material over the entire width and depth of the boiler combustion zone. The biomass fuel combusted in these units exceeds a moisture content of 40 percent on an as-fired annual heat input basis. The drying and much of the combustion of the fuel takes place in suspension, and the combustion is completed on the grate or floor of the boiler. Fluidized bed, dutch oven, and pile burner designs are not part of the hybrid suspension grate boiler design category.

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

Light liquid includes distillate oil, biodiesel, or vegetable oil.

Limited-use boiler or process heater means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable average annual capacity factor of no more than 10 percent.

Liquid fuel includes, but is not lim- ited to, light liquid, heavy liquid, any form of liquid fuel derived from petro- leum, used oil, liquid biofuels, bio- diesel, vegetable oil, and comparable fuels as defined under 40 CFR 261.38.

Load fraction means the actual heat input of a boiler or process heater divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (e.g., for 50 percent load the load fraction is 0.5).

Major source for oil and natural gas production facilities, as used in this subpart, shall have the same meaning as in § 63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment, as defined in this section), and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) Emissions from processes, operations, or equipment that are not part of the same facility, as defined in this section, shall not be aggregated; and

(3) For facilities that are production field facilities, only HAP emissions from glycol dehydration units and storage vessels with the potential for flash emissions shall be aggregated for a major source determination. For facilities that are not production field facilities, HAP emissions from all HAP emission units shall be aggregated for a major source determination.

Metal process furnaces are a subcategory of process heaters, as defined in this subpart, which include natural gas-fired annealing furnaces, preheat furnaces, reheat furnaces, aging furnaces, heat treat furnaces, and homogenizing furnaces.

Million Btu (MMBtu) means one million British thermal units.

Minimum activated carbon injection rate means load fraction multiplied by the lowest hourly average activated carbon injection rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum oxygen level means the lowest hourly average oxygen level measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum pressure drop means the lowest hourly average pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum scrubber effluent pH means the lowest hourly average sorbent liquid pH measured at the inlet to the wet scrubber according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable hydrogen chloride emission limit.

Minimum scrubber liquid flow rate means the lowest hourly average liquid flow rate (e.g., to the PM scrubber or to the acid gas scrubber) measured according to Table 7 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

Minimum scrubber pressure drop means the lowest hourly average scrubber pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum sorbent injection rate means:

(1) The load fraction multiplied by the lowest hourly average sorbent injection rate for each sorbent measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits; or

(2) For fluidized bed combustion, the lowest average ratio of sorbent to sulfur measured during the most recent performance test.

Minimum total secondary electric power means the lowest hourly average total secondary electric power determined from the values of secondary voltage and secondary current to the electrostatic precipitator measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum gas, as defined in ASTM D1835 (incorporated by reference, see § 63.14); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or

(4) Propane or propane derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Operating day means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler or process heater unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

Other combustor means a unit designed to burn solid fuel that is not classified as a dutch oven, fluidized bed, fuel cell, hybrid suspension grate boiler, pulverized coal boiler, stoker, sloped grate, or suspension boiler as defined in this subpart.

Other gas 1 fuel means a gaseous fuel that is not natural gas or refinery gas and does not exceed a maximum concentration of 40 micrograms/cubic meters of mercury.

Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler or process heater flue gas, boiler or process heater, firebox, or other appropriate location. This definition includes oxygen trim systems. The source owner or operator must install, calibrate, maintain, and operate the oxygen analyzer system in accordance with the manufacturer's recommendations.

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or CO monitor that automatically provides a feedback signal to the combustion air controller.

Particulate matter (PM) means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.

Period of gas curtailment or supply interruption means a period of time during which the supply of gaseous fuel to an affected boiler or process heater is restricted or halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility.

Pile burner means a boiler design incorporating a design where the anticipated biomass fuel has a high relative moisture content. Grates serve to support the fuel, and underfire air flowing up through the grates provides oxygen for combustion, cools the grates, promotes turbulence in the fuel bed, and fires the fuel. The most common form of pile burning is the dutch oven.

Process heater means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. A device combusting solid waste, as defined in § 241.3 of this chapter, is not a process heater unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consump- tion, or autoclaves. Waste heat process heaters are excluded from this definition.

Pulverized coal boiler means a boiler in which pulverized coal or other solid fossil fuel is introduced into an air stream that carries the coal to the combustion chamber of the boiler where it is fired in suspension.

Qualified energy assessor means:

(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:

(i) Boiler combustion management.

(ii) Boiler thermal energy recovery, including

(A) Conventional feed water economizer,

(B) Conventional combustion air preheater, and

(C) Condensing economizer.

(iii) Boiler blowdown thermal energy recovery.

(iv) Primary energy resource selection, including

(A) Fuel (primary energy source) switching, and

(B) Applied steam energy versus direct-fired energy versus electricity.

(v) Insulation issues.

(vi) Steam trap and steam leak management.

(vi) Condensate recovery.

(viii) Steam end-use management.

(2) Capabilities and knowledge includes, but is not limited to:

(i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.

(ii) Familiarity with operating and maintenance practices for steam or process heating systems.

(iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.

(iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.

(v) Boiler-steam turbine cogeneration systems.

(vi) Industry specific steam end-use systems.

Refinery gas means any gas that is generated at a petroleum refinery and is combusted. Refinery gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Refinery gas includes gases generated from other facilities when that gas is combined and combusted in any proportion with gas generated at a refinery.

Regulated gas stream means an offgas stream that is routed to a boiler or process heater for the purpose of achieving compliance with a standard under another subpart of this part or part 60, part 61, or part 65 of this chapter.

Residential boiler means a boiler used to provide heat and/or hot water and/or as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility (e.g., university campus, military base, church grounds) or commercial/industrial facility (e.g., farm) used primarily to provide heat and/or hot water for:

(1) A dwelling containing four or fewer families; or

(2) A single unit residence dwelling that has since been converted or subdivided into condominiums or apartments.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society of Testing and Materials in ASTM D396–10 (incorporated by reference, *see* § 63.14(b)).

Responsible official means responsible official as defined in § 70.2.

Secondary material means the material as defined in § 241.2 of this chapter.

Shutdown means the cessation of operation of a boiler or process heater for any purpose. Shutdown begins either when none of the steam from the boiler is supplied for heating and/or producing electricity, or for any other purpose, or at the point of no fuel being fired in the boiler or process heater, whichever is earlier. Shutdown ends when there is no steam and no heat being supplied and no fuel being fired in the boiler or process heater.

Sloped grate means a unit where the solid fuel is fed to the top of the grate from where it slides downwards; while sliding the fuel first dries and then ignites and burns. The ash is deposited at the bottom of the grate. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, suspension burners, and fuel cells are not considered to be a sloped grate design.

Solid fossil fuel includes, but is not limited to, coal, coke, petroleum coke, and tire derived fuel.

Solid fuel means any solid fossil fuel or biomass or bio-based solid fuel.

Startup means either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying steam or heat for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam or heat from the boiler or process heater is supplied for heating, and/or producing electricity, or for any other purpose.

Steam output means:

(1) For a boiler that produces steam for process or heating only (no power generation), the energy content in terms of MMBtu of the boiler steam output,

(2) For a boiler that cogenerates process steam and electricity (also known as combined heat and power), the total energy output, which is the sum of the energy content of the steam exiting the turbine and sent to process in MMBtu and the energy of the electricity generated converted to MMBtu

at a rate of 10,000 Btu per kilowatt- hour generated (10 MMBtu per mega- watt-hour), and

(3) For a boiler that generates only electricity, the alternate output-based emission limits would be calculated using Equations 21 through 25 of this section, as appropriate:

(i) For emission limits for boilers in the unit designed to burn solid fuel subcategory use Equation 21 of this section:

$$EL_{OBE} = EL_T \times 12.7 \text{ MMBtu/Mwh} \quad \text{(Eq. 21)}$$

Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

(ii) For PM and CO emission limits for boilers in one of the subcategories of units designed to burn coal use Equation 22 of this section:

$$EL_{OBE} = EL_T \times 12.2 \text{ MMBtu/Mwh} \quad \text{(Eq. 22)}$$

Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

(iii) For PM and CO emission limits for boilers in one of the subcategories of units designed to burn biomass use Equation 23 of this section:

$$EL_{OBE} = EL_T \times 13.9 \text{ MMBtu/Mwh} \quad \text{(Eq. 23)}$$

Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

(iv) For emission limits for boilers in one of the subcategories of units designed to burn liquid fuels use Equation 24 of this section:

$$EL_{OBE} = EL_T \times 13.8 \text{ MMBtu/Mwh} \quad \text{(Eq. 24)}$$

Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

(v) For emission limits for boilers in the unit designed to burn gas 2 (other) subcategory, use Equation 25 of this section:

$$EL_{OBE} = EL_T \times 10.4 \text{ MMBtu/Mwh} \quad \text{(Eq. 25)}$$

Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

Stoker means a unit consisting of a mechanically operated fuel feeding mechanism, a stationary or moving grate to support the burning of fuel and admit under-grate air to the fuel, an overfire air system to complete combustion, and an ash discharge system. This definition of stoker includes air swept stokers. There are two general types of stokers: Underfeed and overfeed. Overfeed stokers include mass feed and spreader stokers. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, suspension burners, and fuel cells are not considered to be a stoker design.

Stoker/sloped grate/other unit designed to burn kiln dried biomass means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and is not in the stoker/sloped grate/other units designed to burn wet biomass subcategory.

Stoker/sloped grate/other unit designed to burn wet biomass means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and any of the biomass/bio-based solid fuel combusted in the unit exceeds 20 percent moisture on an annual heat input basis.

Suspension burner means a unit designed to fire dry biomass/biobased solid particles in suspension that are conveyed in an airstream to the fur- nace like pulverized coal. The combus- tion of the fuel material is completed on a grate or floor below. The biomass/ biobased fuel combusted in the unit shall not exceed 20 percent moisture on an annual heat input basis. Fluidized bed, dutch oven, pile burner, and hy- brid suspension grate units are not part of the suspension burner sub- category.

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

Total selected metals (TSM) means the sum of the following metallic hazardous air pollutants: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.

Traditional fuel means the fuel as defined in § 241.2 of this chapter.

Tune-up means adjustments made to a boiler or process heater in accordance with the procedures outlined in § 63.7540(a)(10).

Ultra low sulfur liquid fuel means a distillate oil that has less than or equal to 15 ppm sulfur.

Unit designed to burn biomass/bio-based solid subcategory includes any boiler or process heater that burns at least 10 percent biomass or bio-based solids on an annual heat input basis in combination with solid fossil fuels, liquid fuels, or gaseous fuels.

Unit designed to burn coal/solid fossil fuel subcategory includes any boiler or process heater that burns any coal or other solid fossil fuel alone or at least 10 percent coal or other solid fossil fuel on an annual heat input basis in combination with liquid fuels, gaseous fuels, or less than 10 percent biomass and bio-based solids on an annual heat input basis.

Unit designed to burn gas 1 subcategory includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration are also included in this definition.

Unit designed to burn gas 2 (other) subcategory includes any boiler or process heater that is not in the unit designed to burn gas 1 subcategory and burns any gaseous fuels either alone or in combination with less than 10 percent coal/solid fossil fuel, and less than 10 percent biomass/bio-based solid fuel on an annual heat input basis, and no liquid fuels. Gaseous fuel boilers and process heaters that are not in the unit designed to burn gas 1 subcategory and that burn liquid fuel for periodic test- ing of liquid fuel, maintenance, or op- erator training, not to exceed a com- bined total of 48 hours during any cal- endar year, are included in this defini- tion. Gaseous fuel boilers and process heaters that are not in the unit de- signed to burn gas 1 subcategory and that burn liquid fuel during periods of gas curtailment or gas supply interrup- tion of any duration are also included in this definition.

Unit designed to burn heavy liquid subcategory means a unit in the unit designed to burn liquid subcategory where at least 10 percent of the heat input from liquid fuels on an annual heat input basis comes from heavy liquids.

Unit designed to burn light liquid subcategory means a unit in the unit designed to burn liquid subcategory that is not part of the unit designed to burn heavy liquid subcategory.

Unit designed to burn liquid subcategory includes any boiler or process heater that burns any liquid fuel, but less than 10 percent coal/solid fossil fuel and less than 10 percent biomass/bio-based solid fuel on an annual heat input basis, either alone or in combination with gaseous fuels. Units in the unit design to burn gas 1 or unit designed to burn gas 2 (other) subcategories that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year are not included in this definition. Units in the unit design to burn gas 1 or unit designed to burn gas 2 (other) subcategories during periods of gas curtailment or gas supply interruption of any duration are also not included in this definition.

Unit designed to burn liquid fuel that is a non-continental unit means an industrial, commercial, or institutional boiler or process heater meeting the definition of the unit designed to burn liquid subcategory located in the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Unit designed to burn solid fuel subcategory means any boiler or process heater that burns only solid fuels or at least 10 percent solid fuel on an annual heat input basis in combination with liquid fuels or gaseous fuels.

Vegetable oil means oils extracted from vegetation.

Voluntary Consensus Standards or VCS mean technical standards (*e.g.*, materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. EPA/Office of Air Quality Planning and Standards, by precedent, has only used VCS that are written in English. Examples of VCS bodies are: American Society of Testing and Materials (ASTM 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), American Society of Mechanical Engineers (ASME ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), International Stand- ards Organization (ISO 1, ch. de la Voie-Creuse, Case postale 56, CH–1211 Geneva 20, Switzerland, +41 22 749 01 11, *http://www.iso.org/iso/home.htm*), Standards Australia (AS Level 10, The Exchange Centre, 20 Bridge Street, Sydney, GPO Box 476, Sydney NSW 2001, + 61 2 9237 6171 *http:// www.stadards.org.au*), British Stand- ards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, +44 (0)20 8996 9001, *http:// www.bsigroup.com*), Canadian Standards Association (CSA 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800–463–6727, *http:// www.csa.ca*), European Committee for Standardization (CEN CENELEC Man- agement Centre Avenue Marnix 17 B– 1000 Brussels, Belgium +32 2 550 08 11, *http://www.cen.eu/cen*), and German Engineering Standards (VDI VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, +49 211 6214–230, *http://www.vdi.eu*). The types of standards that are not considered VCS are standards developed by: The United States, *e.g.,* California (CARB) and Texas (TCEQ); industry groups, such as American Petroleum Institute (API), Gas Processors Association (GPA), and Gas Research Institute (GRI); and other branches of the U.S. government, *e.g.,* Department of Defense (DOD) and Department of Transportation (DOT). This does not preclude EPA from using standards developed by groups that are not VCS bodies within their rule. When this occurs, EPA has done searches and reviews for VCS equivalent to these non-EPA methods.

Waste heat boiler means a device that recovers normally unused energy (i.e., hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial (e.g., thermal oxidizer, kiln, furnace) or power (e.g., combustion turbine, engine) equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

Waste heat process heater means an enclosed device that recovers normally unused energy (i.e., hot exhaust gas) and converts it to usable heat. Waste heat process heaters are also referred to as recuperative process heaters. This definition includes both fired and unfired waste heat process heaters.

Wet scrubber means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater to control emissions of particulate matter or to absorb and neutralize acid gases, such as hydrogen chloride. A wet scrubber creates an aqueous stream or slurry as a byproduct of the emissions control process.

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

[78 FR 15664, Mar. 21, 2011, as amended at 78 FR 7163, Jan. 31, 2013]

~~TABLE 1 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS~~

~~As stated in § 63.7500, you must comply with the following applicable emission limits:~~

~~[Units with heat input capacity of 10 million Btu per hour or greater]~~

~~If your boiler or process heater is in this subcategory . . .~~	~~For the following pollutants . . .~~	~~The emissions must not exceed the following emission limits, except during startup and shutdown . . .~~	~~Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .~~	~~Using this specified sampling volume or test run duration . . .~~
~~1. Units in all subcategories designed to burn solid fuel.~~	~~a. HCl~~	~~2.2E–02 lb per MMBtu of heat input.~~	~~2.5E–02 lb per MMBtu of steam output or 0.28 lb per MWh.~~	~~For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.~~

~~[Units with heat input capacity of 10 million Btu per hour or greater]~~

~~If your boiler or process heater is in this subcategory . . .~~	~~For the following pollutants . . .~~	~~The emissions must not exceed the following emission limits, except during startup and shutdown . . .~~	~~Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .~~	~~Using this specified sampling volume or test run duration . . .~~
	~~b. Mercury~~	~~8.0E–07[a] lb per MMBtu of heat input.~~	~~8.7E–07[a] lb per MMBtu of steam output or 1.1E–05[a] lb per MWh.~~	~~For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 4 dscm.~~
~~2. Units designed to burn coal/solid fossil fuel.~~	~~a. Filterable PM (or TSM).~~	~~1.1E–03 lb per MMBtu of heat input; or (2.3E–05 lb per MMBtu of heat input).~~	~~1.1E–03 lb per MMBtu of steam output or 1.4E–02 lb per MWh; or (2.7E–05 lb per MMBtu of steam output or 2.9E–04 lb per MWh).~~	~~Collect a minimum of 3 dscm per run.~~
~~3. Pulverized coal boilers designed to burn coal/solid fossil fuel.~~	~~a. Carbon monoxide (CO) (or CEMS).~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
~~4. Stokers designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
~~5. Fluidized bed units designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
~~6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1.2E–01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
~~7. Stokers/sloped grate/others designed to burn wet biomass fuel.~~	~~a. CO (or CEMS)~~	~~620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~5.8E–01 lb per MMBtu of steam output or 6.8 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~

~~[Units with heat input capacity of 10 million Btu per hour or greater]~~

~~If your boiler or process heater is in this subcategory . . .~~	~~For the following pollutants . . .~~	~~The emissions must not exceed the following emission limits, except during startup and shutdown . . .~~	~~Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .~~	~~Using this specified sampling volume or test run duration . . .~~

	~~b. Filterable PM (or TSM).~~	~~3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input).~~	~~3.5E-02 lb per MMBtu of steam output or 4.2E-01 lb per MWh; or (2.7E-05 lb per MMBtu of steam output or 3.7E-04 lb per MWh).~~	~~Collect a minimum of 2 dscm per run.~~
~~8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel.~~	~~a. CO~~	~~460 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~4.2E-01 lb per MMBtu of steam output or 5.1 lb per MWh.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input).~~	~~3.5E-02 lb per MMBtu of steam output or 4.2E-01 lb per MWh; or (4.2E-03 lb per MMBtu of steam output or 5.6E-02 lb per MWh).~~	~~Collect a minimum of 2 dscm per run.~~
~~9. Fluidized bed units designed to burn biomass/bio-based solids.~~	~~a. CO (or CEMS)~~	~~230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~2.2E-01 lb per MMBtu of steam output or 2.6 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~9.8E-03 lb per MMBtu of heat input; or (8.3E-05* lb per MMBtu of heat input).~~	~~1.2E-02 lb per MMBtu of steam output or 0.14 lb per MWh; or (1.1E-04* lb per MMBtu of steam output or 1.2E-03* lb per MWh).~~	~~Collect a minimum of 3 dscm per run.~~
~~10. Suspension burners designed to burn biomass/bio-based solids.~~	~~a. CO (or CEMS)~~	~~2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average).~~	~~1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~3.0E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input).~~	~~3.1E-02 lb per MMBtu of steam output or 4.2E-01 lb per MWh; or (6.6E-03 lb per MMBtu of steam output or 9.1E-02 lb per MWh).~~	~~Collect a minimum of 2 dscm per run.~~
~~11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids.~~	~~a. CO (or CEMS)~~	~~330 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average).~~	~~3.5E-01 lb per MMBtu of steam output or 3.6 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~3.2E-03 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input).~~	~~4.3E-03 lb per MMBtu of steam output or 4.5E-02 lb per MWh; or (5.2E-05 lb per MMBtu of steam output or 5.5E-04 lb per MWh).~~	~~Collect a minimum of 3 dscm per run.~~

~~[Units with heat input capacity of 10 million Btu per hour or greater]~~

~~If your boiler or process heater is in this subcategory . . .~~	~~For the following pollutants . . .~~	~~The emissions must not exceed the following emission limits, except during startup and shutdown . . .~~	~~Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .~~	~~Using this specified sampling volume or test run duration . . .~~
~~12. Fuel cell units designed to burn biomass/bio-based solids.~~	~~a. CO~~	~~910 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1.1 lb per MMBtu of steam output or 1.0E+01 lb per MWh.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~2.0E–02 lb per MMBtu of heat input; or (2.9E–05[a] lb per MMBtu of heat input).~~	~~3.0E–02 lb per MMBtu of steam output or 2.8E–01 lb per MWh; or (5.1E–05 lb per MMBtu of steam output or 4.1E–04 lb per MWh).~~	~~Collect a minimum of 2 dscm per run.~~
~~13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids.~~	~~a. CO (or CEMS)~~	~~1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1.4 lb per MMBtu of steam output or 12 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~2.6E–02 lb per MMBtu of heat input; or (4.4E–04 lb per MMBtu of heat input).~~	~~3.3E–02 lb per MMBtu of steam output or 3.7E–01 lb per MWh; or (5.5E–04 lb per MMBtu of steam output or 6.2E–03 lb per MWh).~~	~~Collect a minimum of 3 dscm per run.~~
~~14. Units designed to burn liquid fuel.~~	~~a. HCl~~	~~4.4E–04 lb per MMBtu of heat input.~~	~~4.8E–04 lb per MMBtu of steam output or 6.1E–03 lb per MWh.~~	~~For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.~~
	~~b. Mercury~~	~~4.8E–07[a] lb per MMBtu of heat input.~~	~~5.3E–07[a] lb per MMBtu of steam output or 6.7E–06[a] lb per MWh.~~	~~For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 4 dscm.~~
~~15. Units designed to burn heavy liquid fuel.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.~~	~~0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~1.3E–02 lb per MMBtu of heat input; or (7.5E–05 lb per MMBtu of heat input).~~	~~1.5E–02 lb per MMBtu of steam output or 1.8E–01 lb per MWh; or (8.2E–05 lb per MMBtu of steam output or 1.1E–03 lb per MWh).~~	~~Collect a minimum of 3 dscm per run.~~
~~16. Units designed to burn light liquid fuel.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~0.13 lb per MMBtu of steam output or 1.4 lb per MWh.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~1.1E–03[a] lb per MMBtu of heat input; or (2.9E–05 lb per MMBtu of heat input).~~	~~1.2E–03[a] lb per MMBtu of steam output or 1.6E–02[a] lb per MWh; or (3.2E–05 lb per MMBtu of steam output or 4.0E–04 lb per MWh).~~	~~Collect a minimum of 3 dscm per run.~~
~~17. Units designed to burn liquid fuel that are non-continental units.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test.~~	~~0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~

~~[Units with heat input capacity of 10 million Btu per hour or greater]~~

~~If your boiler or process heater is in this subcategory . . .~~	~~For the following pollutants . . .~~	~~The emissions must not exceed the following emission limits, except during startup and shutdown . . .~~	~~Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .~~	~~Using this specified sampling volume or test run duration . . .~~
	~~b. Filterable PM (or TSM).~~	~~2.3E–02 lb per MMBtu of heat input; or (8.6E–04 lb per MMBtu of heat input).~~	~~2.5E–02 lb per MMBtu of steam output or 3.2E–01 lb per MWh; or (9.4E–04 lb per MMBtu of steam output or 1.2E–02 lb per MWh).~~	~~Collect a minimum of 4 dscm per run.~~
~~18. Units designed to burn gas 2 (other) gases.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~0.16 lb per MMBtu of steam output or 1.0 lb per MWh.~~	~~1 hr minimum sampling time.~~
	~~b. HCl~~	~~1.7E–03 lb per MMBtu of heat input.~~	~~2.9E–03 lb per MMBtu of steam output or 1.8E–02 lb per MWh.~~	~~For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.~~
	~~c. Mercury~~	~~7.9E–06 lb per MMBtu of heat input.~~	~~1.4E–05 lb per MMBtu of steam output or 8.3E–05 lb per MWh.~~	~~For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.~~
	~~d. Filterable PM (or TSM).~~	~~6.7E–03 lb per MMBtu of heat input; or (2.1E–04 lb per MMBtu of heat input).~~	~~1.2E–02 lb per MMBtu of steam output or 7.0E–02 lb per MWh; or (3.5E–04 lb per MMBtu of steam output or 2.2E–03 lb per MWh).~~	~~Collect a minimum of 3 dscm per run.~~

~~[a] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 63.7515 if all of the other provisions of § 63.7515 are met. For all other pollutants that do not contain a footnote "a", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.~~

~~[b] Incorporated by reference, see § 63.14.~~

~~[c] If your affected source is a new or reconstructed affected source that commenced construction or reconstruction after June 4, 2010, and before January 31, 2013, you may comply with the emission limits in Tables 11, 12 or 13 to this subpart until January 31, 2016. On and after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.~~

~~[78 FR 7193, Jan. 31, 2013]~~

TABLE 2 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS FOR EXISTING BOILERS AND PROCESS HEATERS

As stated in § 63.7500, you must comply with the following applicable emission limits:

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
1. Units in all subcategories designed to burn solid fuel.	a. HCl	2.2E–02 lb per MMBtu of heat input.	2.5E–02 lb per MMBtu of steam output or 0.27 lb per MWh.	For M26A, Collect a minimum of 1 dscm per run; for M26, collect a minimum of 120 liters per run.

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
	b. Mercury	5.7E–06 lb per MMBtu of heat input.	6.4E–06 lb per MMBtu of steam output or 7.3E–05 lb per MWh.	For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.
~~2. Units design to burn coal/solid fossil fuel.~~	~~a. Filterable PM (or TSM).~~	~~4.0E–02 lb per MMBtu of heat input; or (5.3E–05 lb per MMBtu of heat input).~~	~~4.2E–02 lb per MMBtu of steam output or 4.9E–01 lb per MWh; or (5.6E–05 lb per MMBtu of steam output or 6.5E–04 lb per MWh).~~	~~Collect a minimum of 2 dscm per run.~~
~~3. Pulverized coal boilers designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
~~4. Stokers designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~160 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~0.14 lb per MMBtu of steam output or 1.7 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
~~5. Fluidized bed units designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
~~6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1.3E–01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
~~7. Stokers/sloped grate/others designed to burn wet biomass fuel.~~	~~a. CO (or CEMS)~~	~~1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (720 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1.4 lb per MMBtu of steam output or 17 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
	~~b. Filterable PM (or TSM).~~	~~3.7E–02 lb per MMBtu of heat input; or (2.4E–04 lb per MMBtu of heat input).~~	~~4.3E–02 lb per MMBtu of steam output or 5.2E–01 lb per MWh; or (2.8E–04 lb per MMBtu of steam output or 3.4E–04 lb per MWh).~~	~~Collect a minimum of 2 dscm per run.~~
~~8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel.~~	~~a. CO~~	~~460 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~4.2E–01 lb per MMBtu of steam output or 5.1 lb per MWh.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~3.2E–01 lb per MMBtu of heat input; or (4.0E–03 lb per MMBtu of heat input).~~	~~3.7E–01 lb per MMBtu of steam output or 4.5 lb per MWh; or (4.6E–03 lb per MMBtu of steam output or 5.6E–02 lb per MWh).~~	~~Collect a minimum of 1 dscm per run.~~
~~9. Fluidized bed units designed to burn biomass/bio-based solid.~~	~~a. CO (or CEMS)~~	~~470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~4.6E–01 lb per MMBtu of steam output or 5.2 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~1.1E–01 lb per MMBtu of heat input; or (1.2E–03 lb per MMBtu of heat input).~~	~~1.4E–01 lb per MMBtu of steam output or 1.6 lb per MWh; or (1.5E–03 lb per MMBtu of steam output or 1.7E–02 lb per MWh).~~	~~Collect a minimum of 1 dscm per run.~~
~~10. Suspension burners designed to burn biomass/bio-based solid.~~	~~a. CO (or CEMS)~~	~~2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average).~~	~~1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~5.1E–02 lb per MMBtu of heat input; or (6.5E–03 lb per MMBtu of heat input).~~	~~5.2E–02 lb per MMBtu of steam output or 7.1E–01 lb per MWh; or (6.6E–03 lb per MMBtu of steam output or 9.1E–02 lb per MWh).~~	~~Collect a minimum of 2 dscm per run.~~
~~11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solid.~~	~~a. CO (or CEMS)~~	~~770 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average).~~	~~8.4E–01 lb per MMBtu of steam output or 8.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~2.8E–01 lb per MMBtu of heat input; or (2.0E–03 lb per MMBtu of heat input).~~	~~3.9E–01 lb per MMBtu of steam output or 3.9 lb per MWh; or (2.8E–03 lb per MMBtu of steam output or 2.8E–02 lb per MWh).~~	~~Collect a minimum of 1 dscm per run.~~

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
~~12. Fuel cell units designed to burn biomass/bio-based solid.~~	~~a. CO~~	~~1,100 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~2.4 lb per MMBtu of steam output or 12 lb per MWh.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~2.0E–02 lb per MMBtu of heat input; or (5.8E–03 lb per MMBtu of heat input).~~	~~5.5E–02 lb per MMBtu of steam output or 2.8E–01 lb per MWh; or (1.6E–02 lb per MMBtu of steam output or 8.1E–02 lb per MWh).~~	~~Collect a minimum of 2 dscm per run.~~
13. Hybrid suspension grate units designed to burn biomass/bio-based solid.	a. CO (or CEMS)	2,800 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).	2.8 lb per MMBtu of steam output or 31 lb per MWh; 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	4.4E–01 lb per MMBtu of heat input; or (4.5E–04 lb per MMBtu of heat input).	5.5E–01 lb per MMBtu of steam output or 6.2 lb per MWh; or (5.7E–04 lb per MMBtu of steam output or 6.3E–03 lb per MWh).	Collect a minimum of 1 dscm per run.
~~14. Units designed to burn liquid fuel.~~	a. ~~HCl~~	~~1.1E–03 lb per MMBtu of heat input.~~	~~1.4E–03 lb per MMBtu of steam output or 1.6E–02 lb per MWh.~~	~~For M26A, collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.~~
	~~b. Mercury~~	~~2.0E–06 lb per MMBtu of heat input.~~	~~2.5E–06 lb per MMBtu of steam output or 2.8E–05 lb per MWh.~~	~~For M29, collect a minimum of 3 dscm per run; for M30A or M30B collect a minimum sample as specified in the method, for ASTM D6784 [b] collect a minimum of 2 dscm.~~
~~15. Units designed to burn heavy liquid fuel.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.~~	~~0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~6.2E–02 lb per MMBtu of heat input; or (2.0E–04 lb per MMBtu of heat input).~~	~~7.5E–02 lb per MMBtu of steam output or 8.6E–01 lb per MWh; or (2.5E–04 lb per MMBtu of steam output or 2.8E–03 lb per MWh).~~	~~Collect a minimum of 1 dscm per run.~~
~~16. Units designed to burn light liquid fuel.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~0.13 lb per MMBtu of steam output or 1.4 lb per MWh.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM).~~	~~7.9E–03 lb per MMBtu of heat input; or (6.2E–05 lb per MMBtu of heat input).~~	~~9.6E–03 lb per MMBtu of steam output or 1.1E–01 lb per MWh; or (7.5E–05 lb per MMBtu of steam output or 8.6E–04 lb per MWh).~~	~~Collect a minimum of 3 dscm per run.~~
17. ~~Units designed to burn liquid fuel that are non-continental units.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test.~~	~~0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.~~	~~1 hr minimum sampling time.~~

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
	~~b. Filterable PM (or TSM).~~	~~2.7E–01 lb per MMBtu of heat input; or (8.6E–04 lb per MMBtu of heat input).~~	~~3.3E–01 lb per MMBtu of steam output or 3.8 lb per MWh; or (1.1E–03 lb per MMBtu of steam output or 1.2E–02 lb per MWh).~~	~~Collect a minimum of 2 dscm per run.~~
~~18. Units designed to burn gas 2 (other) gases.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~0.16 lb per MMBtu of steam output or 1.0 lb per MWh.~~	~~1 hr minimum sampling time.~~
	~~b. HCl~~	~~1.7E–03 lb per MMBtu of heat input.~~	~~2.9E–03 lb per MMBtu of steam output or 1.8E–02 lb per MWh.~~	~~For M26A, collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.~~
	~~c. Mercury~~	~~7.9E–06 lb per MMBtu of heat input.~~	~~1.4E–05 lb per MMBtu of steam output or 8.3E–05 lb per MWh.~~	~~For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 2 dscm.~~
	~~d. Filterable PM (or TSM).~~	~~6.7E–03 lb per MMBtu of heat input or (2.1E–04 lb per MMBtu of heat input).~~	~~1.2E–02 lb per MMBtu of steam output or 7.0E–02 lb per MWh; or (3.5E–04 lb per MMBtu of steam output or 2.2E–03 lb per MWh).~~	~~Collect a minimum of 3 dscm per run.~~

[a] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 63.7515 if all of the other provisions of § 63.7515 are met. For all other pollutants that do not contain a footnote a, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

[b] Incorporated by reference, see § 63.14.

[78 FR 7195, Jan. 31, 2013]

TABLE 3 TO SUBPART DDDDD OF PART 63—WORK PRACTICE STANDARDS

As stated in § 63.7500, you must comply with the following applicable work practice standards:

If your unit is . . .	You must meet the following . . .
1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater.	Conduct a tune-up of the boiler or process heater every 5 years as specified in § 63.7540.
~~2. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of less than 10 million Btu per hour in the unit designed to burn heavy liquid or unit designed to burn solid fuel subcategories; or a new or existing boiler or process heater with heat input capacity of less than 10 million Btu per hour, but greater than 5 million Btu per hour, in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid.~~	~~Conduct a tune-up of the boiler or process heater biennially as specified in § 63.7540.~~

If your unit is . . .	You must meet the following . . .
3. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater.	Conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other subcategories will conduct this tune-up as a work practice for dioxins/furans.
4. An existing boiler or process heater located at a major source facility, not including limited use units.	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assess- ment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in §63.7575: a. A visual inspection of the boiler or process heater system. b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints. c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator. d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage. e. A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified. f. A list of cost-effective energy conservation measures that are within the facility's control. g. A list of the energy savings potential of the energy conservation measures identified. h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
5. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during startup.	You must operate all CMS during startup. For startup of a boiler or process heater, you must use one or a combination of the following clean fuels: natural gas, synthetic natural gas, propane, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, and liquefied petroleum gas. If you start firing coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases, you must vent emissions to the main stack(s) and engage all of the applicable control devices except limestone injection in fluidized bed combustion (FBC) boilers, dry scrubber, fabric filter, selective non-catalytic reduction (SNCR), and selective catalytic reduction (SCR). You must start your limestone injection in FBC boilers, dry scrubber, fabric filter, SNCR, and SCR sys- tems as expeditiously as possible. Startup ends when steam or heat is supplied for any purpose. You must comply with all applicable emission limits at all times except for startup or shutdown periods conforming with this work practice. You must collect monitoring data during periods of startup, as specified in §63.7535(b). You must keep records during periods of startup. You must provide reports concerning activities and periods of startup, as specified in §63.7555.
6. An existing or new boiler or process heater subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart during shutdown.	You must operate all CMS during shutdown. While firing coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, SNCR, and SCR.

If your unit is . . .	You must meet the following . . .
	You must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. You must collect monitoring data during periods of shutdown, as specified in § 63.7535(b). You must keep records during periods of shutdown. You must provide reports concerning activities and periods of shutdown, as specified in § 63.7555.

[78 FR 7198, Jan. 31, 2013]

TABLE 4 TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS

As stated in § 63.7500, you must comply with the applicable operating limits:

When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . .	You must meet these operating limits . . .
~~1. Wet PM scrubber control on a boiler not using a PM CPMS.~~	~~Maintain the 30-day rolling average pressure drop and the 30-day rolling average liquid flow rate at or above the lowest one-hour average pressure drop and the lowest one-hour average liquid flow rate, respectively, measured during the most recent performance test demonstrating compliance with the PM emission limitation according to § 63.7530(b) and Table 7 to this subpart.~~
~~2. Wet acid gas (HCl) scrubber control on a boiler not using a HCl CEMS.~~	~~Maintain the 30-day rolling average effluent pH at or above the lowest one-hour average pH and the 30-day rolling average liquid flow rate at or above the lowest one-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with the HCl emission limitation according to § 63.7530(b) and Table 7 to this subpart.~~
~~3. Fabric filter control on units not using a PM CPMS.~~	~~a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); or~~
	~~b. Install and operate a bag leak detection system according to § 63.7525 and operate the fabric filter such that the bag leak detection system alert is not activated more than 5 percent of the operating time during each 6-month period.~~
4. Electrostatic precipitator control on units not using a PM CPMS.	a. This option is for boilers and process heaters that operate dry control systems (i.e., an ESP without a wet scrubber). Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (daily block average); or
	~~b. This option is only for boilers and process heaters not subject to PM CPMS or continuous compliance with an opacity limit (i.e., COMS). Maintain the 30-day rolling average total secondary electric power input of the electrostatic precipitator at or above the operating limits established during the performance test according to § 63.7530(b) and Table 7 to this subpart.~~
~~5. Dry scrubber or carbon injection control on a boiler not using a mercury CEMS.~~	~~Maintain the minimum sorbent or carbon injection rate as defined in § 63.7575 of this subpart.~~
~~6. Any other add-on air pollution control type on units not using a PM CPMS.~~	~~This option is for boilers and process heaters that operate dry control systems. Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (daily block average).~~
7. Fuel analysis	Maintain the fuel type or fuel mixture such that the applicable emission rates calculated according to § 63.7530(c)(1), (2) and/or (3) is less than the applicable emission limits.
8. Performance testing	For boilers and process heaters that demonstrate compliance with a performance test, maintain the operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test.
9. Oxygen analyzer system	For boilers and process heaters subject to a CO emission limit that demonstrate compliance with an O_2 analyzer system as specified in § 63.7525(a), maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the most recent CO performance test, as specified in Table 8. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.7525(a).
~~10. SO_2 CEMS~~	~~For boilers or process heaters subject to an HCl emission limit that demonstrate compliance with an SO_2 CEMS, maintain the 30-day rolling average SO_2 emission rate at or below the highest hourly average SO_2 concentration measured during the most recent HCl performance test, as specified in Table 8.~~

[78 FR 7199, Jan. 31, 2013]

TABLE 5 TO SUBPART DDDDD OF PART 63—PERFORMANCE TESTING REQUIREMENTS

As stated in § 63.7520, you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources:

To conduct a performance test for the following pollutant...	You must...	Using...
1. Filterable PM	a. Select sampling ports location and the number of traverse points.	Method 1 at 40 CFR part 60, appendix A–1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G at 40 CFR part 60, appendix A–1 or A–2 to part 60 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas.	Method 3A or 3B at 40 CFR part 60, appendix A–2 to part 60 of this chapter, or ANSI/ASME PTC 19.10–1981.[a]
	d. Measure the moisture content of the stack gas.	Method 4 at 40 CFR part 60, appendix A–3 of this chapter.
	e. Measure the PM emission concentration	Method 5 or 17 (positive pressure fabric filters must use Method 5D) at 40 CFR part 60, appendix A–3 or A–6 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology at 40 CFR part 60, appendix A–7 of this chapter.
~~2. TSM~~	~~a. Select sampling ports location and the number of traverse points.~~	~~Method 1 at 40 CFR part 60, appendix A–1 of this chapter.~~
	~~b. Determine velocity and volumetric flow-rate of the stack gas.~~	~~Method 2, 2F, or 2G at 40 CFR part 60, appendix A–1 or A–2 of this chapter.~~
	~~c. Determine oxygen or carbon dioxide concentration of the stack gas.~~	~~Method 3A or 3B at 40 CFR part 60, appendix A–1 of this chapter, or ANSI/ASME PTC 19.10–1981.[a]~~
	~~d. Measure the moisture content of the stack gas.~~	~~Method 4 at 40 CFR part 60, appendix A–3 of this chapter.~~
	~~e. Measure the TSM emission concentration.~~	~~Method 29 at 40 CFR part 60, appendix A–8 of this chapter~~
	~~f. Convert emissions concentration to lb per MMBtu emission rates.~~	~~Method 19 F-factor methodology at 40 CFR part 60, appendix A–7 of this chapter.~~
3. Hydrogen chloride	a. Select sampling ports location and the number of traverse points.	Method 1 at 40 CFR part 60, appendix A–1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G at 40 CFR part 60, appendix A–2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas.	Method 3A or 3B at 40 CFR part 60, appendix A–2 of this chapter, or ANSI/ASME PTC 19.10–1981.[a]
	d. Measure the moisture content of the stack gas.	Method 4 at 40 CFR part 60, appendix A–3 of this chapter.
	e. Measure the hydrogen chloride emission concentration.	Method 26 or 26A (M26 or M26A) at 40 CFR part 60, appendix A–8 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology at 40 CFR part 60, appendix A–7 of this chapter.
4. Mercury	a. Select sampling ports location and the number of traverse points.	Method 1 at 40 CFR part 60, appendix A–1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G at 40 CFR part 60, appendix A–1 or A–2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas.	Method 3A or 3B at 40 CFR part 60, appendix A–1 of this chapter, or ANSI/ASME PTC 19.10–1981.[a]
	d. Measure the moisture content of the stack gas.	Method 4 at 40 CFR part 60, appendix A–3 of this chapter.
	e. Measure the mercury emission concentration.	Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A–8 of this chapter or Method 101A at 40 CFR part 61, appendix B of this chapter, or ASTM Method D6784.[a]
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology at 40 CFR part 60, appendix A–7 of this chapter.
5. CO	a. Select the sampling ports location and the number of traverse points.	Method 1 at 40 CFR part 60, appendix A–1 of this chapter.

To conduct a performance test for the following pollutant...	You must...	Using...
	b. Determine oxygen concentration of the stack gas.	Method 3A or 3B at 40 CFR part 60, appendix A–3 of this chapter, or ASTM D6522–00 (Reapproved 2005), or ANSI/ASME PTC 19.10–1981.[a]
	c. Measure the moisture content of the stack gas.	Method 4 at 40 CFR part 60, appendix A–3 of this chapter.
	d. Measure the CO emission concentration	Method 10 at 40 CFR part 60, appendix A–4 of this chapter. Use a measurement span value of 2 times the concentration of the applicable emission limit.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7200, Jan. 31, 2013]

TABLE 6 TO SUBPART DDDDD OF PART 63—FUEL ANALYSIS REQUIREMENTS

As stated in §63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources. However, equivalent methods (as defined in §63.7575) may be used in lieu of the prescribed methods at the discretion of the source owner or operator:

To conduct a fuel analysis for the following pollutant . . .	You must . . .	Using . . .

1. Mercury	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192[a], or ASTM D7430[a], or ASTM D6883[a], or ASTM D2234/D2234M[a](for coal) or EPA 1631 or EPA 1631E or ASTM D6323[a] (for solid), or EPA 821–R–01–013 (for liquid or solid), or ASTM D4177[a] (for liquid), or ASTM D4057[a] (for liquid), or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW–846–3050B[a] (for solid samples), EPA SW–846–3020A[a] (for liquid samples), ASTM D2013/D2013M[a] (for coal), ASTM D5198[a] (for biomass), or EPA 3050[a] (for solid fuel), or EPA 821–R–01–013[a] (for liquid or solid), or equivalent.
	d. Determine heat content of the fuel type.	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), or ASTM D5864[a] for liquids and other solids, or ASTM D240[a] or equivalent.
	e. Determine moisture content of the fuel type.	ASTM D3173[a], ASTM E871[a], or ASTM D5864[a], or ASTM D240, or ASTM D95[a] (for liquid fuels), or ASTM D4006[a] (for liquid fuels), or ASTM D4177[a] (for liquid fuels) or ASTM D4057[a] (for liquid fuels), or equivalent.
	f. Measure mercury concentration in fuel sample.	ASTM D6722[a] (for coal), EPA SW–846–7471B[a] (for solid samples), or EPA SW–846–7470A[a] (for liquid samples), or equivalent.
	g. Convert concentration into units of pounds of mercury per MMBtu of heat content.	Equation 8 in § 63.7530.
	h. Calculate the mercury emission rate from the boiler or process heater in units of pounds per million Btu.	Equations 10 and 12 in § 63.7530.
2. HCl	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192[a], or ASTM D7430[a], or ASTM D6883[a], or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for coal or biomass), ASTM D4177[a] (for liquid fuels) or ASTM D4057[a] (for liquid fuels), or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW–846–3050B[a] (for solid samples), EPA SW–846–3020A[a] (for liquid samples), ASTM D2013/D2013M§[a] (for coal), or ASTM D5198§[a] (for biomass), or EPA 3050[a] or equivalent.
	d. Determine heat content of the fuel type.	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), ASTM D5864, ASTM D240[a] or equivalent.
	e. Determine moisture content of the fuel type.	ASTM D3173[a] or ASTM E871[a], or D5864[a], or ASTM D240[a], or ASTM D95[a] (for liquid fuels), or ASTM D4006[a] (for liquid fuels), or ASTM D4177[a] (for liquid fuels) or ASTM D4057[a] (for liquid fuels) or equivalent.

To conduct a fuel analysis for the following pollutant . . .	You must . . .	Using . . .
	f. Measure chlorine concentration in fuel sample.	EPA SW–846–9250[a], ASTM D6721[a], ASTM D4208[a] (for coal), or EPA SW–846–5050[a] or ASTM E776[a] (for solid fuel), or EPA SW–846–9056[a] or SW–846–9076[a] (for solids or liquids) or equivalent.
	g. Convert concentrations into units of pounds of HCl per MMBtu of heat content.	Equation 7 in §63.7530.
	h. Calculate the HCl emission rate from the boiler or process heater in units of pounds per million Btu.	Equations 10 and 11 in §63.7530.
~~3. Mercury Fuel Specification for other gas 1 fuels.~~	~~a. Measure mercury concentration in the fuel sample and convert to units of micrograms per cubic meter.~~	~~Method 30B (M30B) at 40 CFR part 60, appendix A–8 of this chapter or ASTM D5954[a], ASTM D6350[a], ISO 6978–1:2003(E)[a], or ISO 6978–2:2003(E)[a], or EPA–1631[a] or equivalent.~~
	~~b. Measure mercury concentration in the exhaust gas when firing only the other gas 1 fuel is fired in the boiler or process heater.~~	~~Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A–8 of this chapter or Method 101A or Method 102 at 40 CFR part 61, appendix B of this chapter, or ASTM Method D6784[a] or equivalent.~~
4. ~~TSM for solid fuels~~	~~a. Collect fuel samples~~	~~Procedure in §63.7521(c) or ASTM D5192[a], or ASTM D7430[a], or ASTM D6883[a], or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for coal or biomass), or ASTM D4177[a],(for liquid fuels)or ASTM D4057[a] (for liquid fuels),or equivalent.~~
	~~b. Composite fuel samples~~	~~Procedure in §63.7521(d) or equivalent.~~
	~~c. Prepare composited fuel samples~~	~~EPA SW–846–3050B[a] (for solid samples), EPA SW–846–3020A[a] (for liquid samples), ASTM D2013/D2013M[a] (for coal), ASTM D5198[a] or TAPPI T266[a] (for biomass), or EPA 3050[a] or equivalent.~~
	~~d. Determine heat content of the fuel type.~~	~~ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), or ASTM D5864[a] for liquids and other solids, or ASTM D240[a] or equivalent.~~
	~~e. Determine moisture content of the fuel type.~~	~~ASTM D3173[a] or ASTM E871[a], or D5864, or ASTM D240[a], or ASTM D95[a] (for liquid fuels), or ASTM D4006[a] (for liquid fuels), or ASTM D4177[a] (for liquid fuels) or ASTM D4057[a] (for liquid fuels), or equivalent.~~
	~~f. Measure TSM concentration in fuel sample.~~	~~ASTM D3683[a], or ASTM D4606[a], or ASTM D6357[a] or EPA 200.8[a] or EPA SW–846–6020[a], or EPA SW–846–6020A[a], or EPA SW–846–6010C[a], EPA 7060[a] or EPA 7060A[a] (for arsenic only), or EPA SW–846–7740[a] (for selenium only).~~
	~~g. Convert concentrations into units of pounds of TSM per MMBtu of heat content.~~	~~Equation 9 in §63.7530.~~
	h. ~~Calculate the TSM emission rate from the boiler or process heater in units of pounds per million Btu.~~	~~Equations 10 and 13 in §63.7530.~~

[a] Incorporated by reference, see §63.14.

[78 FR 7201, Jan. 31, 2013]

TABLE 7 TO SUBPART DDDDD OF PART 63—ESTABLISHING OPERATING LIMITS

As stated in §63.7520, you must comply with the following requirements for establishing operating limits:

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
~~1. PM, TSM, or mercury.~~	~~a. Wet scrubber operating parameters.~~	~~i. Establish a site-specific minimum scrubber pressure drop and minimum flow rate operating limit according to §63.7530(b).~~	~~(1) Data from the scrubber pressure drop and liquid flow rate monitors and the PM or mercury performance test.~~	~~(a) You must collect scrubber pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance tests.~~

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
				~~(b) Determine the lowest hourly average scrubber pressure drop and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.~~
	~~b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers).~~	~~i. Establish a site-specific minimum total secondary electric power input according to § 63.7530(b).~~	~~(1) Data from the voltage and secondary amperage monitors during the PM or mercury performance test.~~	~~(a) You must collect secondary voltage and secondary amperage for each ESP cell and calculate total secondary electric power input data every 15 minutes during the entire period of the performance tests.~~
				~~(b) Determine the average total secondary electric power input by computing the hourly averages using all of the 15-minute readings taken during each performance test.~~
~~2. HCl~~	~~a. Wet scrubber operating parameters.~~	~~i. Establish site-specific minimum pressure drop, effluent pH, and flow rate operating limits according to § 63.7530(b).~~	~~(1) Data from the pressure drop, pH, and liquid flow-rate monitors and the HCl performance test.~~	~~(a) You must collect pH and liquid flow-rate data every 15 minutes during the entire period of the performance tests.~~
				~~(b) Determine the hourly average pH and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.~~
	~~b. Dry scrubber operating parameters.~~	~~i. Establish a site-specific minimum sorbent injection rate operating limit according to § 63.7530(b). If different acid gas sorbents are used during the HCl performance test, the average value for each sorbent becomes the site-specific operating limit for that sorbent.~~	~~(1) Data from the sorbent injection rate monitors and HCl or mercury performance test.~~	~~(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests.~~
				~~(b) Determine the hourly average sorbent injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.~~

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
				~~(c) Determine the lowest hourly average of the three test run averages established during the performance test as your operating limit. When your unit operates at lower loads, multiply your sorbent injection rate by the load fraction (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.~~
	~~c. Alternative Maximum SO_2 emission rate.~~	~~i. Establish a site-specific maximum SO_2 emission rate operating limit according to § 63.7530(b).~~	~~(1) Data from SO_2 CEMS and the HCl performance test.~~	~~(a) You must collect the SO_2 emissions data according to § 63.7525(m) during the most recent HCl performance tests.~~ ~~(b) The maximum SO_2 emission rate is equal to the lowest hourly average SO_2 emission rate measured during the most recent HCl performance tests.~~
~~3. Mercury~~	~~a. Activated carbon injection.~~	~~i. Establish a site-specific minimum activated carbon injection rate operating limit according to § 63.7530(b).~~	~~(1) Data from the activated carbon rate monitors and mercury performance test.~~	~~(a) You must collect activated carbon injection rate data every 15 minutes during the entire period of the performance tests.~~ ~~(b) Determine the hourly average activated carbon injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.~~ ~~(c) Determine the lowest hourly average established during the performance test as your operating limit. When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance test, for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.~~
~~4.~~ Carbon monoxide	~~a.~~ Oxygen	i. Establish a unit-specific limit for minimum oxygen level according to § 63.7520.	(1) Data from the oxygen analyzer system specified in § 63.7525(a).	(a) You must collect oxygen data every 15 minutes during the entire period of the performance tests~~.~~

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
				(b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test. (c) Determine the lowest hourly average established during the performance test as your minimum operating limit.
5. Any pollutant for which compliance is demonstrated by a performance test.	a. Boiler or process heater operating load.	i. Establish a unit specific limit for maximum operating load according to § 63.7520(c).	(1) Data from the operating load monitors or from steam generation monitors.	(a) You must collect operating load or steam generation data every 15 minutes during the entire period of the performance test. (b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test. (c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7203, Jan. 31, 2013]

TABLE 8 TO SUBPART DDDDD OF PART 63—DEMONSTRATING CONTINUOUS COMPLIANCE

As stated in § 63.7540, you must show continuous compliance with the emission limitations for each boiler or process heater according to the following:

If you must meet the following operating limits or work practice standards . . .	You must demonstrate continuous compliance by . . .
1. Opacity	a. Collecting the opacity monitoring system data according to § 63.7525(c) and § 63.7535; and b. Reducing the opacity monitoring data to 6-minute averages; and ~~c.~~ Maintaining opacity to less than or equal to 10 percent (daily block average).
~~2. PM CPMS~~	~~a. Collecting the PM CPMS output data according to § 63.7525;~~ ~~b. Reducing the data to 30-day rolling averages; and~~ ~~c. Maintaining the 30-day rolling average PM CPMS output data to less than the operating limit established during the performance test according to § 63.7530(b)(4).~~
~~3. Fabric Filter Bag Leak Detection Operation.~~	~~Installing and operating a bag leak detection system according to § 63.7525 and operating the fabric filter such that the requirements in § 63.7540(a)(9) are met.~~
~~4. Wet Scrubber Pressure Drop and Liquid Flow-rate.~~	~~a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§ 63.7525 and 63.7535; and~~ ~~b. Reducing the data to 30-day rolling averages; and~~ ~~c. Maintaining the 30-day rolling average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to § 63.7530(b).~~
~~5. Wet Scrubber pH~~	~~a. Collecting the pH monitoring system data according to §§ 63.7525 and 63.7535; and~~ ~~b. Reducing the data to 30-day rolling averages; and~~ ~~c. Maintaining the 30-day rolling average pH at or above the operating limit estab-~~

~~lished during the performance test according to § 63.7530(b).~~

If you must meet the following operating limits or work practice standards . . .	You must demonstrate continuous compliance by . . .
~~6. Dry Scrubber Sorbent or Carbon Injection Rate.~~	~~a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§ 63.7525 and 63.7535; and~~ ~~b. Reducing the data to 30-day rolling averages; and~~ ~~c. Maintaining the 30-day rolling average sorbent or carbon injection rate at or above the minimum sorbent or carbon injection rate as defined in § 63.7575.~~
~~7. Electrostatic Precipitator Total Secondary Electric Power Input.~~	~~a. Collecting the total secondary electric power input monitoring system data for the electrostatic precipitator according to §§ 63.7525 and 63.7535; and~~ ~~b. Reducing the data to 30-day rolling averages; and~~ ~~c. Maintaining the 30-day rolling average total secondary electric power input at or above the operating limits established during the performance test according to § 63.7530(b).~~
~~8. Emission limits using fuel analysis~~	~~a. Conduct monthly fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart; and~~ ~~b. Reduce the data to 12-month rolling averages; and~~ ~~c. Maintain the 12-month rolling average at or below the applicable emission limit for HCl or mercury or TSM in Tables 1 and 2 or 11 through 13 to this subpart.~~
~~9.~~ Oxygen content	a. Continuously monitor the oxygen content using an oxygen analyzer system according to § 63.7525(a). This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.7525(a)(2). b. Reducing the data to 30-day rolling averages; and c. Maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen level measured during the most recent CO performance test.
10. Boiler or process heater operating load	a. Collecting operating load data or steam generation data every 15 minutes. b. Maintaining the operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test according to § 63.7520(c).
~~11. SO_2 emissions using SO_2 CEMS~~	~~a. Collecting the SO_2 CEMS output data according to § 63.7525;~~ ~~b. Reducing the data to 30-day rolling averages; and~~ ~~c. Maintaining the 30-day rolling average SO_2 CEMS emission rate to a level at or below the minimum hourly SO_2 rate measured during the most recent HCl performance test according to § 63.7530.~~

[78 FR 7204, Jan. 31, 2013]

TABLE 9 TO SUBPART DDDDD OF PART 63—REPORTING REQUIREMENTS

As stated in § 63.7550, you must comply with the following requirements for reports:

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

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7205, Jan. 31, 2013]

TABLE 10 TO SUBPART DDDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Applies to subpart DDDDD

§ 63.1	Applicability	Yes.
§ 63.2	Definitions	Yes. Additional terms defined in § 63.7575
§ 63.3	Units and Abbreviations	Yes.
§ 63.4	Prohibited Activities and Circumvention	Yes.
§ 63.5	Preconstruction Review and Notification Requirements	Yes.
§ 63.6(a), (b)(1)–(b)(5), (b)(7), (c).	Compliance with Standards and Maintenance Requirements	Yes.
§ 63.6(e)(1)(i)	General duty to minimize emissions.	No. See § 63.7500(a)(3) for the general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to correct malfunctions as soon as practicable.	No.
§ 63.6(e)(3)	Startup, shutdown, and malfunction plan requirements.	No.
§ 63.6(f)(1)	Startup, shutdown, and malfunction exemptions for compliance with non-opacity emission standards..	No.
§ 63.6(f)(2) and (3)	Compliance with non-opacity emission standards.	Yes.
§ 63.6(g)	Use of alternative standards	Yes.
§ 63.6(h)(1)	Startup, shutdown, and malfunction exemptions to opacity standards..	No. See § 63.7500(a).
§ 63.6(h)(2) to (h)(9)	Determining compliance with opacity emission standards	Yes.
§ 63.6(i)	Extension of compliance	Yes. Note: Facilities may also request extensions of compliance for the installation of combined heat and power, waste heat recovery, or gas pipeline or fuel feeding infrastructure as a means of complying with this subpart.
§ 63.6(j)	Presidential exemption.	Yes.
§ 63.7(a), (b), (c), and (d)	Performance Testing Requirements	Yes.
§ 63.7(e)(1)	Conditions for conducting performance tests	No. Subpart DDDDD specifies conditions for conducting performance tests at § 63.7520(a) to (c).
§ 63.7(e)(2)–(e)(9), (f), (g), and (h).	Performance Testing Requirements	Yes.
§ 63.8(a) and (b)	Applicability and Conduct of Monitoring	Yes.
§ 63.8(c)(1)	Operation and maintenance of CMS	Yes.
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No. See § 63.7500(a)(3).
§ 63.8(c)(1)(ii)	Operation and maintenance of CMS	Yes.
§ 63.8(c)(1)(iii)	Startup, shutdown, and malfunction plans for CMS	No.
§ 63.8(c)(2) to (c)(9)	Operation and maintenance of CMS	Yes.
§ 63.8(d)(1) and (2)	Monitoring Requirements, Quality Control Program	Yes.
§ 63.8(d)(3)	Written procedures for CMS	Yes, except for the last sentence, which refers to a startup, shutdown, and malfunction plan. Startup, shutdown, and malfunction plans are not required.
§ 63.8(e)	Performance evaluation of a CMS	Yes.
§ 63.8(f)	Use of an alternative monitoring method.	Yes.
§ 63.8(g)	Reduction of monitoring data	Yes.
§ 63.9	Notification Requirements	Yes.
§ 63.10(a), (b)(1)	Recordkeeping and Reporting Requirements	Yes.
§ 63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups or shutdowns.	Yes.
§ 63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. See § 63.7555(d)(7) for recordkeeping of occurrence and duration and § 63.7555(d)(8) for actions taken during malfunctions.
§ 63.10(b)(2)(iii)	Maintenance records	Yes.
§ 63.10(b)(2)(iv) and (v)	Actions taken to minimize emissions during startup, shutdown, or malfunction.	No.
§ 63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.
§ 63.10(b)(2)(vii) to (xiv)	Other CMS requirements	Yes.
§ 63.10(b)(3)	Recordkeeping requirements for applicability determinations	No.
§ 63.10(c)(1) to (9)	Recordkeeping for sources with CMS	Yes.

Citation	Subject	Applies to subpart DDDDD
§ 63.10(c)(10) and (11)	Recording nature and cause of malfunctions, and corrective actions.	No. See § 63.7555(d)(7) for recordkeeping of occurrence and duration and § 63.7555(d)(8) for actions taken during malfunctions.
§ 63.10(c)(12) and (13)	Recordkeeping for sources with CMS	Yes.
§ 63.10(c)(15)	Use of startup, shutdown, and malfunction plan	No.
§ 63.10(d)(1) and (2)	General reporting requirements	Yes.
§ 63.10(d)(3)	Reporting opacity or visible emission observation results	No.
§ 63.10(d)(4)	Progress reports under an extension of compliance	Yes.
§ 63.10(d)(5)	Startup, shutdown, and malfunction reports	No. See § 63.7550(c)(11) for malfunction reporting requirements.
§ 63.10(e)	Additional reporting requirements for sources with CMS	Yes.
§ 63.10(f)	Waiver of recordkeeping or reporting requirements	Yes.
§ 63.11	Control Device Requirements	No.
§ 63.12	State Authority and Delegation	Yes.
§ 63.13–63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions.	Yes.
§ 63.1(a)(5),(a)(7)–(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)–(4), (c)(9)..	Reserved	No.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7205, Jan. 31, 2013]

TABLE 11 TO SUBPART DDDDD OF PART 63—TOXIC EQUIVALENCY FACTORS FOR DIOXINS/FURANS

TABLE 11 TO SUBPART DDDDD OF PART 63—TOXIC EQUIVALENCY FACTORS FOR DIOXINS/FURANS

Dioxin/furan congener	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

[76 FR 15664, Mar. 21, 2011]

EDITORIAL NOTE: At 78 FR 7206, Jan. 31, 2013, Table 11 was added, effective Apr. 1, 2013. However Table 11 could not be added as a Table 11 is already in existence.

~~TABLE 12 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER JUNE 4, 2010, AND BEFORE MAY 20, 2011~~

~~If your boiler or process heater is in this subcategory~~	~~For the following pollutants~~	~~The emissions must not exceed the following emission limits, except during periods of startup and shutdown~~	~~Using this specified sampling volume or test run duration~~
~~1. Units in all subcategories designed to burn solid fuel.~~	~~a. Mercury~~	~~3.5E–06 lb per MMBtu of heat input.~~	~~For M29, collect a minimum of 2 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.~~
~~2. Units in all subcategories designed to burn solid fuel that combust at least 10 percent biomass/bio-based solids on an annual heat input basis and less than 10 percent coal/solid fossil fuels on an annual heat input basis.~~	~~a. Particulate Matter~~	~~0.008 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).~~	~~Collect a minimum of 1 dscm per run.~~
	~~b. Hydrogen Chloride~~	~~0.004 lb per MMBtu of heat input.~~	~~For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.~~
~~3. Units in all subcategories designed to burn solid fuel that combust at least 10 percent coal/solid fossil fuels on an annual heat input basis and less than 10 percent biomass/bio-based solids on an annual heat input basis.~~	~~a. Particulate Matter~~	~~0.0011 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).~~	~~Collect a minimum of 3 dscm per run.~~
	~~b. Hydrogen Chloride~~	~~0.0022 lb per MMBtu of heat input.~~	~~For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.~~
~~4. Units designed to burn pulverized coal/solid fossil fuel.~~	~~a. CO~~	~~90 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Dioxins/Furans~~	~~0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~
~~5. Stokers designed to burn coal/solid fossil fuel~~	~~a. CO~~	~~7 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Dioxins/Furans~~	~~0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~
~~6. Fluidized bed units designed to burn coal/solid fossil fuel.~~	~~a. CO~~	~~30 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Dioxins/Furans~~	~~0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~
~~7. Stokers designed to burn biomass/bio-based solids.~~	~~a. CO~~	~~560 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Dioxins/Furans~~	~~0.005 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~
~~8. Fluidized bed units designed to burn biomass/bio-based solids.~~	~~a. CO~~	~~260 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Dioxins/Furans~~	~~0.02 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~

~~If your boiler or process heater is in this subcategory~~	~~For the following pollutants~~	~~The emissions must not exceed the following emission limits, except during periods of startup and shutdown~~	~~Using this specified sampling volume or test run duration~~
~~9. Suspension burners/Dutch Ovens designed to burn biomass/bio-based solids.~~	~~a. CO~~	~~1,010 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Dioxins/Furans~~	~~0.2 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~
~~10. Fuel cells designed to burn biomass/bio-based solids.~~	~~a. CO~~	~~470 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Dioxins/Furans~~	~~0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~
~~11. Hybrid suspension/grate units designed to burn biomass/bio-based solids.~~	~~a. CO~~	~~1,500 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Dioxins/Furans~~	~~0.2 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~
~~12. Units designed to burn liquid fuel~~	~~a. Particulate Matter~~	~~0.002 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).~~	~~Collect a minimum of 2 dscm per run.~~
	~~b. Hydrogen Chloride~~	~~0.0032 lb per MMBtu of heat input.~~	~~For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.~~
	~~c. Mercury~~	~~3.0E–07 lb per MMBtu of heat input.~~	~~For M29, collect a minimum of 2 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.~~
	~~d. CO~~	~~3 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~e. Dioxins/Furans~~	~~0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~
~~13. Units designed to burn liquid fuel located in non-continental States and territories.~~	~~a. Particulate Matter~~	~~0.002 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).~~	~~Collect a minimum of 2 dscm per run.~~
	~~b. Hydrogen Chloride~~	~~0.0032 lb per MMBtu of heat input.~~	~~For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.~~
	~~c. Mercury~~	~~7.8E–07 lb per MMBtu of heat input.~~	~~For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.~~

~~If your boiler or process heater is in this subcategory~~	~~For the following pollutants~~	~~The emissions must not exceed the following emission limits, except during periods of startup and shutdown~~	~~Using this specified sampling volume or test run duration~~
	~~d. CO~~	~~51 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~e. Dioxins/Furans~~	~~0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~
~~14. Units designed to burn gas 2 (other) gases~~	~~a. Particulate Matter~~	~~0.0067 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).~~	~~Collect a minimum of 1 dscm per run.~~
	~~b. Hydrogen Chloride~~	~~0.0017 lb per MMBtu of heat input.~~	~~For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.~~
	~~c. Mercury~~	~~7.9E–06 lb per MMBtu of heat input.~~	~~For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.~~
	~~d. CO~~	~~3 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~e. Dioxins/Furans~~	~~0.08 ng/dscm (TEQ) corrected to 7 percent oxygen.~~	~~Collect a minimum of 4 dscm per run.~~

[a] Incorporated by reference, see § 63.14.

[76 FR 15664, Mar. 21, 2011]

EDITORIAL NOTE: At 78 FR 7208, Jan. 31, 2013, Table 12 was added, effective Apr. 1, 2013. However, Table 12 could not be added as a Table 12 is already in existence.

~~TABLE 13 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER DECEMBER 23, 2011, AND BEFORE JANUARY 31, 2013~~

~~If your boiler or process heater is in this subcategory . . .~~	~~For the following pollutants . . .~~	~~The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .~~	~~Using this specified sampling volume or test run duration . . .~~

~~1. Units in all subcategories designed to burn solid fuel.~~	~~a. HCl~~	~~0.022 lb per MMBtu of heat input.~~	~~For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.~~
	~~b. Mercury~~	~~8.6E−07[a] lb per MMBtu of heat input.~~	~~For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 4 dscm.~~
~~2. Pulverized coal boilers designed to burn coal/solid fossil fuel.~~	~~a. Carbon monoxide (CO) (or CEMS).~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1 hr minimum sampling time.~~

~~If your boiler or process heater is in this subcategory . . .~~	~~For the following pollutants . . .~~	~~The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .~~	~~Using this specified sampling volume or test run duration . . .~~
	~~b. Filterable PM (or TSM)~~	~~1.1E–03 lb per MMBtu of heat input; or (2.8E–05 lb per MMBtu of heat input).~~	~~Collect a minimum of 3 dscm per run.~~
~~3. Stokers designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~2.8E–02 lb per MMBtu of heat input; or (2.3E–05 lb per MMBtu of heat input).~~	~~Collect a minimum of 2 dscm per run.~~
~~4. Fluidized bed units designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~1.1E–03 lb per MMBtu of heat input; or (2.3E–05 lb per MMBtu of heat input).~~	~~Collect a minimum of 3 dscm per run.~~
~~5. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.~~	~~a. CO (or CEMS)~~	~~140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~1.1E–03 lb per MMBtu of heat input; or (2.3E–05 lb per MMBtu of heat input).~~	~~Collect a minimum of 3 dscm per run.~~
~~6. Stokers/sloped grate/others designed to burn wet biomass fuel.~~	~~a. CO (or CEMS)~~	~~620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (410 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~3.0E–02 lb per MMBtu of heat input; or (2.6E–05 lb per MMBtu of heat input).~~	~~Collect a minimum of 2 dscm per run.~~
~~7. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel.~~	~~a. CO~~	~~460 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~3.2E–01 lb per MMBtu of heat input; or (4.0E–03 lb per MMBtu of heat input).~~	~~Collect a minimum of 2 dscm per run.~~
~~8. Fluidized bed units designed to burn biomass/bio-based solids.~~	~~a. CO (or CEMS)~~	~~230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~9.8E–03 lb per MMBtu of heat input; or (8.3E–05 lb per MMBtu of heat input).~~	~~Collect a minimum of 3 dscm per run.~~
~~9. Suspension burners designed to burn biomass/bio-based solids.~~	~~a. CO (or CEMS)~~	~~2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~5.1E–02 lb per MMBtu of heat input; or (6.5E–03 lb per MMBtu of heat input).~~	~~Collect a minimum of 2 dscm per run.~~

~~If your boiler or process heater is in this subcategory . . .~~	~~For the following pollutants . . .~~	~~The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .~~	~~Using this specified sampling volume or test run duration . . .~~

~~10. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids.~~	~~a. CO (or CEMS)~~	~~810 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~3.6E-02 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input).~~	~~Collect a minimum of 2 dscm per run.~~
~~11. Fuel cell units designed to burn biomass/bio-based solids.~~	~~a. CO~~	~~910 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input).~~	~~Collect a minimum of 2 dscm per run.~~
~~12. Hybrid suspension grate boiler designed to burn biomass/bio-based solids.~~	~~a. CO (or CEMS)~~	~~1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input).~~	~~Collect a minimum of 3 dscm per run.~~
~~13. Units designed to burn liquid fuel.~~	~~a. HCl~~	~~1.2E-03 lb per MMBtu of heat input.~~	~~For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.~~
	~~b. Mercury~~	~~4.9E-07 [a] lb per MMBtu of heat input.~~	~~For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [b] collect a minimum of 4 dscm.~~
~~14. Units designed to burn heavy liquid fuel.~~	~~a. CO (or CEMS)~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (18 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~1.3E-03 lb per MMBtu of heat input; or (7.5E-05 lb per MMBtu of heat input).~~	~~Collect a minimum of 3 dscm per run.~~
~~15. Units designed to burn light liquid fuel.~~	~~a. CO (or CEMS)~~	~~130 [a] ppm by volume on a dry basis corrected to 3 percent oxygen; or (60 ppm by volume on a dry basis corrected to 3 percent oxygen, 1-day block average)..~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~1.1E-03 [a] lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input).~~	~~Collect a minimum of 3 dscm per run.~~
~~16. Units designed to burn liquid fuel that are non-continental units.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test; or (91 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-hour rolling average).~~	~~1 hr minimum sampling time.~~
	~~b. Filterable PM (or TSM)~~	~~2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input).~~	~~Collect a minimum of 2 dscm per run.~~
~~17. Units designed to burn gas 2 (other) gases.~~	~~a. CO~~	~~130 ppm by volume on a dry basis corrected to 3 percent oxygen.~~	~~1 hr minimum sampling time.~~

~~If your boiler or process heater is in this subcategory . . .~~	~~For the following pollutants . . .~~	~~The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .~~	~~Using this specified sampling volume or test run duration . . .~~
	~~b. HCl~~	~~1.7E-03 lb per MMBtu of heat input.~~	~~For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.~~
	~~c. Mercury~~	~~7.9E-06 lb per MMBtu of heat input.~~	~~For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.~~
	~~d. Filterable PM (or TSM)~~	~~6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input).~~	~~Collect a minimum of 3 dscm per run.~~

~~[a] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit and you are not required to conduct testing for CEMS or CPMS monitor certification, you can skip testing according to § 63.7515 if all of the other provision of § 63.7515 are met. For all other pollutants that do not contain a footnote "a", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.~~

~~[b] Incorporated by reference, see § 63.14.~~

[78 FR 7210, Jan. 31, 2013]

For the reasons cited in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

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

1. The authority for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

Subpart DDDDD—[Amended]

2. Section 63.7491 is amended by:

a. Revising paragraphs (a), (j) and (l).

b. Adding paragraph (n).

The revisions and addition read as follows:

§ 63.7491 Are any boilers or process heaters not subject to this subpart?

*   *   *   *   *

(a) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part or a natural gas-fired EGU as defined in subpart UUUUU of this part firing at least 85 percent natural gas on an annual heat input basis.

*   *   *   *   *

(j) Temporary boilers and process heaters as defined in this subpart.

*   *   *   *   *

(l) Any boiler or process heater specifically listed as an affected source in any standard(s) established under section 129 of the Clean Air Act.

*   *   *   *   *

(n) Residential boilers as defined in this subpart.

3. Section 63.7495 is amended by:

a. Revising paragraphs (a), (e), and (f).

b. Adding paragraphs (h) and (i).

The revisions and additions read as follows:

§ 63.7495 When do I have to comply with this subpart?

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by April 1, 2013, or upon startup of your boiler or process heater, whichever is later.

*   *   *   *   *

(e) If you own or operate an industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for the exemption in § 63.7491(l) for commercial and industrial solid waste incineration units covered by part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart and are no longer subject to part 60, subparts CCCC or DDDD beginning on the effective date of the switch as identified under the provisions of § 60.2145(a)(2) and (3) or § 60.2710(a)(2) and (3).

(f) If you own or operate an existing EGU that becomes subject to this subpart after January 31, 2016, you must be in compliance with the applicable existing source provisions of this subpart on the effective date such unit becomes subject to this subpart.

* * * * *

(h) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory after the compliance date of this subpart, you must be in compliance with the applicable existing source provisions of this subpart on the effective date of the fuel switch or physical change.

(i) If you own or operate a new industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory, you must be in compliance with the applicable new source provisions of this subpart on the effective date of the fuel switch or physical change.

4. Section 63.7500 is amended by revising paragraphs (a)(1)

introductory text, (a)(1)(ii), (a)(1)(iii), and (f) to read as follows:

§ 63.7500 What emission limitations, work practice standards, and operating limits must I meet?

(a) * * *

(1) You must meet each emission limit and work practice standard in Tables 1 through 3, and 11 through 13 to this subpart that applies to your boiler or process heater, for each boiler or process heater at your source, except as provided under § 63.7522. The output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers and process heaters that generate either steam, cogenerate steam with electricity, or both. The output-based emission limits, in units of pounds per megawatt-hour, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers that generate only electricity. Boilers that perform multiple functions (cogeneration and electricity generation) or supply steam to common headers would calculate a total steam energy output using equation 21 of §63.7575 to demonstrate compliance with the output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart. If you operate a new boiler or process heater, you can choose to comply with alternative limits as discussed in paragraphs

(a)(1)(i) through (a)(1)(iii) of this section, but on or after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.

* * * * *

(ii) If your boiler or process heater commenced construction or reconstruction on or after May 20, 2011 and before December 23, 2011, you may comply with the emission limits in Table 1 or 12 to this subpart until January 31, 2016.

(iii) If your boiler or process heater commenced construction or reconstruction on or after December 23, 2011 and before April 1, 2013, you may comply with the emission limits in Table 1 or 13 to this subpart until January 31, 2016.

* * * * *

(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with items 5 and 6 of Table 3 to this subpart.

§ 63.7501 [Removed and Reserved]

5. Section 63.7501 is removed and reserved.

6. Section 63.7505 is amended by revising paragraphs (a), (c), and (d) introductory text and adding paragraph (e) to read as follows:

§ 63.7505 What are my general requirements for complying with

this subpart?

(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These emission and operating limits apply to you at all times the affected unit is operating except for the periods noted in § 63.7500(f).

*   *   *   *   *

(c) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. You may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis if the emission rate calculated according to § 63.7530(c) is less than the applicable emission limit. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) Otherwise, you must demonstrate compliance for HCl, mercury, or TSM using performance stack testing, if subject to an applicable emission limit listed in Tables 1, 2, or 11 through 13 to this subpart.

(d) If you demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits through the use of CPMS, or with a CEMS or COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).

* * * * *

(e) If you have an applicable emission limit, and you choose to comply using definition (2) of "startup" in § 63.7575, you must develop and implement a written startup and shutdown plan (SSP) according to the requirements in Table 3 to this subpart. The SSP must be maintained onsite and available upon request for public inspection.

7. Section 63.7510 is amended by:

a. Revising paragraphs (a) introductory text, (a)(2)(ii), (c), (e), (g), and (i).

b. Adding paragraph (k).

The revisions and addition read as follows:

§ 63.7510 What are my initial compliance requirements and by what date must I conduct them?

(a) For each boiler or process heater that is required or that you elect to demonstrate compliance with any of the applicable emission limits in Tables 1 or 2 or 11 through 13 of this subpart through performance (stack) testing, your initial compliance requirements include all the following:

*   *   *   *   *

(2) *   *   *

(ii) When natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels, you are not required to conduct a fuel analysis of those Gas 1 fuels according to § 63.7521 and Table 6 to this subpart. If gaseous fuels other than natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels and those non-Gas 1 gaseous fuels are subject to another subpart of this part, part 60, part 61, or part 65, you are not required to conduct a fuel analysis of those non-Gas 1 fuels according to § 63.7521 and Table 6 to this subpart.

*   *   *   *   *

(c) If your boiler or process heater is subject to a carbon monoxide (CO) limit, your initial compliance demonstration for CO is to conduct a performance test for CO according to Table 5 to this subpart or conduct a performance evaluation of your continuous CO monitor, if applicable, according to § 63.7525(a). Boilers and process heaters that use a CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, as specified in § 63.7525(a), are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in paragraph (a) of this section.

*   *   *   *   *

(e) For existing affected sources (as defined in § 63.7490), you must complete the initial compliance demonstrations, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the compliance date that is specified for your source in § 63.7495 and according to the applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart, except as specified in paragraph (j) of this section. You must complete an initial tune-up by following the procedures described in § 63.7540(a)(10)(i) through (vi) no later than the compliance date specified in § 63.7495, except as specified in paragraph (j) of this section. You must complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in § 63.7495.

*   *   *   *   *

(g) For new or reconstructed affected sources (as defined in § 63.7490), you must demonstrate initial compliance with the applicable work practice standards in Table 3 to this subpart within the applicable annual, biennial, or 5-year schedule as specified in § 63.7515(d) following the initial compliance date specified in § 63.7495(a). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in § 63.7515(d).

*   *   *   *   *

(i) For an existing EGU that becomes subject after January 31, 2016, you must demonstrate compliance within 180 days after becoming an affected source.

*   *   *   *   *

(k) For affected sources, as defined in § 63.7490, that switch subcategories consistent with § 63.7545(h) after the initial compliance date, you must demonstrate compliance within 60 days of the effective date of the switch, unless you had previously conducted your compliance demonstration for this subcategory within the previous 12 months.

8. Section 63.7515 is amended by revising paragraphs (d), (e) and (h) to read as follows:

§ 63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?

*   *   *   *   *

(d) If you are required to meet an applicable tune-up work practice standard, you must conduct an annual, biennial, or 5-year performance tune-up according to § 63.7540(a)(10), (11), or (12), respectively. Each annual tune-up specified in § 63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in § 63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune-up specified in § 63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in § 63.7490), the first annual, biennial, or 5-year tune-up must be no later than 13 months, 25 months, or 61 months, respectively, after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later.

(e) If you demonstrate compliance with the mercury, HCl, or TSM based on fuel analysis, you must conduct a monthly fuel analysis according to § 63.7521 for each type of fuel burned that is subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart. You may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in § 63.7540. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, you may decrease the fuel analysis frequency to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or you begin burning a new type of fuel, you must return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level. If sampling is conducted on one day per month, samples should be no less than 14 days apart, but if multiple samples are taken per month, the 14-day restriction does not apply.

* * * * *

(h) If your affected boiler or process heater is in the unit designed to burn light liquid subcategory and you combust ultra-low sulfur liquid fuel, you do not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Tables 1 or 2 of this subpart providing you demonstrate ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis. If you intend to use a fuel other than ultra-low sulfur liquid fuel, natural gas, refinery gas, or other gas 1 fuel, you must conduct new performance tests within 60 days of burning the new fuel type.

* * * * *

9. Section 63.7521 is amended by:

a. Revising paragraph (a).

b. Revising paragraph (c) introductory text.

c. Revising paragraph (c)(1)(ii).

d. Revising paragraph (f) introductory text.

e. Revising paragraphs (g) introductory text, (g)(2)(ii), and (g)(2)(vi).

f. Revising paragraph (h).

The revisions read as follows:

§ 63.7521 What fuel analyses, fuel specification, and procedures must I use?

(a) For solid and liquid fuels, you must conduct fuel analyses for chloride and mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. For solid fuels and liquid fuels, you must also conduct fuel analyses for TSM if you are opting to comply with the TSM alternative standard. For gas 2 (other) fuels, you must conduct fuel analyses for mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) For purposes of complying with this section, a fuel gas system that consists of multiple gaseous fuels collected and mixed with each other is considered a single fuel type and sampling and analysis is only required on the combined fuel gas system that will feed the boiler or process heater. Sampling and analysis of the individual gaseous streams prior to combining is not required. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury, HCl, or TSM in Tables 1 and 2 or 11 through 13 to this subpart. Gaseous and liquid fuels are exempt from the sampling requirements in paragraphs (c) and (d) of this section.

* * * * *

(c) You must obtain composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section, or the methods listed in Table 6 to this subpart, or use an automated sampling mechanism that provides representative composite fuel samples for each fuel type that includes both coarse and fine material. At a minimum, for demonstrating initial compliance by fuel analysis, you must obtain three composite samples. For monthly fuel analyses, at a minimum, you must obtain a single composite sample. For fuel analyses as part of a performance stack test, as specified in § 63.7510(a), you must obtain a composite fuel sample during each performance test run.

(1) * * *

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal one-hour intervals during the testing period for sampling during performance stack testing.

*   *   *   *   *

(f) To demonstrate that a gaseous fuel other than natural gas or refinery gas qualifies as an other gas 1 fuel, as defined in § 63.7575, you must conduct a fuel specification analyses for mercury according to the procedures in paragraphs (g) through (i) of this section and Table 6 to this subpart, as applicable, except as specified in paragraph (f)(1) through (4) of this section, or as an alternative where fuel specification analysis is not practical, you must measure mercury concentration in the exhaust gas when firing only the gaseous fuel to be demonstrated as an other gas 1 fuel in the boiler or process heater according to the procedures in Table 6 to this subpart.

*   *   *   *   *

(g) You must develop a site-specific fuel analysis plan for other gas 1 fuels according to the following procedures and requirements in paragraphs (g)(1) and (2) of this section.

*   *   *   *   *

(2)   *   *   *

(ii) For each anticipated fuel type, the identification of whether you or a fuel supplier will be conducting the fuel specification analysis.

*   *   *   *   *

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart. When using a fuel supplier's fuel analysis, the owner or operator is not required to submit the information in § 63.7521(g)(2)(iii).

(h) You must obtain a single fuel sample for each fuel type for fuel specification of gaseous fuels.

*   *   *   *   *

10. Section 63.7522 is amended by:

a. Revising paragraphs (c), (d), (f)(1) introductory text, (g)(1), (g)(3) introductory text, and (i).

b. Revising parameters "En" and "ELi" of Equation 6 in paragraph (j)(1).

§ 63.7522 Can I use emissions averaging to comply with this subpart?

*   *   *   *   *

(c) For each existing boiler or process heater in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on April 1, 2013 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on April 1, 2013.

(d) The averaged emissions rate from the existing boilers and process heaters participating in the emissions averaging option must not exceed 90 percent of the limits in Table 2 to this subpart at all times the affected units are subject to numeric emission limits following the compliance date specified in § 63.7495.

*   *   *   *   *

(f) *   *   *

(1) For each calendar month, you must use Equation 3a or 3b or 3c of this section to calculate the average weighted emission rate for that month. Use Equation 3a and the actual heat input for the month for each existing unit participating in the emissions averaging option if you are complying with emission limits on a heat input basis. Use Equation 3b and the actual steam generation for the month if you are complying with the emission limits on a steam generation (output) basis. Use Equation 3c and the actual electrical generation for the month if you are complying with the emission limits on an electrical generation (output) basis.

*   *   *   *   *

(g) *   *   *

(1) If requested, you must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

*   *   *   *   *

(3) If submitted upon request, the Administrator shall review and approve or disapprove the plan according to the following criteria:

*   *   *   *   *

(i) For a group of two or more existing units in the same subcategory, each of which vents through a common emissions control system to a common stack, that does not receive emissions from units in other subcategories or categories, you may treat such averaging group as a single existing unit for purposes of this subpart and comply with the requirements of this subpart as if the group were a single unit.

(j) *   *   *

(1) *   *   *

*   *   *   *   *

En = HAP emission limit, pounds per million British thermal units (lb/MMBtu) or parts per million (ppm).

Eli = Appropriate emission limit from Table 2 to this subpart for unit i, in units of lb/MMBtu or ppm.

*   *   *   *   *

11. Section 63.7525 is amended by:

a. Revising paragraphs (a) introductory text, (a)(1), (a)(2) introductory text, (a)(3), and (a)(5).

b. Adding paragraph (a)(2)(vi).

c. Revising paragraphs (b) introductory text, (b)(1) introductory text, and (b)(1)(iii).

d. Revising paragraphs (g)(3) and (g)(4).

e. Revising paragraphs (m) introductory text and (m)(2).

The revisions and addition read as follows:

§ 63.7525 What are my monitoring, installation, operation, and maintenance requirements?

(a) If your boiler or process heater is subject to a CO emission limit in Tables 1, 2, or 11 through 13 to this subpart, you must install, operate, and maintain an oxygen analyzer system, as defined in § 63.7575, or install, certify, operate and maintain continuous emission monitoring systems for CO and oxygen (or carbon dioxide (CO_2)) according to the procedures in paragraphs (a)(1) through (6) of this section.

(1) Install the CO CEMS and oxygen (or CO_2) analyzer by the compliance date specified in § 63.7495. The CO and oxygen (or CO_2) levels shall be monitored at the same location at the outlet of the boiler or process heater. An owner or operator may request an alternative test method under § 63.7 of this chapter, in order that compliance with the CO emissions limit be determined using CO_2 as a diluent correction in place of oxygen at 3 percent. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also

take into account that the 3 percent oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

(2) To demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, you must install, certify, operate, and maintain a CO CEMS and an oxygen analyzer according to the applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B; part 75 of this chapter (if an CO_2 analyzer is used); the site-specific monitoring plan developed according to § 63.7505(d); and the requirements in § 63.7540(a)(8) and paragraph (a) of this section. Any boiler or process heater that has a CO CEMS that is compliant with Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, a site-specific monitoring plan developed according to § 63.7505(d), and the requirements in § 63.7540(a)(8) and paragraph (a) of this section must use the CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart.

*   *   *   *   *

(vi) When CO_2 is used to correct CO emissions and CO_2 is measured on a wet basis, correct for moisture as follows:

Install, operate, maintain, and quality assure a continuous moisture monitoring system for measuring and recording the moisture content of the flue gases, in order to correct the measured hourly volumetric flow rates for moisture when calculating CO concentrations. The following continuous moisture monitoring systems are acceptable: a continuous moisture sensor; an oxygen analyzer (or analyzers) capable of measuring O_2 both on a wet basis and on a dry basis; or a stack temperature sensor and a moisture look-up table, i.e., a psychrometric chart (for saturated gas streams following wet scrubbers or other demonstrably saturated gas streams, only). The moisture monitoring system shall include as a component the automated data acquisition and handling system (DAHS) for recording and reporting both the raw data (e.g., hourly average wet-and dry basis O_2 values) and the hourly average values of the stack gas moisture content derived from those data. When a moisture look-up table is used, the moisture monitoring system shall be represented as a single component, the certified DAHS, in the monitoring plan for the unit or common stack.

(3) Complete a minimum of one cycle of CO and oxygen (or CO_2) CEMS operation (sampling, analyzing, and data recording) for each successive 15-minute period. Collect CO and oxygen (or CO_2) data concurrently. Collect at least four CO and oxygen (or CO_2) CEMS data values representing the four 15-minute periods in an

hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed.

* * * * *

(5) Calculate one-hour arithmetic averages, corrected to 3 percent oxygen (or corrected to an CO_2 percentage determined to be equivalent to 3 percent oxygen) from each hour of CO CEMS data in parts per million CO concentration. The one-hour arithmetic averages required shall be used to calculate the 30-day or 10-day rolling average emissions. Use Equation 19-19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A-7 for calculating the average CO concentration from the hourly values.

* * * * *

(b) If your boiler or process heater is in the unit designed to burn coal/solid fossil fuel subcategory or the unit designed to burn heavy liquid subcategory and has an average annual heat input rate greater than 250 MMBtu per hour from solid fossil fuel and/or heavy liquid, and you demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, maintain, and operate a PM CPMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (b)(1) through (4) of this section. As an alternative to use of a PM CPMS to demonstrate compliance with the PM limit, you may choose to use a PM CEMS. If you choose to use a PM CEMS to demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, certify, maintain, and operate a PM CEMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraph (b)(5) through (8) of this section. For other boilers or process heaters, you may elect to use a PM CPMS or PM CEMS operated in accordance with this section in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, and PM scrubber pressure). Owners of boilers and process heaters who elect to comply with the alternative TSM limit are not required to install a PM CPMS.

(1) Install, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with § 63.7505(d), the requirements in § 63.7540(a)(9), and paragraphs (b)(1)(i) through (iii) of this section.

*   *   *   *   *

(iii) The PM CPMS must have a documented detection limit of 0.5 milligram per actual cubic meter, or less.

*   *   *   *   *

(g) *   *   *

(3) Calibrate the pH monitoring system in accordance with your monitoring plan and according to the manufacturer's

instructions. Clean the pH probe at least once each process operating day. Maintain on-site documentation that your calibration frequency is sufficient to maintain the specified accuracy of your device.

(4) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

* * * * *

(m) If your unit is subject to a HCl emission limit in Tables 1, 2, or 11 through 13 of this subpart and you have an acid gas wet scrubber or dry sorbent injection control technology and you elect to use an SO_2 CEMS to demonstrate continuous compliance with the HCl emission limit, you must install the monitor at the outlet of the boiler or process heater, downstream of all emission control devices, and you must install, certify, operate, and maintain the CEMS according to either part 60 or part 75 of this chapter.

* * * * *

(2) For on-going quality assurance (QA), the SO_2 CEMS must meet either the applicable daily and quarterly requirements in Procedure 1 of appendix F of part 60 or the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1

through 2.3 of appendix B to part 75 of this chapter, with the following addition: You must perform the linearity checks required in section 2.2 of appendix B to part 75 of this chapter if the SO_2 CEMS has a span value of 30 ppm or less.

* * * * *

12. Section 63.7530 is amended by:

a. Revising paragraph (a) and paragraph (b) introductory text.

b. Revising parameter "Qi" of Equation 7 in paragraph (b)(1)(iii), Equation 8 in paragraph (b)(2)(iii), and Equation 9 in paragraph (b)(3)(iii).

c. Revising parameter "n" of Equation 14 in paragraph (b)(4)(ii)(D).

d. Revising paragraph (b)(4)(ii)(F).

e. Redesignating paragraphs (b)(4)(iii) through (b)(4)(viii) as (b)(4)(iv) through (b)(4)(ix) and adding new paragraph (b)(4)(iii).

f. Revising parameters "Ci90" and "Qi" of Equation 16 in paragraph (c)(3), parameters "Hgi90" and "Qi" of Equation 17 in paragraph (c)(4), and parameters "TSMi90" and "Qi" of Equation 18 in paragraph (c)(5).

g. Removing and reserving paragraph (d).

h. Revising paragraphs (e), (h), and (i)(3).

The revisions and additions read as follows:

§ 63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?

(a) You must demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuel analyses and establishing operating limits, as applicable, according to § 63.7520, paragraphs (b) and (c) of this section, and Tables 5 and 7 to this subpart. The requirement to conduct a fuel analysis is not applicable for units that burn a single type of fuel, as specified by § 63.7510(a)(2). If applicable, you must also install, operate, and maintain all applicable CMS (including CEMS, COMS, and CPMS) according to § 63.7525.

(b) If you demonstrate compliance through performance stack testing, you must establish each site-specific operating limit in Table 4 to this subpart that applies to you according to the requirements in § 63.7520, Table 7 to this subpart, and paragraph (b)(4) of this section, as applicable. You must also conduct fuel analyses according to § 63.7521 and establish maximum fuel pollutant input levels according to paragraphs (b)(1) through (3) of this section, as applicable, and as specified in § 63.7510(a)(2). (Note that § 63.7510(a)(2) exempts certain fuels from the fuel analysis requirements.) However, if you switch fuel(s) and cannot show that the new fuel(s) does (do) not increase the chlorine, mercury, or TSM input into the unit through the results of fuel analysis, then you must repeat the performance test to demonstrate compliance while burning the new fuel(s).

(1) * * *

(iii) * * *

* * * * *

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine during the initial compliance test. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of "1" for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(2) * * *

(iii) * * *

* * * * *

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content during the initial compliance test. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(3) * * *

(iii) * * *

* * * * *

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of TSM during the initial compliance test. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of "1" for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(4) * * *

(ii) * * *

(D) * * *

* * * * *

n = is the number of valid hourly parameter values collected over the previous 30 operating days.

* * * * *

(F) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g. beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run.

(iii) For a particulate wet scrubber, you must establish the minimum pressure drop and liquid flow rate as defined in § 63.7575, as your operating limits during the three-run performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for PM and TSM emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests.

(iv) For an electrostatic precipitator (ESP) operated with a wet scrubber, you must establish the minimum total secondary electric power input, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit. (These operating limits do not apply to ESP that are operated as dry controls without a wet scrubber.)

(v) For a dry scrubber, you must establish the minimum sorbent injection rate for each sorbent, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(vi) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(vii) The operating limit for boilers or process heaters with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in § 63.7525, and that each fabric filter must be operated such that the bag leak detection system alert is not activated more than 5 percent of the operating time during a 6-month period.

(viii) For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.

(ix) The operating limit for boilers or process heaters that demonstrate continuous compliance with the HCl emission limit using a SO_2 CEMS is to install and operate the SO_2 according to the requirements in § 63.7525(m) establish a maximum SO_2 emission rate equal to the highest hourly average SO_2

measurement during the most recent three-run performance test for HCl.

(c) * * *

(3) * * *

* * * * *

Ci90	=	90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 15 of this section.
Qi	=	Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(4) * * *

* * * * *

Hgi90	=	90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 15 of this section.
Qi	=	Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(5) * * *

* * * * *

TSMi90	=	90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 15 of this section.
Qi	=	Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest TSM content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(e) You must include with the Notification of Compliance Status a signed certification that either the energy assessment was completed according to Table 3 to this subpart, and that the assessment is an accurate depiction of your facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

* * * * *

(h) If you own or operate a unit subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart, you must meet the work practice standard according to Table 3 of this subpart. During startup and shutdown, you must only follow the work practice standards according to items 5 and 6 of Table 3 of this subpart.

(i) * * *

(3) You establish a unit-specific maximum SO_2 operating limit by collecting the maximum hourly SO_2 emission rate on the

SO_2 CEMS during the paired 3-run test for HCl. The maximum SO_2 operating limit is equal to the highest hourly average SO_2 concentration measured during the HCl performance test.

13. Section 63.7533 is amended by revising paragraph (e).

§ 63.7533 Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?

* * * * *

(e) The emissions rate as calculated using Equation 20 of this section from each existing boiler participating in the efficiency credit option must be in compliance with the limits in Table 2 to this subpart at all times the affected unit is subject to numeric emission limits, following the compliance date specified in § 63.7495.

* * * * *

14. Section 63.7535 is amended by revising paragraphs (c) and (d).

§ 63.7535 Is there a minimum amount of monitoring data I must obtain?

* * * * *

(c) You may not use data recorded during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in data averages and calculations used to report emissions or operating levels. You must record and make available upon request results of CMS performance audits and dates and duration of periods when the CMS is out of control to completion of the corrective actions necessary to return the CMS to operation consistent with your site-specific monitoring plan. You must use all the data collected during all other periods in assessing compliance and the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits, calibration checks, and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements. In calculating monitoring results, do not use any data collected during periods of startup and shutdown, when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities. You must calculate monitoring results using all other monitoring data collected while the process is operating. You must report all periods when the monitoring system is out of control in your semi-annual report.

15. Section 63.7540 is amended by:

a. Revising paragraphs (a)(2).

b. Revising paragraphs (a)(3) introductory text, and (a)(3)(iii).

c. Revising paragraphs (a)(5) introductory text, and (a)(5)(iii).

d. Revising paragraph (a)(8)(ii).

e. Revising paragraphs (a)(10) introductory text.

f. Revising paragraph (a)(10)(i).

c. Revising paragraph (a)(10)(vi) introductory text.

g. Revising paragraphs (a)(12).

h. Revising paragraphs (a)(14)(i) and (a)(15)(i).

i. Revising paragraphs (a)(17) introductory text, and (a)(17)(iii).

j. Revising paragraph (a)(18)(i).

k. Revising paragraph (a)(19)(iii).

l. Revising paragraph (d).

The revisions read as follows:

§ 63.7540 How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?

(a) * * *

(2) As specified in § 63.7555(d), you must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in either of the following:

(i) Equal to or lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis.

(ii) Equal to or lower fuel input of chlorine, mercury, and TSM than the maximum values calculated during the last performance test, if you demonstrate compliance through performance testing.

(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis for a solid or liquid fuel and you plan to burn a new type of solid or liquid fuel, you must recalculate the HCl emission rate using Equation 16 of § 63.7530 according to paragraphs (a)(3)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in § 63.7510(a)(2)(i) through (iii) when recalculating the HCl emission rate.

* * * * *

(iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 16 of § 63.7530. The recalculated HCl emission rate must be less than the applicable emission limit.

* * * * *

(5) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 17 of § 63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in § 63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate.

* * * * *

(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 17 of § 63.7530. The recalculated mercury emission rate must be less than the applicable emission limit.

* * * * *

(8) * * *

(ii) Maintain a CO emission level below or at your applicable alternative CO CEMS-based standard in Tables 1 or 2 or 11 through 13 to this subpart at all times the affected unit is subject to numeric emission limits.

*   *   *   *   *

(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. You must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to limited-use boilers and process heaters, as defined in § 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.

(i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

* * * * *

(vi) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,

* * * * *

(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in § 63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.

*   *   *   *   *

(14) *   *   *

(i) Operate the mercury CEMS in accordance with performance specification 12A of 40 CFR part 60, appendix B or operate a sorbent trap based integrated monitor in accordance with performance specification 12B of 40 CFR part 60, appendix B. The duration of the performance test must be 30 operating days if you specified a 30 operating day basis in § 63.7545(e)(2)(iii) for mercury CEMS or it must be 720 hours if you specified a 720 hour basis in § 63.7545(e)(2)(iii) for mercury CEMS. For each day in which the unit operates, you must obtain hourly mercury concentration data, and stack gas volumetric flow rate data.

*   *   *   *   *

(15) *   *   *

(i) Operate the continuous emissions monitoring system in accordance with the applicable performance specification in 40 CFR part 60, appendix B. The duration of the performance test must be 30 operating days if you specified a 30 operating day basis in § 63.7545(e)(2)(iii) for HCl CEMS or it must be 720 hours if you specified a 720 hour basis in § 63.7545(e)(2)(iii) for HCl CEMS. For each day in which the unit operates, you must obtain hourly HCl concentration data, and stack gas volumetric flow rate data.

*   *   *   *   *

(17) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis for solid or liquid fuels, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 18 of § 63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in § 63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate.

* * * * *

(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 18 of § 63.7530. The recalculated TSM emission rate must be less than the applicable emission limit.

* * * * *

(18) * * *

(i) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis.

*   *   *   *   *

(19) *   *   *

(iii) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (v) of this section.

*   *   *   *   *

(d) For startup and shutdown, you must meet the work practice standards according to items 5 and 6 of Table 3 of this subpart.

16. Section 63.7545 is amended by revising paragraphs (e) introductory text, (e)(8)(i), and (h) introductory text and adding paragraph (e)(2)(iii).

§ 63.7545 What notifications must I submit and when?

*   *   *   *   *

(e) If you are required to conduct an initial compliance demonstration as specified in § 63.7530, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to § 63.10(d)(2). The Notification of

Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8), as applicable. If you are not required to conduct an initial compliance demonstration as specified in § 63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8) and must be submitted within 60 days of the compliance date specified at § 63.7495(b).

*   *   *   *   *

(2)   *   *   *

(iii) Identification of whether you are complying the arithmetic mean of all valid hours of data from the previous 30 operating days or of the previous 720 hours. This identification shall be specified separately for each operating parameter.

*   *   *   *   *

(8)   *   *   *

(i) "This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR 63 subpart DDDDD at this site according to the procedures in § 63.7540(a)(10)(i) through (vi)."

*   *   *   *   *

(h) If you have switched fuels or made a physical change to the boiler or process heater and the fuel switch or physical change resulted in the applicability of a different subcategory, you must provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:

*   *   *   *   *

17. Section 63.7550 is amended by revising paragraphs (b), (c)(1), (c)(2), (c)(3), (c)(4), (c)(5)(viii), (c)(5)(xvi), (d) introductory text, (d)(1), and (h) and adding paragraph (c)(5)(xviii) to read as follows:

§ 63.7550 What reports must I submit and when?

*   *   *   *   *

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct subsequent annual, biennial, or 5-year tune-up according to § 63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or Table 4 operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.

(1) The first semi-annual compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in § 63.7495 and ending on June 30

or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in § 63.7495. If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in § 63.7495 and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date that is specified for your source in § 63.7495.

(2) The first semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in § 63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.

(3) Each subsequent semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.

(4) Each subsequent semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the

semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.

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

(c) * * *

(1) If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii) of this section, (xiv) and (xvii) of this section, and paragraph (c)(5)(iv) of this section for limited-use boiler or process heater.

(2) If you are complying with the fuel analysis you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii), (vi), (x), (xi), (xiii), (xv), (xvii), (xviii) and paragraph (d) of this section.

(3) If you are complying with the applicable emissions limit with performance testing you must submit a compliance report with the information in (c)(5)(i) through (iii), (vi),

(vii), (viii), (ix), (xi), (xiii), (xv), (xvii), (xviii) and paragraph (d) of this section.

(4) If you are complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (iii), (v), (vi), (xi) through (xiii), (xv) through (xviii), and paragraph (e) of this section.

(5) * * *

(viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of § 63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 16 of § 63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of § 63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 17 of § 63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of § 63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 18 of § 63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

* * * * *

(xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values for CEMS (CO, HCl, SO_2, and mercury), 10 day rolling average values for CO CEMS when the limit is expressed as a 10 day instead of 30 day rolling average, and the PM CPMS data.

* * * * *

(xviii) For each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to the requirements of §63.7555(d).

(d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, or from the work practice standards for periods if startup and shutdown, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section.

(1) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.

*   *   *   *   *

(h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section.

(1) Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests, including any fuel analyses, following the procedure specified in either paragraph (h)(1)(i) or (h)(1)(ii) of this section.

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (http://www.epa.gov/ttn/chief/ert/index.html), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/).) Performance test data must be submitted in a file format generated through use of the EPA's ERT or an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in §63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation (as defined in 63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (h)(2)(i) or (h)(2)(ii) of this section.

(i) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If you claim that some of the performance evaluation information being transmitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in §63.13.

(3) You must submit all reports required by Table 9 of this subpart electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI website (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in § 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI.

18. Section 63.7555 is amended by:

a. Adding paragraph (a)(3).

b. Removing paragraph (d)(3).

c. Redesignating paragraphs (d)(4) through (d)(11) as paragraphs (d)(3) through (d)(10).

d. Revising newly designated paragraphs (d)(3), (d)(4), and (d)(8).

e. Adding new paragraphs (d)(11), (d)(12), and (d)(13).

f. Removing paragraphs (i) and (j).

The additions and revisions read as follows:

§ 63.7555 What records must I keep?

(a) * * *

(3) For units in the limited use subcategory, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and fuel use records for the days the boiler or process heater was operating.

* * * * *

(d) * * *

(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of § 63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance

through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 16 of § 63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.

(4) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of § 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 17 of § 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury

fuel input, or mercury emission rates, for each boiler and process heater.

* * * * *

(8) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 9 of § 63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 18 of § 63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.

* * * * *

(11) For each startup period, for units selecting definition (2) of "startup" in § 63.7575 you must maintain records of the time that clean fuel combustion begins; the time when you start feeding fuels that are not clean fuels; the time

when useful thermal energy is first supplied; and the time when the PM controls are engaged.

(12) If you choose to rely on paragraph (2) of "startup" in § 63.7575, for each startup period, you must maintain records of the hourly steam temperature, hourly steam pressure, hourly steam flow, hourly flue gas temperature, and all hourly average CMS data (e.g., CEMS, PM CPMS, COMS, ESP total secondary electric power input, scrubber pressure drop, scrubber liquid flow rate) collected during each startup period to confirm that the control devices are engaged. In addition, if compliance with the PM emission limit is demonstrated using a PM control device, you must maintain records as specified in paragraphs (d)(12)(i) through (iii) of this section.

(i) For a boiler or process heater with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.

(ii) For a boiler or process heater with a fabric filter, record the number of compartments in service, as well as the differential pressure across the baghouse during each hour of startup.

(iii) For a boiler or process heater with a wet scrubber needed for filterable PM control, record the scrubber's liquid flow rate and the pressure drop during each hour of startup.

(13) If you choose to use paragraph (2) of the definition of "startup" in § 63.7575 and you find that you are unable to safely engage and operate your PM control(s) within 1 hour of first firing of non-clean fuels, you may choose to rely on paragraph (1) of definition of "startup" in § 63.7575 or you may submit to the delegated permitting authority a request for a variance with the PM controls requirement, as described below.

(i) The request shall provide evidence of a documented manufacturer-identified safely issue.

(ii) The request shall provide information to document that the PM control device is adequately designed and sized to meet the applicable PM emission limit.

(iii) In addition, the request shall contain documentation that:

(A) The unit is using clean fuels to the maximum extent possible to bring the unit and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel;

(B) The unit has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and

(C) Identifies with specificity the details of the manufacturer's statement of concern.

(iv) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements.

* * * * *

19. Section 63.7570 is amended by revising paragraph (b) to read as follows:

§ 63.7570 Who implements and enforces this subpart?

* * * * *

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (4) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency, however, the EPA retains oversight of this subpart and can take enforcement actions, as appropriate.

(1) Approval of alternatives to the emission limits and work practice standards in § 63.7500(a) and (b) under § 63.6(g), except as specified in § 63.7555(d)(13).

(2) Approval of major change to test methods in Table 5 to this subpart under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90, and alternative analytical methods requested under § 63.7521(b)(2).

(3) Approval of major change to monitoring under § 63.8(f) and as defined in § 63.90, and approval of alternative operating parameters under § 63.7500(a)(2) and § 63.7522(g)(2).

(4) Approval of major change to recordkeeping and reporting under § 63.10(e) and as defined in § 63.90.

20. Section 63.7575 is amended by:

a. Revising the definition for "30-day rolling average."

b. Removing the definition for "Affirmative defense."

c. Adding in alphabetical order a definition for "Clean dry biomass."

d. Revising the definition for "Energy assessment."

e. Adding in alphabetical order a definition for "Fossil fuel."

f. Revising the definitions for "Hybrid suspension grate boiler," "Limited-use boiler or process heater," "Liquid fuel," "Load fraction," "Minimum sorbent injection rate," "Operating day," and "Oxygen trim system."

g. Adding in alphabetical order a definition for "Rolling average".

h. Revising the definitions for "Shutdown," "Startup," "Steam output," and "Temporary boiler."

i. Adding in alphabetical order a definition for "Useful thermal energy."

The revisions and additions read as follows:

§ 63.7575 What definitions apply to this subpart?

* * * * *

30-day rolling average means the arithmetic mean of the previous 720 hours of valid CO CEMS data. The 720 hours should be consecutive, but not necessarily continuous if operations were intermittent. For parameters other than CO, 30-day rolling average means either the arithmetic mean of all valid hours of data from 30 successive operating days or the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes hours during startup and shutdown, data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities, and periods when this unit is not operating.

* * * * *

Clean dry biomass means any biomass-based solid fuel that have not been painted, pigment-stained, or pressure treated, does not contain contaminants at concentrations not normally associated with virgin biomass materials and has a moisture content of less than 20 percent and is not a solid waste.

* * * * *

Energy assessment means the following for the emission units covered by this subpart:

(1) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of less than 0.3 trillion Btu (TBtu) per year will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (e.g., steam, hot water, process heat, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour on-site energy assessment.

(2) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of 0.3 to 1.0 TBtu/year will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 33 percent of the energy (e.g., steam, hot water, process heat, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour on-site energy assessment.

(3) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity greater than 1.0 TBtu/year will be up to 24 on-site technical labor hours in length for the first TBtu/yr plus 8 on-site technical labor hours for every additional 1.0 TBtu/yr not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 20 percent of the energy (e.g., steam, process heat, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.

(4) The on-site energy use systems serving as the basis for the percent of affected boiler(s) and process heater(s) energy production in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (e.g., product X manufacturing area; product Y drying area; Building Z).

*   *   *   *   *

Fossil fuel means natural gas, oil, coal, and any form of solid, liquid, or gaseous fuel derived from such material.

*   *   *   *   *

Hybrid suspension grate boiler means a boiler designed with air distributors to spread the fuel material over the entire width and depth of the boiler combustion zone. The biomass fuel combusted in these units exceeds a moisture content of 40 percent on an as-fired annual heat input basis as demonstrated by monthly fuel analysis. The drying and much of the combustion of the fuel takes place in suspension, and the combustion is completed on the grate or floor of the boiler. Fluidized bed, dutch oven, and pile burner designs are not part of the hybrid suspension grate boiler design category.

* * * * *

Limited-use boiler or process heater means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable annual capacity factor of no more than 10 percent.

Liquid fuel includes, but is not limited to, light liquid, heavy liquid, any form of liquid fuel derived from petroleum, used oil, liquid biofuels, biodiesel, and vegetable oil.

Load fraction means the actual heat input of a boiler or process heater divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (e.g., for 50 percent load the load fraction is 0.5). For boilers and process heaters that co-fire natural gas or refinery gas with a solid or liquid fuel, the load fraction is determined by the actual heat input of the solid or liquid fuel divided by heat input of the solid or liquid fuel fired during the performance test (e.g., if the performance test was conducted at 100 percent solid fuel firing, for 100 percent load firing 50 percent solid fuel and 50 percent natural gas the load fraction is 0.5).

*   *   *   *   *

<u>Minimum sorbent injection rate</u> means:

(1) The load fraction multiplied by the lowest hourly average sorbent injection rate for each sorbent measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits; or

(2) For fluidized bed combustion not using an acid gas wet scrubber or dry sorbent injection control technology to comply with the HCl emission limit, the lowest average ratio of sorbent to sulfur measured during the most recent performance test.

*   *   *   *   *

<u>Operating day</u> means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler or process heater unit. It is not necessary for fuel to be combusted for the entire 24-hour period. For calculating rolling average emissions, an operating

day does not include the hours of operation during startup or shutdown.

*   *   *   *   *

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device over its operating load range. A typical system consists of a flue gas oxygen and/or CO monitor that automatically provides a feedback signal to the combustion air controller or draft controller.

*   *   *   *   *

Rolling average means the average of all data collected during the applicable averaging period. For demonstration of compliance with a CO CEMS-based emission limit based on CO concentration a 30-day (10-day) rolling average is comprised of the average of all the hourly average concentrations over the previous 720 (240) operating hours calculated each operating day. To demonstrate compliance on a 30-day rolling average basis for parameters other than CO, you must indicate the basis of the 30-day rolling average period you are using for compliance, as discussed in § 63.7545(e)(2)(iii). If you indicate the 30 operating day basis, you must calculate a new average value each operating day and shall include the measured hourly values for the preceding 30 operating days. If you select the 720 operating hours basis, you must average of all the hourly average concentrations over the previous 720 operating hours calculated each operating day.

Shutdown means the period in which cessation of operation of a boiler or process heater is initiated for any purpose. Shutdown begins when the boiler or process heater no longer supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes and/or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown ends when the boiler or process heater no longer supplies useful thermal energy (such as steam or heat) for heating, cooling, or process purposes and/or generates electricity, and no fuel is being combusted in the boiler or process heater.

*   *   *   *   *

Startup means:

(1) Either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the useful thermal energy from the boiler or process heater is supplied for heating, and/or producing electricity, or for any other purpose, or

(2) The period in which operation of a boiler or process heater is initiated for any purpose. Startup begins with either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy (such as steam or heat) for heating, cooling or process purposes, or producing electricity, or the firing of fuel in a boiler or process heater for any purpose after a shutdown event. Startup ends four hours after when the boiler or process heater supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes, or generates electricity, whichever is earlier.

Steam output means:

(1) For a boiler that produces steam for process or heating only (no power generation), the energy content in terms of MMBtu of the boiler steam output,

(2) For a boiler that cogenerates process steam and electricity (also known as combined heat and power), the total energy output, which is the sum of the energy content of the steam exiting the turbine and sent to process in MMBtu and the energy of the electricity generated converted to MMBtu at a rate of 10,000 Btu per kilowatt-hour generated (10 MMBtu per megawatt-hour), and

(3) For a boiler that generates only electricity, the alternate output-based emission limits would be the appropriate

emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input (lb per MWh).

(4) For a boiler that performs multiple functions and produces steam to be used for any combination of paragraphs (1), (2) and (3) of this definition that includes electricity generation of paragraph (3)of this definition, the total energy output, in terms of MMBtu of steam output, is the sum of the energy content of steam sent directly to the process and/or used for heating (S_1), the energy content of turbine steam sent to process plus energy in electricity according to paragraph (2) of this definition (S_2), and the energy content of electricity generated by a electricity only turbine as paragraph (3) of this definition ($MW_{(3)}$) and would be calculated using Equation 21 of this section. In the case of boilers supplying steam to one or more common heaters, S_1, S_2, and $MW_{(3)}$ for each boiler would be calculated based on the its (steam energy) contribution (fraction of total steam energy) to the common heater.

$$SO_M = S_1 + S_2 + (MW_{(3)}\ x\ CFn) \qquad \text{(Eq. 21)}$$

Where:

SO_M	=	Total steam output for multi-function boiler, MMBtu
S_1	=	Energy content of steam sent directly to the process and/or used for heating, MMBtu
S_2	=	Energy content of turbine steam sent to the process plus energy in electricity according to (2) above, MMBtu
$MW_{(3)}$	=	Electricity generated according to paragraph (3) of

this definition, MWh

CFn = Conversion factor for the appropriate subcategory for converting electricity generated according to paragraph (3) of this definition to equivalent steam energy, MMBtu/MWh

CFn for emission limits for boilers in the unit designed to burn solid fuel subcategory = 10.8
CFn PM and CO emission limits for boilers in one of the subcategories of units designed to burn coal = 11.7
CFn PM and CO emission limits for boilers in one of the subcategories of units designed to burn biomass = 12.1
CFn for emission limits for boilers in one of the subcategories of units designed to burn liquid fuel = 11.2
CFn for emission limits for boilers in the unit designed to burn gas 2 (other) subcategory = 6.2

* * * * *

Temporary boiler means any gaseous or liquid fuel boiler or process heater that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler or process heater is not a temporary boiler or process heater if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The boiler or process heater or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler or process heater that replaces a temporary

boiler or process heater at a location and performs the same or similar function will be included in calculating the consecutive time period.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, process heat, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

* * * * *

Useful thermal energy means energy (i.e., steam, hot water, or process heat) that meets the minimum operating temperature, flow, and/or pressure required by any energy use system that uses energy provided by the affected boiler or process heater.

* * * * *

21. Table 1 to subpart DDDDD of part 63 is amended by:

a. Revising rows "3.a", "4.a", "5.a", "6.a", "7.a", "9.a", "10.a", "11.a", and "13.a".

b. Revising footnote "c"; and

c. Adding new footnote "d".

The revisions read as follows:

Table 1 to Subpart DDDDD of Part 63—Emission Limits for New or Reconstructed Boilers and Process Heaters

As stated in § 63.7500, you must comply with the following applicable emission limits:

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
* * * * * * *				
3. Pulverized coal boilers designed to burn coal/solid fossil fuel	a. Carbon monoxide (CO) (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen[d], 30-day rolling average)	0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average	1 hr minimum sampling time.
4. Stokers/others designed to burn coal/solid fossil fuel	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis	0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average	1 hr minimum sampling time.

		corrected to 3 percent oxygen[d], 30-day rolling average)		
5. Fluidized bed units designed to burn coal/solid fossil fuel	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen[d], 30-day rolling average)	0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average	1 hr minimum sampling time.
6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel	a. CO (or CEMS)	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen[d], 30-day rolling average)	1.2E-01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average	1 hr minimum sampling time.
7. Stokers/sloped grate/others designed to burn wet biomass fuel	a. CO (or CEMS)	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis	5.8E-01 lb per MMBtu of steam output or 6.8 lb per MWh; 3-run average	1 hr minimum sampling time.

		corrected to 3 percent oxygen[d], 30-day rolling average)		
* * * * * * *				
9. Fluidized bed units designed to burn biomass/bio-based solids	a. CO (or CEMS)	230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen[d], 30-day rolling average)	2.2E-01 lb per MMBtu of steam output or 2.6 lb per MWh; 3-run average	1 hr minimum sampling time.
* * * * * * *				
10. Suspension burners designed to burn biomass/bio-based solids	a. CO (or CEMS)	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen[d], 10-day rolling average)	1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average	1 hr minimum sampling time.
* * * * * * *				
11. Dutch Ovens/Pile burners designed to burn	a. CO (or CEMS)	330 ppm by volume on a dry basis corrected to 3 percent	3.5E-01 lb per MMBtu of steam output or 3.6 lb per	1 hr minimum sampling time.

biomass/bio-based solids		oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen[d], 10-day rolling average)	MWh; 3-run average	
* * * * * * *				
13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids	a. CO (or CEMS)	1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen[d], 30-day rolling average)	1.4 lb per MMBtu of steam output or 12 lb per MWh; 3-run average	1 hr minimum sampling time.
* * * * * * *				

* * * * *

[c] If your affected source is a new or reconstructed affected source that commenced construction or reconstruction after June 4, 2010, and before April 1, 2013, you may comply with the emission limits in Tables 11, 12 or 13 to this subpart until January 31, 2016. On and after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.

[d] An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

22. Table 2 to subpart DDDDD of part 63 is amended by revising the rows "3.a", "4.a", "5.a", "6.a", "7.a", "9.a", "10.a", "11.a", "13.a", "14.b", and "16.b" and adding new footnote "c". The revisions read as follows:

Table 2 to Subpart DDDDD of Part 63—Emission Limits for Existing Boilers and Process Heaters

As stated in § 63.7500, you must comply with the following applicable emission limits:

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
* * * * * * *				
3. Pulverized coal boilers designed to burn coal/solid fossil fuel	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average)	0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average	1 hr minimum sampling time.
4. Stokers/others designed to	a. CO (or CEMS)	160 ppm by volume on a dry basis	0.14 lb per MMBtu of steam output	1 hr minimum sampling time.

burn coal/solid fossil fuel		corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average)	or 1.7 lb per MWh; 3-run average	
5. Fluidized bed units designed to burn coal/solid fossil fuel	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average)	0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average	1 hr minimum sampling time.
6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel	a. CO (or CEMS)	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average)	1.3E-01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average	1 hr minimum sampling time.
7. Stokers/sloped grate/others	a. CO (or CEMS)	1,500 ppm by volume on a dry basis	1.4 lb per MMBtu of steam output	1 hr minimum sampling time.

designed to burn wet biomass fuel		corrected to 3 percent oxygen, 3-run average; or (720 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average)	or 17 lb per MWh; 3-run average	
* * * * * * *				
9. Fluidized bed units designed to burn biomass/bio-based solid	a. CO (or CEMS)	470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average)	4.6E-01 lb per MMBtu of steam output or 5.2 lb per MWh; 3-run average	1 hr minimum sampling time.
* * * * * * *				
10. Suspension burners designed to burn biomass/bio-based solid	a. CO (or CEMS)	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-	1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average	1 hr minimum sampling time.

		day rolling average)		
* * * * * * *				
11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solid	a. CO (or CEMS)	770 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average)	8.4E-01 lb per MMBtu of steam output or 8.4 lb per MWh; 3-run average	1 hr minimum sampling time.
* * * * * * *				
13. Hybrid suspension grate units designed to burn biomass/bio-based solid	a. CO (or CEMS)	3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average)	3.5 lb per MMBtu of steam output or 39 lb per MWh; 3-run average	1 hr minimum sampling time.
* * * * * * *				
14. Units designed to burn liquid fuel	b. Mercury	2.0E-06[a]lb per MMBtu of heat input	2.5E-06[a] lb per MMBtu of steam output or 2.8E-05 lb per MWh	For M29, collect a minimum of 3 dscm per run; for M30A or M30B collect a minimum

				sample as specified in the method, for ASTM D6784[b], collect a minimum of 2 dscm.
* * * * * * *				
16. Units designed to burn light liquid fuel	b. Filterable PM (or TSM)	7.9E-03[a] lb per MMBtu of heat input; or (6.2E-05 lb per MMBtu of heat input)	9.6E-03[a] lb per MMBtu of steam output or 1.1E-01[a] lb per MWh; or (7.5E-05 lb per MMBtu of steam output or 8.6E-04 lb per MWh)	Collect a minimum of 3 dscm per run.
* * * * * * *				

* * * * *

[c] An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

23. Table 3 to subpart DDDDD of part 63 is amended by revising the entries for "4," "5," and "6" and adding footnote "a" to read as follows:

Table 3 to Subpart DDDDD of Part 63—Work Practice Standards

As stated in § 63.7500, you must comply with the following applicable work practice standards:

If your unit is . . .	You must meet the following . . .
* * * * * * *	

4. An existing boiler or process heater located at a major source facility, not including limited use units	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in §63.7495 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in § 63.7575:
	a. A visual inspection of the boiler or process heater system.
	b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.
	c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.
	d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
	e. A review of the facility's energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified.

	f. A list of cost-effective energy conservation measures that are within the facility's control.
	g. A list of the energy savings potential of the energy conservation measures identified.
	h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
5. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during startup	a. You must operate all CMS during startup. b. For startup of a boiler or process heater, you must use one or a combination of the following clean fuels: natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, clean dry biomass, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis.
	c. You have the option of complying using either of the following work practice standards. (1) If you choose to comply using definition (1) of "startup" in § 63.7575, once you start firing fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices except limestone injection in fluidized bed combustion (FBC) boilers, dry scrubber, fabric filter, and selective catalytic reduction (SCR). You must start your limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR systems as expeditiously as possible. Startup ends

	when steam or heat is supplied for any purpose, OR (2) If you choose to comply using definition (2) of "startup" in § 63.7575, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels[a]. You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in § 63.7505(e).
	d. You must comply with all applicable emission limits at all times except during startup and shutdown periods at which time you must meet this work practice. You must collect monitoring data during periods of startup, as specified in § 63.7535(b). You must keep records during periods of startup. You must provide reports concerning activities and periods of startup, as specified in § 63.7555.
6. An existing or new boiler or process heater subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart during shutdown	You must operate all CMS during shutdown. While firing fuels that are not clean fuels during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR but, in any case, when necessary to comply with other

	standards applicable to the source that require operation of the control device.
	If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas.
	You must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. You must collect monitoring data during periods of shutdown, as specified in § 63.7535(b). You must keep records during periods of shutdown. You must provide reports concerning activities and periods of shutdown, as specified in § 63.7555.

a As specified in § 63.7555(d)(13), the source may request an alternative timeframe with the PM controls requirement to the permitting authority (state, local, or tribal agency) that has been delegated authority for this subpart by EPA. The source must provide evidence that (1) it is unable to safely engage and operate the PM control(s) to meet the "fuel firing + 1 hour" requirement and (2) the PM control device is appropriately designed and sized to meet the filterable PM emission limit. It is acknowledged that there may be another control device that has been installed other than ESP that provides additional PM control (e.g., scrubber).

24. Table 4 to subpart DDDDD of part 63 is revised to read as follows:

Table 4 to Subpart DDDDD of Part 63—Operating Limits for Boilers and Process Heaters

As stated in § 63.7500, you must comply with the applicable operating limits:

When complying with a Table 1, 2, 11, 12, or	You must meet these operating limits . . .

13 numerical emission limit using . . .	
1. Wet PM scrubber control on a boiler or process heater not using a PM CPMS	Maintain the 30-day rolling average pressure drop and the 30-day rolling average liquid flow rate at or above the lowest one-hour average pressure drop and the lowest one-hour average liquid flow rate, respectively, measured during the performance test demonstrating compliance with the PM emission limitation according to § 63.7530(b) and Table 7 to this subpart.
2. Wet acid gas (HCl) scrubber[a] control on a boiler or process heater not using a HCl CEMS	Maintain the 30-day rolling average effluent pH at or above the lowest one-hour average pH and the 30-day rolling average liquid flow rate at or above the lowest one-hour average liquid flow rate measured during the performance test demonstrating compliance with the HCl emission limitation according to § 63.7530(b) and Table 7 to this subpart.
3. Fabric filter control on a boiler or process heater not using a PM CPMS	a. Maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average); or
	b. Install and operate a bag leak detection system according to § 63.7525 and operate the fabric filter such that the bag leak detection system alert is not activated more than 5 percent of the operating time during each 6-month period.
4. Electrostatic precipitator control on a boiler or process heater not using a PM CPMS	a. This option is for boilers and process heaters that operate dry control systems (i.e., an ESP without a wet scrubber). Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with

	the PM (or TSM) emission limitation (daily block average).
	b. This option is only for boilers and process heaters not subject to PM CPMS or continuous compliance with an opacity limit (i.e., dry ESP). Maintain the 30-day rolling average total secondary electric power input of the electrostatic precipitator at or above the operating limits established during the performance test according to § 63.7530(b) and Table 7 to this subpart.
5. Dry scrubber or carbon injection control on a boiler or process heater not using a mercury CEMS	Maintain the minimum sorbent or carbon injection rate as defined in § 63.7575 of this subpart.
6. Any other add-on air pollution control type on a boiler or process heater not using a PM CPMS	This option is for boilers and process heaters that operate dry control systems. Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average).
7. Performance testing	For boilers and process heaters that demonstrate compliance with a performance test, maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.
8. Oxygen analyzer system	For boilers and process heaters subject to a CO emission limit that demonstrate compliance with an O_2 analyzer system as specified in § 63.7525(a), maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the CO performance test, as specified in Table 8. This requirement does not apply

	to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.7525(a).
9. SO_2 CEMS	For boilers or process heaters subject to an HCl emission limit that demonstrate compliance with an SO_2 CEMS, maintain the 30-day rolling average SO_2 emission rate at or below the highest hourly average SO_2concentration measured during the HCl performance test, as specified in Table 8.

a A wet acid gas scrubber is a control device that removes acid gases by contacting the combustion gas with an alkaline slurry or solution. Alkaline reagents include, but not limited to, lime, limestone and sodium.

25. Table 5 to subpart DDDDD of part 63 is amended by revising the heading to the third column and adding the footnote "a" to read as follows:

Table 5 to Subpart DDDDD of Part 63—Performance Testing Requirements

As stated in § 63.7520, you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources:

To conduct a performance test for the following pollutant...	You must...	Using, as appropriate...
* * * * * * *		

[a] Incorporated by reference, see § 63.14.

26. Table 6 to subpart DDDDD of part 63 is revised to read as follows:

Table 6 to Subpart DDDDD of Part 63—Fuel Analysis Requirements

As stated in § 63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources. However, equivalent methods (as defined in § 63.7575) may be used in lieu of the prescribed methods at the discretion of the source owner or operator:

To conduct a fuel analysis for the following pollutant . . .	You must . . .	Using . . .
1. Mercury	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192[a], or ASTM D7430 [a], or ASTM D6883[a], or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for solid), or ASTM D4177[a] (for liquid), or ASTM D4057[a] (for liquid), or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW-846-3050B[a] (for solid samples), ASTM D2013/D2013M[a] (for coal), ASTM D5198[a] (for biomass), or EPA 3050[a] (for solid fuel), or EPA 821-R-01-013[a] (for liquid or solid), or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), or ASTM D5864[a]for liquids and other solids, or ASTM D240[a] or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173[a], ASTM E871[a], or ASTM D5864[a], or ASTM D240, or ASTM D95[a] (for liquid fuels), or ASTM D4006[a] (for liquid fuels), or equivalent.
	f. Measure mercury concentration in fuel sample	ASTM D6722[a] (for coal), EPA SW-846-7471B[a] or EPA 1631 or EPA 1631E (for solid samples), or EPA SW-846-7470A[a] (for liquid samples), or EPA 821-R-01-013 (for liquid or solid), or equivalent.

	g. Convert concentration into units of pounds of mercury per MMBtu of heat content	For fuel mixtures use Equation 8 in § 63.7530.
2. HCl	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192[a], or ASTM D7430 [a], or ASTM D6883[a], or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for coal or biomass), ASTM D4177[a] (for liquid fuels) or ASTM D4057[a] (for liquid fuels), or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW-846-3050B[a] (for solid samples), ASTM D2013/D2013M[a] (for coal), or ASTM D5198[a] (for biomass), or EPA 3050[a] or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), ASTM D5864, ASTM D240[a] or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173[a] or ASTM E871[a], or D5864[a], or ASTM D240[a], or ASTM D95[a] (for liquid fuels), or ASTM D4006[a] (for liquid fuels), or equivalent.
	f. Measure chlorine concentration in fuel sample	EPA SW-846-9250[a], ASTM D6721[a], ASTM D4208[a] (for coal), or EPA SW-846-5050[a] or ASTM E776[a] (for solid fuel), or EPA SW-846-9056[a] or SW-846-9076[a] (for solids or liquids) or equivalent.
	g. Convert concentrations into units of pounds of	For fuel mixtures use Equation 7 in § 63.7530 and convert from chlorine

	HCl per MMBtu of heat content	to HCl by multiplying by 1.028.
3. Mercury Fuel Specification for other gas 1 fuels	a. Measure mercury concentration in the fuel sample and convert to units of micrograms per cubic meter, or	Method 30B (M30B) at 40 CFR part 60, appendix A-8 of this chapter or ASTM D5954[a], ASTM D6350[a], ISO 6978-1:2003(E)[a], or ISO 6978-2:2003(E)[a], or EPA-1631[a] or equivalent.
	b. Measure mercury concentration in the exhaust gas when firing only the other gas 1 fuel is fired in the boiler or process heater	Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A-8 of this chapter or Method 101A or Method 102 at 40 CFR part 61, appendix B of this chapter, or ASTM Method D6784[a] or equivalent.
4. TSM	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192[a], or ASTM D7430 [a], or ASTM D6883[a], or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for coal or biomass), or ASTM D4177[a], (for liquid fuels) or ASTM D4057[a] (for liquid fuels), or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW-846-3050B[a] (for solid samples), ASTM D2013/D2013M[a] (for coal), ASTM D5198[a] or TAPPI T266[a] (for biomass), or EPA 3050[a] or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), or ASTM D5864[a] for liquids and other solids, or ASTM D240[a] or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173[a] or ASTM E871[a], or D5864, or ASTM D240[a], or ASTM D95[a] (for liquid

		fuels), or ASTM D4006[a] (for liquid fuels), or ASTM D4177[a] (for liquid fuels) or ASTM D4057[a] (for liquid fuels), or equivalent.
	f. Measure TSM concentration in fuel sample	ASTM D3683[a], or ASTM D4606[a], or ASTM D6357[a] or EPA 200.8[a] or EPA SW-846-6020[a], or EPA SW-846-6020A[a], or EPA SW-846-6010C[a], EPA 7060[a] or EPA 7060A[a] (for arsenic only), or EPA SW-846-7740[a] (for selenium only).
	g. Convert concentrations into units of pounds of TSM per MMBtu of heat content	For fuel mixtures use Equation 9 in § 63.7530.

[a] Incorporated by reference, see § 63.14.

27. Table 7 to subpart DDDDD of part 63 is revised to read as follows:

Table 7 to Subpart DDDDD of Part 63—Establishing Operating Limits[a,b]

As stated in § 63.7520, you must comply with the following requirements for establishing operating limits:

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

		rate operating limit according to § 63.7530(b)	and the PM, TSM, or mercury performance test	the entire period of the performance tests.
				(b) Determine the lowest hourly average scrubber pressure drop and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
	b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers)	i. Establish a site-specific minimum total secondary electric power input according to § 63.7530(b)	(1) Data from the voltage and secondary amperage monitors during the PM or mercury performance test	(a) You must collect secondary voltage and secondary amperage for each ESP cell and calculate total secondary electric power input data every 15 minutes during the entire period of the performance tests.
				(b) Determine the average total secondary electric power input by

				computing the hourly averages using all of the 15-minute readings taken during each performance test.
	c. Opacity	i. Establish a site-specific maximum opacity level	(1) Data from the opacity monitoring system during the PM performance test	(a) You must collect opacity readings every 15 minutes during the entire period of the performance tests.
				(b) Determine the average hourly opacity reading for each performance test run by computing the hourly averages using all of the 15-minute readings taken during each performance test run.
				(c) Determine the highest hourly average opacity reading measured during the test run demonstrating compliance

				with the PM (or TSM) emission limitation.
2. HCl	a. Wet scrubber operating parameters	i. Establish site-specific minimum effluent pH and flow rate operating limits according to § 63.7530(b)	(1) Data from the pH and liquid flow-rate monitors and the HCl performance test	(a) You must collect pH and liquid flow-rate data every 15 minutes during the entire period of the performance tests.
				(b) Determine the hourly average pH and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
	b. Dry scrubber operating parameters	i. Establish a site-specific minimum sorbent injection rate operating limit according to § 63.7530(b). If different acid gas sorbents are used during	(1) Data from the sorbent injection rate monitors and HCl or mercury performance test	(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests.

		the HCl performance test, the average value for each sorbent becomes the site-specific operating limit for that sorbent		
				(b) Determine the hourly average sorbent injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the lowest hourly average of the three test run averages established during the performance test as your operating limit. When your unit operates at lower loads, multiply your sorbent injection rate by the load

				fraction, as defined in §63.7575, to determine the required injection rate.
	c. Alternative Maximum SO_2emission rate	i. Establish a site-specific maximum SO_2emission rate operating limit according to § 63.7530(b)	(1) Data from SO_2 CEMS and the HCl performance test	(a) You must collect the SO_2 emissions data according to § 63.7525(m) during the most recent HCl performance tests.
				(b) The maximum SO_2emission rate is equal to the highest hourly average SO_2emission rate measured during the most recent HCl performance tests.
3. Mercury	a. Activated carbon injection	i. Establish a site-specific minimum activated carbon injection rate operating limit according to § 63.7530(b)	(1) Data from the activated carbon rate monitors and mercury performance test	(a) You must collect activated carbon injection rate data every 15 minutes during the entire period of the performance tests.

				(b) Determine the hourly average activated carbon injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the lowest hourly average established during the performance test as your operating limit. When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction, as defined in §63.7575, to determine the required injection rate.
4. Carbon monoxide for which compliance is demonstrated	a. Oxygen	i. Establish a unit-specific limit for minimum oxygen level	(1) Data from the oxygen analyzer system specified	(a) You must collect oxygen data every 15 minutes during the entire period of the

by a performance test		according to § 63.7530(b)	in § 63.7525(a)	performance tests.
				(b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the lowest hourly average established during the performance test as your minimum operating limit.
5. Any pollutant for which compliance is demonstrated by a performance test	a. Boiler or process heater operating load	i. Establish a unit specific limit for maximum operating load according to § 63.7520(c)	(1) Data from the operating load monitors or from steam generation monitors	(a) You must collect operating load or steam generation data every 15 minutes during the entire period of the performance test.
				(b) Determine the average operating load by computing the hourly averages using all of the 15-

				minute readings taken during each performance test.
				(c) Determine the highest hourly average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.

[a] Operating limits must be confirmed or reestablished during performance tests.
[b] If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests. For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.

28. Table 8 to subpart DDDDD of part 63 is amended by:

a. Revising the entries for rows "1.c" and "3."

b. Adding new row "8.d" to follow row "8.c".

c. Revising the entries for rows"9.a," "9.c," "10," and "11.c."

The revisions and additions read as follows:

Table 8 to Subpart DDDDD of Part 63—Demonstrating Continuous Compliance

As stated in § 63.7540, you must show continuous compliance with the emission limitations for each boiler or process heater according to the following:

If you must meet the following operating limits or work practice standards . . .	**You must demonstrate continuous compliance by . . .**
* * * * * * *	
1. Opacity	c. Maintaining daily block average opacity to less than or equal to 10 percent or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation.
* * * * * * *	
3. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to § 63.7525 and operating the fabric filter such that the requirements in § 63.7540(a)(7) are met.
* * * * * * *	
8. Emission limits using fuel analysis	d. Calculate the HCI, mercury, and/or TSM emission rate from the boiler or process heater in units of lb/MMBtu using Equation 15 and Equations 17, 18, and/or 19 in § 63.7530.
9. Oxygen content	a. Continuously monitor the oxygen content using an oxygen analyzer system according to § 63.7525(a). This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.7525(a)(7).
* * * * * * *	
11. SO_2 emissions using SO_2 CEMS	c. Maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen level measured during the CO performance test.
10. Boiler or process heater operating load	a. Collecting operating load data or steam generation data every 15 minutes.
	b. Reducing the data to 30-day rolling averages; and

	c. Maintaining the 30-day rolling average operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test according to § 63.7520(c).
* * * * * * *	
	c. Maintaining the 30-day rolling average SO_2 CEMS emission rate to a level at or below the highest hourly SO_2 rate measured during the HCl performance test according to § 63.7530.

29. Table 9 to subpart DDDDD of part 63 is amended by revising the entries for "1.b" and "1.c" to read as follows:

Table 9 to Subpart DDDDD of Part 63—Reporting Requirements

As stated in § 63.7550, you must comply with the following requirements for reports:

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Compliance report	b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards for periods of startup and shutdown in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and	
	c. If you have a deviation from any emission limitation (emission limit and operating	

	limit) where you are not using a CMS to comply with that emission limit or operating limit, or a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report must contain the information in § 63.7550(d); and	
* * * * * * *		

30. Table 10 to subpart DDDDD of part 63 is amended by revising the rows associated with "§ 63.6(g)" and "§ 63.6(h)(2) to (h)(9)" to read as follows:

Table 10 to Subpart DDDDD of Part 63—Applicability of General Provisions to Subpart DDDDD

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

Citation	**Subject**	**Applies to subpart DDDDD**
* * * * * * *		
§ 63.6(g)	Use of alternative standards	Yes, except § 63.7555(d)(13) specifies the procedure for application and approval of an alternative timeframe with the PM controls requirement in the startup work practice (2).
* * * * * * *		
§ 63.6(h)(2) to (h)(9)	Determining compliance with opacity emission standards	No. Subpart DDDDD specifies opacity as an operating limit not an emission standard.
* * * * * * *		

31. Table 11 to subpart DDDDD of part 63 is revised to read as follows:

Table 11 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters that Commenced Construction or Reconstruction after June 4, 2010, and Before May 20, 2011

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
1. Units in all subcategories designed to burn solid fuel.	a. HCl.	0.022 lb per MMBtu of heat input.	For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.
2. Units in all subcategories designed to burn solid fuel that combust at least 10 percent biomass/bio-based solids on an annual heat input basis and less than 10 percent coal/solid fossil fuels on an annual heat input basis.	a. Mercury.	8.0E-07[a] lb per MMBtu of heat input.	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 4 dscm.

If your boiler or process heater is in this subcategory ...	**For the following pollutants ...**	**The emissions must not exceed the following emission limits, except during periods of startup and shutdown...**	**Using this specified sampling volume or test run duration...**
3. Units in all subcategories designed to burn solid fuel that combust at least 10 percent coal/solid fossil fuels on an annual heat input basis and less than 10 percent biomass/bio-based solids on an annual heat input basis.	a. Mercury.	2.0E-06 lb per MMBtu of heat input.	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 4 dscm.
4. Units design to burn coal/solid fossil fuel.	a. Filterable PM (or TSM).	1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
5. Pulverized coal boilers designed to burn coal/solid fossil fuel.	a. Carbon monoxide (CO) (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
6. Stokers designed to burn coal/solid fossil fuel.	a. CO (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average).	1 hr minimum sampling time.
7. Fluidized bed units designed to burn coal/solid fossil fuel.	a. CO (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.

If your boiler or process heater is in this subcategory ...	**For the following pollutants ...**	**The emissions must not exceed the following emission limits, except during periods of startup and shutdown...**	**Using this specified sampling volume or test run duration...**
8. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.	a. CO (or CEMS).	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.
9. Stokers/sloped grate/others designed to burn wet biomass fuel.	a. CO (or CEMS).	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.

If your boiler or process heater is in this subcategory ...	**For the following pollutants ...**	**The emissions must not exceed the following emission limits, except during periods of startup and shutdown...**	**Using this specified sampling volume or test run duration...**
10. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel.	a. CO.	560 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
11. Fluidized bed units designed to burn biomass/bio-based solids.	a. CO (or CEMS).	230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	9.8E-03 lb per MMBtu of heat input; or (8.3E-05[a] lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run
12. Suspension burners designed to burn	a. CO (or CEMS).	2,400 ppm by volume on a dry basis corrected to 3	1 hr minimum sampling time.

If your boiler or process heater is in this subcategory ...	**For the following pollutants ...**	**The emissions must not exceed the following emission limits, except during periods of startup and shutdown...**	**Using this specified sampling volume or test run duration...**
biomass/bio-based solids.		percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average).	
	b. Filterable PM (or TSM).	3.0E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
13. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids.	a. CO (or CEMS).	1,010 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	8.0E-03 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
14. Fuel cell units designed to burn biomass/bio-based solids.	a. CO.	910 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
15. Hybrid suspension grate boiler designed to burn biomass/bio-based solids.	a. CO (or CEMS).	1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run
16. Units designed to burn liquid fuel.	a. HCl.	4.4E-04 lb per MMBtu of heat input.	For M26A: Collect a minimum of 2 dscm per run;

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
			for M26, collect a minimum of 240 liters per run
	b. Mercury.	4.8E-07[a] lb per MMBtu of heat input.	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 4 dscm.
17. Units designed to burn heavy liquid fuel.	a. CO.	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	1.3E-02 lb per MMBtu of heat input; or (7.5E-05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
18. Units designed to burn light liquid fuel.	a. CO.	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
	b. Filterable PM (or TSM).	2.0E-03[a] lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run
19. Units designed to burn liquid fuel that are non-continental units.	a. CO.	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input).	Collect a minimum of 4 dscm per run
20. Units designed to burn gas 2 (other) gases	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. HCl	1.7E-03 lb per MMBtu of heat input.	For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run
	c. Mercury	7.9E-06 lb per MMBtu of heat input.	For M29, collect a minimum of 3

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
			dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.
	d. Filterable PM (or TSM)	6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run

[a] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §63.7515 if all of the other provision of §63.7515 are met. For all other pollutants that do not contain a footnote "a", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

[b] Incorporated by reference, see §63.14.

[c] An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

32. Table 12 to subpart DDDDD of part 63 is revised to read

as follows:

Table 12 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters that Commenced Construction or Reconstruction after May 20, 2011, and Before December 23, 2011

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
1. Units in all subcategories designed to burn solid fuel.	a. HCl.	0.022 lb per MMBtu of heat input.	For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.
	b. Mercury.	3.5E-06[a] lb per MMBtu of heat input.	For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.
2. Units design to burn coal/solid fossil fuel.	a. Filterable PM (or TSM).	1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.

If your boiler or process heater is in this subcategory ...	**For the following pollutants ...**	**The emissions must not exceed the following emission limits, except during periods of startup and shutdown...**	**Using this specified sampling volume or test run duration...**
3. Pulverized coal boilers designed to burn coal/solid fossil fuel.	a. Carbon monoxide (CO) (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.
4. Stokers designed to burn coal/solid fossil fuel.	a. CO (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average).	1 hr minimum sampling time.
5. Fluidized bed units designed to burn coal/solid fossil fuel.	a. CO (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.	a. CO (or CEMS).	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.
7. Stokers/sloped grate/others designed to burn wet biomass fuel.	a. CO (or CEMS).	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel.	a. CO.	460 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.

If your boiler or process heater is in this subcategory . . .	**For the following pollutants . . .**	**The emissions must not exceed the following emission limits, except during periods of startup and shutdown...**	**Using this specified sampling volume or test run duration...**
	b. Filterable PM (or TSM).	3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
9. Fluidized bed units designed to burn biomass/bio-based solids.	a. CO (or CEMS).	260 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	9.8E-03 lb per MMBtu of heat input; or (8.3E-05[a] lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
10. Suspension burners designed to burn biomass/bio-based solids.	a. CO (or CEMS).	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	3.0E-02 lb per MMBtu of heat input; or (6.5E-	Collect a minimum of 2 dscm per run.

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
		03 lb per MMBtu of heat input).	
11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids.	a. CO (or CEMS).	470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	3.2E-03 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
12. Fuel cell units designed to burn biomass/bio-based solids.	a. CO.	910 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.

If your boiler or process heater is in this subcategory ...	**For the following pollutants ...**	**The emissions must not exceed the following emission limits, except during periods of startup and shutdown...**	**Using this specified sampling volume or test run duration...**
13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids.	a. CO (or CEMS).	1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
14. Units designed to burn liquid fuel.	a. HCl.	4.4E-04 lb per MMBtu of heat input.	For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.
	b. Mercury.	4.8E-07[a] lb per MMBtu of heat input.	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 4 dscm.

If your boiler or process heater is in this subcategory ...	**For the following pollutants ...**	**The emissions must not exceed the following emission limits, except during periods of startup and shutdown...**	**Using this specified sampling volume or test run duration...**
15. Units designed to burn heavy liquid fuel.	a. CO.	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	1.3E-02 lb per MMBtu of heat input; or (7.5E-05 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
16. Units designed to burn light liquid fuel.	a. CO.	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	1.3E-03[a] lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
17. Units designed to burn liquid fuel that are non-continental units.	a. CO.	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test.	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input).	Collect a minimum of 4 dscm per run

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
18. Units designed to burn gas 2 (other) gases	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. HCl	1.7E-03 lb per MMBtu of heat input.	For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run
	c. Mercury	7.9E-06 lb per MMBtu of heat input.	For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.
	d. Filterable PM (or TSM)	6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run

[a] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §63.7515 if all of the other provision of §63.7515 are met. For all other pollutants that do not contain a footnote "a", your performance tests for this pollutant for at least 2

consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

[b] Incorporated by reference, see §63.14.

[c] An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

33. Table 13 to subpart DDDDD of part 63 is amended by:

a. Revising the title to the table.

b. Revising rows "2.a", "3.a", "4.a", "5.a", "6.a", "8.a", "9.a", "10.a", "12.a", "14.a", "15.a", and "16.a".

c. Adding new footnote "c".

The revisions read as follows:

Table 13 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After December 23, 2011, and Before April 1, 2013

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
* * * * * * *			
2. Pulverized coal boilers designed to burn coal/solid fossil fuel	a. Carbon monoxide (CO) (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a	1 hr minimum sampling time.

		dry basis corrected to 3 percent oxygen^{c}, 30-day rolling average)	
* * * * * * *			
3. Stokers designed to burn coal/solid fossil fuel	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen^{c}, 10-day rolling average)	1 hr minimum sampling time.
* * * * * * *			
4. Fluidized bed units designed to burn coal/solid fossil fuel	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen^{c}, 30-day rolling average)	1 hr minimum sampling time.
* * * * * * *			
5. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel	a. CO (or CEMS)	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen^{c}, 30-day rolling average)	1 hr minimum sampling time.
* * * * * * *			
6. Stokers/sloped grate/others designed to burn wet biomass fuel	a. CO (or CEMS)	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-	1 hr minimum sampling time.

		run average; or (410 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average)	
* * * * * * *			
8. Fluidized bed units designed to burn biomass/bio-based solids	a. CO (or CEMS)	230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average)	1 hr minimum sampling time.
* * * * * * *			
9. Suspension burners designed to burn biomass/bio-based solids	a. CO (or CEMS)	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average)	1 hr minimum sampling time.
* * * * * * *			
10. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids	a. CO (or CEMS)	810 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average)	1 hr minimum sampling time.
* * * * * * *			

12. Hybrid suspension grate boiler designed to burn biomass/bio-based solids	a. CO (or CEMS)	1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 30-day rolling average)	1 hr minimum sampling time.
* * * * * * *			
14. Units designed to burn heavy liquid fuel	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (18 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 10-day rolling average)	1 hr minimum sampling time.
* * * * * * *			
15. Units designed to burn light liquid fuel	a. CO (or CEMS)	130[a] ppm by volume on a dry basis corrected to 3 percent oxygen; or (60 ppm by volume on a dry basis corrected to 3 percent oxygen[c], 1-day block average).	1 hr minimum sampling time.
* * * * * * *			
16. Units designed to burn liquid fuel that are non-continental units	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test; or (91 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-hour rolling average)	1 hr minimum sampling time.

* * * * * * *

* * * * *

[c] An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

Appendix C – RICE MACT (40 CFR 63 Subpart ZZZZ)

WHAT THIS SUBPART COVERS

§63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

Clearwater falls into this category of applicability.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013]

§63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

Clearwater's No. 3 & No. 4 Turbine Standby Generator compression ignition engine and the Lurgi North & South Standby compression Ignition engines (2) are existing RICE.

(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.

Clearwater's Spark Ignition Pony Motors (2) for the #3 &#4 Lime Kilns, and the compression ignition Firewater Pump Engines (4) are existing RICE.

(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.

Clearwater's Lift Pumps 1,180 HP emergency compression engine is new stationary RICE (installed in 2004).

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

Clearwater's No. 3 & No. 4 Turbine Standby Generator compression ignition engine and the Lurgi North & South Standby compression Ignition engines (2) are existing RICE with a rating of more than 500 HP. They do not have to meet the requirements of this subpart.

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010; 78 FR 6700, Jan. 30, 2013]

§63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 78 FR 6701, Jan. 30, 2013]

EMISSION AND OPERATING LIMITATIONS

§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

All Clearwater RICE greater than 500 HP are emergency RICE and are not subject to the provisions of this Subpart. See §63.6590.

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Emission limits do not apply to emergency RICE, and all of Clearwater's RICE are emergency RICE. Therefre these limitations do not apply.

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

Numerical emission limits do not apply to emergency RICE, and all of Clearwater's RICE are emergency RICE. Work standards of Table 2c do apply.

[78 FR 6701, Jan. 30, 2013]

§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Clearwater is not an area source, these subsection does not apply.

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in §63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in §63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart IIII instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6701, Jan. 30, 2013]

§63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2), or are on offshore vessels that meet §63.6603(c) are exempt from the requirements of this section.

[78 FR 6702, Jan. 30, 2013]

GENERAL COMPLIANCE REQUIREMENTS

§63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

TESTING AND INITIAL COMPLIANCE REQUIREMENTS

§63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions

Performance testing is not applicable to RICE that do not have emissions limitations as is the case for all of Clearwater's emergency RICE.

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

Performance testing is not applicable to RICE which do not have emissions limitations, that is the case for all of Clearwater's emergency RICE.

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

Performance testing is not applicable to RICE that do not have emissions limitations as is the case for all of Clearwater's emergency RICE.

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

Performance testing is not applicable to RICE that do not have emissions limitations as is the case for all of Clearwater's emergency RICE.

§63.6620 What performance tests and other procedures must I use?

Performance testing is not applicable to RICE that do not have emissions limitations as is the case for all of Clearwater's emergency RICE.

(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:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad \text{(Eq. 1)}$$

View or download PDF

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:

$$F_o = \frac{0.209\ F_d}{F_c} \quad (Eq.\ 2)$$

View or download PDF

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 (dscf/10^6 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 (dscf/10^6 Btu)

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2, as follows:

$$X_{CO2} = \frac{5.9}{F_o} \quad (Eq.\ 3)$$

View or download PDF

Where:

X_{co2} = 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 CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq.\ 4)$$

View or download PDF

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O_2.

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{co2} = CO_2 correction factor, percent.

$\%CO_2$ = Measured CO_2 concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

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

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

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

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O_2 or CO_2 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.

Clearwater is not subject to emission limitation and a CEMS is not proposed or required.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 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.

Clearwater is not subject to emission limitation and a CPMS is not proposed or required.

(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.

Clearwater does not combust landfill gas.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet §63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

Clearwater's emergency RICE are not subject to emission limitations or any other provision of this Subsection.

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

CONTINUOUS COMPLIANCE REQUIREMENTS

§63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

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

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

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

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

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

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

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

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

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

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

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

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

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

NOTIFICATIONS, REPORTS, AND RECORDS

§63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(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.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in §63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in §63.6603(d) and identifying the state or local regulation that the engine is subject to.

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

§63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

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

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

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

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

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

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

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

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

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

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

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

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

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

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

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

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

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

(iii) Engine site rating and model year.

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

(v) Hours operated for the purposes specified in §63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in §63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in §63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in §63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

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

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

§63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

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

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

§63.6660 In what form and how long must I keep my records?

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

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

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

OTHER REQUIREMENTS AND INFORMATION

§63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, <u>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</u>: An existing 2SLB stationary RICE, an existing 4SL

B 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, <u>an existing emergency stationary RICE</u>, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§63.6670 Who implements and enforces this subpart?

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

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

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

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

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

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see §63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101-549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

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

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

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

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

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 CO_2, 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 PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	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.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_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.	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 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	
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	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

↥

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and	a. maintain your catalyst so that the pressure drop across the catalyst does not change by

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.	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 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.	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Table 2c to Subpart ZZZZ of Part 63—<u>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</u>

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 stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2.	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤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;	
	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	Limit concentration of	

start 4SRB stationary RICE 100≤HP≤500	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.	

[1]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[2]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[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	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.

	belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
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 or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]; b. Inspect spark plugs 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.	
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 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 RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 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.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥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]
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.

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6711, Jan. 30, 2013]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. reduce CO emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For CO and O_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 *and* 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)[ac] (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	(1) ASTM D6522-00	(c) The CO concentration

		the inlet and the outlet of the control device	(Reapproved 2005)[abc] (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4	must be at 15 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 *and* 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 formalde-hyde 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 compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A-7	(a) THC 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.
3. Stationary RICE	a. limit the concentra-tion of formalde-hyde 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 *and* 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 station-ary 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 formalde-hyde at the exhaust of the station-ary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03[a], provided	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the

			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	average of the three 1-hour or longer runs.
		v. measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005)[ac], 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.

[a]You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b]You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[79 FR 11290, Feb. 27, 2014]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
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	a. Limit the concentration of CO,	i. The average CO concentration determined from the initial performance

HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	using oxidation catalyst, and using a CPMS	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.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and 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 ≥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 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≤HP≤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.
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≤HP≤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≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤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≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤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 the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >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 existing non-emergency stationary CI RICE >500 HP	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 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 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 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.
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
		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	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the

	exhaust, and not using an oxidation catalyst	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 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. Conducting annual compliance demonstrations 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.

[a]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6715, Jan. 30, 2013]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤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 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	i. Semiannually according to the requirements in §63.6650(b).
		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 or are contractually obligated to be available for more than 15 hours per year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or 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).

[78 FR 6719, Jan. 30, 2013]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	

§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance 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.

§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).
§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.
§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.	
§63.10(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.	
§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.	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]

Appendix A to Subpart ZZZZ of Part 63—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 Scope and Application. What is this Protocol?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O_2) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O_2).

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 O_2, or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 Summary of Protocol

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O_2 gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 Definitions

3.1 Measurement System. The total equipment required for the measurement of CO and O_2 concentrations. The measurement system consists of the following major subsystems:

3.1.1 Data Recorder. A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 Electrochemical (EC) Cell. A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 Interference Gas Scrubber. A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 Moisture Removal System. Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 Sample Interface. The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 Nominal Range. The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 Calibration Gas. A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 Zero Calibration Error. The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 Up-Scale Calibration Error. The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 Interference Check. A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 Repeatability Check. A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 Sample Flow Rate. The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 Sampling Run. A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O_2 and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 Sampling Day. A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check. The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

3.12 Performance-Established Configuration. The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 INTERFERENCES.

When present in sufficient concentrations, NO and NO_2 are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 SAFETY. [RESERVED]

6.0 EQUIPMENT AND SUPPLIES.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 Sample Probe. A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 Sample Line. Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 Calibration Assembly (optional). A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 Particulate Filter (optional). Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 Sample Pump. A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 Sample Flow Rate Monitoring. An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 Sample Gas Manifold (optional). A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 EC cell. A device containing one or more EC cells to determine the CO and O_2 concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 Data Recorder. A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O_2; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

6.2.12 Interference Gas Filter or Scrubber. A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 REAGENTS AND STANDARDS. WHAT CALIBRATION GASES ARE NEEDED?

7.1 Calibration Gases. CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O_2. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ±5 percent of the label value. Dry ambient air (20.9 percent O_2) is acceptable for calibration of the O_2 cell. If needed, any lower percentage O_2 calibration gas must be a mixture of O_2 in nitrogen.

7.1.1 Up-Scale CO Calibration Gas Concentration. Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 Up-Scale O_2 Calibration Gas Concentration.

Select an O_2 gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O_2. When the average exhaust gas O_2 readings are above 6 percent, you may use dry ambient air (20.9 percent O_2) for the up-scale O_2 calibration gas.

7.1.3 Zero Gas. Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO_2).

8.0 Sample Collection and Analysis

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the "sample conditioning phase" once per minute until constant readings are obtained. Then begin the "measurement data phase" and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the "measurement data phase" readings to calculate the average stack gas CO and O_2 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 O_2 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 O_2 for the O_2 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 O_2, 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 O_2, whichever is less restrictive, respectively.

10.2 Post-Sampling Calibration Check. Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O_2 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 NO_2 gas standards that are generally recognized as representative of diesel-fueled engine NO and NO_2 emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 Interference Response. The combined NO and NO_2 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

(1) "Development of an Electrochemical Cell Emission Analyzer Test Protocol", Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.

(2) "Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers", EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.

(3) "ICAC Test Protocol for Periodic Monitoring", EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.

(4) "Code of Federal Regulations", Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

TABLE 1: APPENDIX A—SAMPLING RUN DATA.

Facility___________ Engine I.D.___________ Date______											
Run Type:	(_)			(_)				(_)		(_)	
(X)	Pre-Sample Calibration			Stack Gas Sample				Post-Sample Cal. Check		Repeatability Check	
Run #	1	1	2	2	3	3	4	4	Time	Scrub. OK	Flow- Rate
Gas	O_2	CO	O_2	CO	O_2	CO	O_2	CO			
Sample Cond. Phase											
″											
″											
″											
″											
Measurement Data Phase											
″											
″											
″											
″											
″											
″											

″											
″											
″											
″											
Mean											
Refresh Phase											
″											
″											
″											
″											

[78 FR 6721, Jan. 30, 2013]

Appendix D – Kraft Pulp Mill NSPS (40 CFR 60 Subpart BBa)

Subpart BBa—Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013

SOURCE: 79 FR 18966, Apr. 4, 2014, unless otherwise noted.

§60.280a Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in kraft pulp mills: digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln and condensate stripper system. In pulp mills where kraft pulping is combined with neutral sulfite semichemical pulping, the provisions of this subpart are applicable when any portion of the material charged to an affected facility is produced by the kraft pulping operation.

(b) Except as noted in §60.283a(a)(1)(iv), any facility under paragraph (a) of this section that commences construction, reconstruction or modification after May 23, 2013, is subject to the requirements of this subpart. Any facility under paragraph (a) of this section that commenced construction, reconstruction, or modification after September 24, 1976, and on or before May 23, 2013 is subject to the requirements of subpart BB of this part.

Clearwater proposes to construct, after May 23, 2013, a new continuous digester system on the chip fiberline. The new continuous digester system will replace the existing batch digester systems and will be subject to NSPS subpart BBa.

Clearwater proposes to add a new diffusion washer to the chip fiberline brownstock washer system. As noted in the definition of brownstock washer system below, diffusion washers are specifically excluded from the affected facility under NSPS. Therefore, the chip fiberline brownstock washer system will not be modified as that term (modification) is defined in 40 CFR 60.14.

§60.281a Definitions.

As used in this subpart, all terms not defined herein must have the same meaning given them in the Act and in subpart A.

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.

Black liquor solids (BLS) means the dry weight of the solids which enter the recovery furnace in the black liquor.

Brown stock washer system means brown stock washers and associated knotters, vacuum pumps, and filtrate tanks used to wash the pulp following the digester system. Diffusion washers are excluded from this definition.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from an emission point to a control device.

Condensable particulate matter, for purposes of this subpart, means particulate matter (PM) measured by EPA Method 202 of Appendix M of 40 CFR part 51 that is vapor phase at stack conditions, but condenses and/or reacts upon cooling and dilution in the ambient air to form solid or liquid PM immediately after discharge from the stack.

Condensate stripper system means a column, and associated condensers, used to strip, with air or steam, total reduced sulfur (TRS) compounds from condensate streams from various processes within a kraft pulp mill.

Cross recovery furnace means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains more than 7 weight percent of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28 percent.

Digester system means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), blow tank(s), chip steamer(s) including chip bins using live steam, and condenser(s).

Filterable particulate matter, for purposes of this subpart, means particulate matter measured by EPA Method 5 of Appendix A-3 of this part.

Green liquor sulfidity means the sulfidity of the liquor which leaves the smelt dissolving tank.

High volume, low concentration (HVLC) closed-vent system means the gas collection and transport system used to convey gases from the brown stock washer system to a control device.

Kraft pulp mill means any stationary source which produces pulp from wood by cooking (digesting) wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure. Regeneration of the cooking chemicals through a recovery process is also considered part of the kraft pulp mill.

Lime kiln means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.

Low volume, high concentration (LVHC) closed-vent system means the gas collection and transport system used to convey gases from the digester system, condensate stripper system, and multiple-effect evaporator system to a control device.

Monitoring system malfunction means a sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The owner or operator is required to implement monitoring system repairs in response to monitoring system malfunctions or out-of-control periods, and to return the monitoring system to operation as expeditiously as practicable.

Multiple-effect evaporator system means the multiple-effect evaporators and associated condenser(s) and hotwell(s) used to concentrate the spent cooking liquid that is separated from the pulp (black liquor).

Neutral sulfite semichemical pulping operation means any operation in which pulp is produced from wood by cooking (digesting) wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating (grinding).

Recovery furnace means either a straight kraft recovery furnace or a cross recovery furnace, and includes the direct-contact evaporator for a direct-contact furnace.

Smelt dissolving tank means a vessel used for dissolving the smelt collected from the recovery furnace.

Straight kraft recovery furnace means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains 7 weight percent or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28 percent or less.

Total reduced sulfur (TRS) means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide that are released during the kraft pulping operation and measured by Method 16 of Appendix A-6 of this part.

Clearwater has read and understands these definitions and used them in providing this regulatory analysis.

§60.282a Standard for filterable particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:

(1) From any modified recovery furnace any gases which:

(i) Contain filterable particulate matter in excess of 0.10 gram per dry standard cubic meter (g/dscm) (0.044 grain per dry standard cubic foot (gr/dscf)) corrected to 8-percent oxygen.

(ii) Exhibit 20-percent opacity or greater, where an electrostatic precipitator (ESP) emission control device is used, except where it is used in combination with a wet scrubber.

(2) From any new or reconstructed recovery furnace any gases which:

(i) Contain filterable particulate matter in excess of 0.034 g/dscm (0.015 gr/dscf) corrected to 8-percent oxygen.

(ii) Exhibit 20-percent opacity or greater, where an ESP emission control device is used, except where it is used in combination with a wet scrubber.

(3) From any modified or reconstructed smelt dissolving tank, or from any new smelt dissolving tank that is not associated with a new or reconstructed recovery furnace subject to the provisions of paragraph (a)(2) of this section, any gases which contain filterable particulate matter in excess of 0.1 gram per kilogram (g/kg) (0.2 pound per ton (lb/ton)) of black liquor solids (dry weight).

(4) From any new smelt dissolving tank associated with a new or reconstructed recovery furnace subject to the provisions of paragraph (a)(2) of this section, any gases which contain filterable particulate matter in excess of 0.060 g/kg (0.12 lb/ton) black liquor solids (dry weight).

(5) From any modified lime kiln any gases which:

(i) Contain filterable particulate matter in excess of 0.15 g/dscm (0.064 gr/dscf) corrected to 10-percent oxygen.

(ii) Exhibit 20-percent opacity or greater, where an ESP emission control device is used, except where it is used in combination with a wet scrubber.

(6) From any new or reconstructed lime kiln any gases which:

(i) Contain filterable particulate matter in excess of 0.023 g/dscm (0.010 gr/dscf) corrected to 10-percent oxygen.

(ii) Exhibit 20-percent opacity or greater, where an ESP emission control device is used, except where it is used in combination with a wet scrubber.

(b) These standards apply at all times as specified in §§60.284a and 60.285a.

(c) The exemptions to opacity standards under 40 CFR 60.11(c) do not apply to subpart BBa.

Not applicable. There are no PM standards applicable to digester systems.

§60.283a Standard for total reduced sulfur (TRS).

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart must cause to be discharged into the atmosphere:

(1) From any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system any gases which contain TRS in excess of 5 parts per million (ppm) by volume on a dry basis, corrected to 10-percent oxygen, unless one of the following conditions are met:

(i) The gases are collected in an LVHC or HVLC closed-vent system meeting the requirements of §63.450 and combusted in a lime kiln subject to the provisions of either paragraph (a)(5) of this section or §60.283(a)(5); or

(ii) The gases are collected in an LVHC or HVLC closed-vent system meeting the requirements of §63.450 and combusted in a recovery furnace subject to the provisions of either paragraphs (a)(2) or (3) of this section or §60.283(a)(2) or (3); or

(iii) The gases are collected in an LVHC or HVLC closed-vent system meeting the requirements of §63.450 and combusted with other waste gases in an incinerator or other device, or combusted in a lime kiln or recovery furnace not subject to the provisions of this subpart (or subpart BB of this part), and are subjected to a minimum temperature of 650 °C (1200 14 °F) for at least 0.5 second; or

(iv) It has been demonstrated to the Administrator's satisfaction by the owner or operator that incinerating the exhaust gases from a new, modified, or reconstructed brown stock washer system is technologically or economically unfeasible. Any exempt system will become subject to the provisions of this subpart if the facility is changed so that the gases can be incinerated.

(v) The gases from the digester system, brown stock washer system, or condensate stripper system are collected in an LVHC or HVLC closed-vent system meeting the requirements of §63.450 and controlled by a means other than combustion. In this case, this system must not discharge any gases to the atmosphere which contain TRS in excess of 5 ppm by volume on a dry basis, uncorrected for oxygen content.

(vi) The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 g/kg (0.01 lb/ton) air dried pulp (ADP).

(2) From any straight kraft recovery furnace any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8-percent oxygen.

(3) From any cross recovery furnace any gases which contain TRS in excess of 25 ppm by volume on a dry basis, corrected to 8-percent oxygen.

(4) From any smelt dissolving tank any gases which contain TRS in excess of 0.016 g/kg (0.033 lb/ton) of black liquor solids as hydrogen sulfide (H_2S).

(5) From any lime kiln any gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10-percent oxygen.

(b) These standards apply at all times as specified in §§60.284a and 60.285a.

Clearwater plans to collect gases from the new continuous digester system in the mill LVHC or HVLC closed-vent systems meeting the requirements of §63.450 and route the gases to NCG Incinerator or Nos. 3 & 4 Lime Kilns in accordance with 60.283a(1)(iii). NCGs from the continuous digester will be predominately HVLCs, which will be controlled in the lime kilns.

§60.284a Monitoring of emissions and operations.

(a) Any owner or operator subject to the provisions of this subpart must install, calibrate, maintain, and operate the continuous monitoring systems specified in paragraphs (a)(1) and (2) of this section:

(1) A continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace or lime kiln using an ESP emission control device, except as specified in paragraph (b)(4) of this section. The span of this system must be set at 70-percent opacity. You must install, certify, and operate the continuous opacity monitoring system in accordance with Performance Specification (PS) 1 in Appendix B to 40 CFR part 60.

(2) Continuous monitoring systems to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from any lime kiln, recovery furnace, digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, except where the provisions of §60.283a(a)(1)(iii) or (iv) apply. You must install, certify, and operate the continuous TRS monitoring system in accordance with Performance Specification (PS) 5 in Appendix B to 40 CFR part 60. You must install, certify, and operate the continuous oxygen monitoring system in accordance with Performance Specification (PS) 3 in Appendix B to 40 CFR part 60. These systems must be located downstream of the control device(s). The range of the continuous monitoring system must encompass all expected concentration values, including the zero and span values used for calibration. The spans of these continuous monitoring system(s) must be set:

(i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system, except that for any cross recovery furnace the span must be set at 50 ppm.

(ii) At 21-percent oxygen for the continuous oxygen monitoring system.

(b) Any owner or operator subject to the provisions of this subpart must install, calibrate, maintain, and operate the following continuous parameter monitoring devices specified in paragraphs (b)(1) through (4) of this section.

(1) For any incinerator, a monitoring device for the continuous measurement of the combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple effect evaporator system, or condensate stripper system where the provisions of §60.283a(a)(1)(iii) apply. The monitoring device is to be certified by the manufacturer to be accurate within ±1 percent of the temperature being measured.

(2) For any recovery furnace, lime kiln, or smelt dissolving tank using a wet scrubber emission control device:

(i) A monitoring device for the continuous measurement of the pressure drop of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gage pressure of ±500 Pascals (±2 inches water gage pressure).

(ii) A monitoring device for the continuous measurement of the scrubbing liquid flow rate. The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate.

(iii) As an alternative to pressure drop measurement under paragraph (b)(2)(i) of this section, a monitoring device for measurement of fan amperage may be used for smelt dissolving tank dynamic scrubbers that operate at ambient pressure or for low-energy entrainment scrubbers where the fan speed does not vary.

(iv) As an alternative to scrubbing liquid flow rate measurement under paragraph (b)(2)(ii) of this section, a monitoring device for measurement of scrubbing liquid supply pressure may be used. The monitoring device is to be certified by the manufacturer to be accurate within ±15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Administrator may be consulted for approval of alternative locations.

(3) For any recovery furnace or lime kiln using an ESP emission control device, the owner or operator must use the continuous parameter monitoring devices specified in paragraphs (b)(3)(i) and (ii) of this section.

(i) A monitoring device for the continuous measurement of the secondary voltage of each ESP collection field.

(ii) A monitoring device for the continuous measurement of the secondary current of each ESP collection field.

(iii) Total secondary power may be calculated as the product of the secondary voltage and secondary current measurements for each ESP collection field and used to demonstrate compliance as an alternative to the secondary voltage and secondary current measurements.

(4) For any recovery furnace or lime kiln using an ESP followed by a wet scrubber, the owner or operator must use the continuous parameter monitoring devices specified in paragraphs (b)(2) and (3) of this section. The opacity monitoring system specified in paragraph (a)(1) of this section is not required for combination ESP/wet scrubber control device systems.

(c) *Monitor operation and calculations.* Any owner or operator subject to the provisions of this subpart must follow the procedures for collecting and reducing monitoring data and setting operating limits in paragraphs (c)(1) through (6) of this section. Subpart A of this part specifies methods for reducing continuous opacity monitoring system data.

(1) Any owner or operator subject to the provisions of this subpart must, except where the provisions of §60.283a(a)(1)(iii) or (iv) apply, perform the following:

(i) Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average must be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average TRS concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(ii) Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace and lime kiln. These 12- hour averages must correspond to the 12-hour average TRS concentrations under paragraph (c)(1)(i) of this section and must be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(iii) Using the following equation, correct all 12-hour average TRS concentrations to 10 volume percent oxygen, except that all 12-hour average TRS concentrations from a recovery furnace must be corrected to 8 volume percent oxygen instead of 10 percent, and all 12-hour average TRS concentrations from a facility to which the provisions of §60.283a(a)(1)(v) apply must not be corrected for oxygen content:

$C_{corr} = C_{meas} \times (21-X/21-Y)$

Where:

C_{corr} = the concentration corrected for oxygen.

C_{meas} = the 12-hour average of the measured concentrations uncorrected for oxygen.

X = the volumetric oxygen concentration in percentage to be corrected to (8 percent for recovery furnaces and 10 percent for lime kilns, incinerators, or other devices).

Y = the 12-hour average of the measured volumetric oxygen concentration.

(2) <u>Record at least once each successive 5-minute period all measurements obtained from the continuous monitoring devices installed under paragraph (b)(1) of this section. Calculate 3-hour block averages from the recorded measurements of incinerator temperature. Temperature measurements recorded when no TRS emissions are fired in the incinerator (e.g., during incinerator warm-up and cool-down periods when no TRS emissions are generated or an alternative control device is used) may be omitted from the block average calculation.</u>

(3) Record at least once each successive 15-minute period all measurements obtained from the continuous monitoring devices installed under paragraph (b)(2) through (4) of this section and reduce the data as follows:

(i) Calculate 12-hour block averages from the recorded measurements of wet scrubber pressure drop (or smelt dissolving tank scrubber fan amperage) and liquid flow rate (or liquid supply pressure), as applicable.

(ii) Calculate semiannual averages from the recorded measurements of ESP parameters (secondary voltage and secondary current, or total secondary power) for ESP-controlled recovery furnaces or lime kilns that measure opacity in addition to ESP parameters.

(iii) Calculate 12-hour block averages from the recorded measurements of ESP parameters (secondary voltage and secondary current, or total secondary power) for recovery furnaces or lime kilns with combination ESP/wet scrubber controls.

(4) During the initial performance test required in §60.285a, the owner or operator must establish site-specific operating limits for the monitoring parameters in paragraphs (b)(2) through (4) of this section by continuously monitoring the parameters and determining the arithmetic average value of each parameter during the performance test. The arithmetic average of the measured values for the three test runs establishes your minimum site-specific operating limit for each wet scrubber or ESP parameter. Multiple performance tests may be conducted to establish a range of parameter values. The owner or operator may establish replacement operating limits for the monitoring parameters during subsequent performance tests using the test methods in §60.285a.

(5) You must operate the continuous monitoring systems required in paragraphs (a) and (b) of this section to collect data at all required intervals at all times the affected facility is operating except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments.

(6) You may not use data recorded during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating limits. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(7) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required quality monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements.

(d) Excess emissions are defined for this subpart as follows:

(1) For emissions from any recovery furnace, periods of excess emissions are:

(i) All 12-hour averages of TRS concentrations above 5 ppm by volume at 8-percent oxygen for straight kraft recovery furnaces and above 25 ppm by volume at 8-percent oxygen for cross recovery furnaces during times when BLS is fired.

(ii) All 6-minute average opacities that exceed 20 percent during times when BLS is fired.

(2) For emissions from any lime kiln, periods of excess emissions are:

(i) All 12-hour average TRS concentrations above 8 ppm by volume at 10-percent oxygen during times when lime mud is fired.

(ii) All 6-minute average opacities that exceed 20 percent during times when lime mud is fired.

(3) For emissions from any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, periods of excess emissions are:

(i) All 12-hour average TRS concentrations above 5 ppm by volume at 10-percent oxygen unless the provisions of §60.283a(a)(1)(i), (ii), or (iv) apply; or

(ii) All 3-hour block averages during which the combustion temperature at the point of incineration is less than 650 °C (1200 14 °F), where the provisions of §60.283a(a)(1)(iii) apply and an incinerator is used as the combustion device.

(iii) All times when gases are not routed through the closed-vent system to one of the control devices specified in §60.283a(a)(1)(i) through (iii) and (v).

(4) For any recovery furnace, lime kiln, or smelt dissolving tank controlled with a wet scrubber emission control device that complies with the parameter monitoring requirements specified in §60.284a(b)(2), periods of excess emissions are:

(i) All 12-hour block average scrubbing liquid flow rate (or scrubbing liquid supply pressure) measurements below the minimum site-specific limit established during performance testing during times when BLS or lime mud is fired (as applicable), and

(ii) All 12-hour block average scrubber pressure drop (or fan amperage, if used as an alternative under paragraph (b)(2)(iii) of this section) measurements below the minimum site-specific limit established during performance testing during times when BLS or lime mud is fired (as applicable), except during startup and shutdown.

(5) For any recovery furnace or lime kiln controlled with an ESP followed by a wet scrubber that complies with the parameter monitoring requirements specified in §60.284a(b)(4), periods of excess emissions are:

(i) All 12-hour block average scrubbing liquid flow rate (or scrubbing liquid supply pressure) measurements below the minimum site-specific limit established during performance testing during times when BLS or lime mud is fired (as applicable), and

(ii) All 12-hour block average scrubber pressure drop measurements below the minimum site-specific limit established during performance testing during times when BLS or lime mud is fired (as applicable) except during startup and shutdown,

(iii) All 12-hour block average ESP secondary voltage measurements below the minimum site-specific limit established during performance testing during times when BLS or lime mud is fired (as applicable) including startup and shutdown.

(iv) All 12-hour block average ESP secondary current measurements (or total secondary power values) below the minimum site-specific limit established during performance testing during times when BLS or lime mud is fired (as applicable) except during startup and shutdown.

(e) The Administrator will not consider periods of excess emissions reported under §60.288a(a) to be indicative of a violation of the standards provided the criteria in paragraphs (e)(1) and (2) of this section are met.

(1) The percent of the total number of possible contiguous periods of excess emissions in the semiannual reporting period does not exceed:

(i) One percent for TRS emissions from straight recovery furnaces, provided that the 12-hour average TRS concentration does not exceed 30 ppm corrected to 8-percent oxygen.

(ii) Two percent for average opacities from recovery furnaces, provided that the ESP secondary voltage and secondary current (or total secondary power) averaged over the semiannual period remained above the minimum operating limits established during the performance test.

(iii) One percent for TRS emissions from lime kilns, provided that the 12-hour average TRS concentration does not exceed 22 ppm corrected to 10-percent oxygen.

(iv) One percent for average opacities from lime kilns, provided that the ESP secondary voltage and secondary current (or total secondary power) averaged over the semiannual period remained above the minimum operating limits established during the performance test.

(v) One percent for TRS emissions from cross recovery furnaces, provided that the 12-hour average TRS concentration does not exceed 50 ppm corrected to 8-percent oxygen.

(vi) For closed-vent systems delivering gases to one of the control devices specified in §60.283a(a)(1)(i) through (iii) and (v), the time of excess emissions divided by the total process operating time in the semiannual reporting period does not exceed:

(A) One percent for LVHC closed-vent systems; or

(B) Four percent for HVLC closed-vent systems or for HVLC and LVHC closed-vent systems combined.

(2) The Administrator determines that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.

(3) The 12-hour average TRS concentration uncorrected for oxygen may be considered when determining compliance with the excess emission provisions in paragraphs (e)(1)(i) and (iii) of this section during periods of startup or shutdown when the 12-hour average stack oxygen percentage approaches ambient conditions. If the 12-hour average TRS concentration uncorrected for oxygen is less than the applicable limit (5 ppm for recovery furnaces or 8 ppm for lime kilns) during periods of startup or shutdown when the 12-hour average stack oxygen concentration is 15 percent or greater, then the Administrator will consider the TRS average to be in compliance. This provision only applies during periods of affected facility startup and shutdown.

(f) The procedures under §60.13 must be followed for installation, evaluation, and operation of the continuous monitoring systems required under this section. All continuous monitoring systems must be operated in accordance with the applicable procedures under Performance Specifications 1, 3, and 5 of appendix B of this part.

Clearwater will monitor and record the combustion temperature of the NCG incinerator per the requirements highlighted (underlined) cited above. Clearwater understands the applicable excess emissions definitions and exceptions. The NCG incinerator is currently subject to NSPS subpart BB monitoring requirements (60.284) which are substantially consistent with the requirements of 60.284a. NSPS subpart BBa. Subpart BBa specifies a 5-minute data recording frequency and 3-hour block averaging time for incinerator temperature measurements.

§60.285a Test methods and procedures.

(a) In conducting the performance tests required by this subpart and §60.8, the owner or operator must use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section. Section 60.8(c) must be read as follows for purposes of this subpart: 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.

(b) The owner or operator must determine compliance with the filterable particulate matter standards in §60.282a(a)(1), (2), (5) and (6) as follows:

(1) Method 5 of Appendix A-3 of this part must be used to determine the filterable particulate matter concentration. The sampling time and sample volume for each run must be at least 60 minutes and 0.90 dscm (31.8 dscf). Water must be used as the cleanup solvent instead of acetone in the sample recovery procedure. The particulate concentration must be corrected to the appropriate oxygen concentration according to §60.284a(c)(3).

(2) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B of Appendix A-2 of this part must be used to determine the oxygen concentration. The gas sample must be taken at the same time and at the same traverse points as the particulate sample.

(3) Method 9 of Appendix A-4 of this part and the procedures in §60.11 must be used to determine opacity. Opacity measurement is not required for recovery furnaces or lime kilns operating with a wet scrubber alone or a wet scrubber in combination with an ESP.

(4) In addition to the initial performance test required by this subpart and §60.8(a), you must conduct repeat performance tests for filterable particulate matter at intervals no longer than 5 years following the previous performance test using the procedures in paragraphs (b)(1) and (2) of this section.

(5) When the initial and repeat performance tests are conducted for filterable particulate matter, the owner or operator must also measure condensable particulate matter using Method 202 of Appendix M of 40 CFR part 51.

(c) The owner or operator must determine compliance with the filterable particular matter standards in §60.282a(a)(3) and (4) as follows:

(1) The emission rate (E) of filterable particulate matter must be computed for each run using the following equation:

$$E = c_s Q_{sd} / BLS$$

Where:

E = emission rate of filterable particulate matter, g/kg (lb/ton) of BLS.

c_s = Concentration of filterable particulate matter, g/dscm (lb/dscf).

Q_{sd} = volumetric flow rate of effluent gas, dry standard cubic meter per hour (dscm/hr) (dry standard cubic feet per hour (dscf/hr)).

BLS = black liquor solids (dry weight) feed rate, kg/hr (ton/hr).

(2) Method 5 of Appendix A-3 of this part must be used to determine the filterable particulate matter concentration (c_s) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume must be at least 60 minutes and 0.90 dscm (31.8 dscf). Water must be used instead of acetone in the sample recovery.

(3) Process data must be used to determine the black liquor solids (BLS) feed rate on a dry weight basis.

(4) In addition to the initial performance test required by this subpart and §60.8(a), you must conduct repeat performance tests for filterable particulate matter at intervals no longer than 5 years following the previous performance test using the procedures in paragraphs (c)(1) through (3) of this section.

(5) When the initial and repeat performance tests are conducted for filterable particulate matter, the owner or operator must also measure condensable particulate matter using Method 202 of Appendix M of 40 CFR part 51.

(d) The owner or operator must determine compliance with the TRS standards in §60.283a, except §60.283a(a)(1)(vi) and (4), as follows:

(1) Method 16 of Appendix A-6 of this part must be used to determine the TRS concentration. The TRS concentration must be corrected to the appropriate oxygen concentration using the procedure in §60.284a(c)(3). The sampling time must be at least 3 hours, but no longer than 6 hours.

(2) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B of Appendix A-2 of this part must be used to determine the oxygen concentration. The sample must be taken over the same time period as the TRS samples.

(3) When determining whether a furnace is a straight kraft recovery furnace or a cross recovery furnace, TAPPI Method T 624 (incorporated by reference—see §60.17) must be used to determine sodium sulfide, sodium hydroxide, and sodium carbonate. These determinations must be made 3 times daily from the green liquor, and the daily average values must be converted to sodium oxide (Na_20) and substituted into the following equation to determine the green liquor sulfidity:

$$GLS=100C_{Na_2S}/(C_{Na_2S}C_{NaOH}C_{Na_2CO_3})$$

Where:

GLS = green liquor sulfidity, percent.

C_{Na_2S} = concentration of Na_2S as Na_2O, milligrams per liter (mg/L) (grains per gallon (gr/gal)).

C_{NaOH} = concentration of NaOH as Na_2O, mg/L (gr/gal).

$C_{Na_2CO_3}$ = concentration of Na_2CO_3 as Na_2O, mg/L (gr/gal).

(4) For recovery furnaces and lime kilns, in addition to the initial performance test required in this subpart and §60.8(a), you must conduct repeat TRS performance tests at intervals no longer than 5 years following the previous performance test using the procedures in paragraphs (d)(1) and (2) of this section.

(e) The owner or operator must determine compliance with the TRS standards in §60.283a(a)(1)(vi) and (4) as follows:

(1) The emission rate (E) of TRS must be computed for each run using the following equation:

$$E=C_{TRS}\ F\ Q_{sd}/P$$

Where:

E = emission rate of TRS, g/kg (lb/ton) of BLS or ADP.

CTRS = average combined concentration of TRS, ppm.

F = conversion factor, 0.001417 g H_2S/cubic meter (m^3)-ppm (8.846×10^{-8} lb H_2S/cubic foot (ft^3)-ppm).

Q_{sd} = volumetric flow rate of stack gas, dscm/hr (dscf/hr).

P = black liquor solids feed or pulp production rate, kg/hr (ton/hr).

(2) Method 16 of Appendix A-6 of this part must be used to determine the TRS concentration (C_{TRS}).

(3) Method 2 of Appendix A-1 of this part must be used to determine the volumetric flow rate (Q_{sd}) of the effluent gas.

(4) Process data must be used to determine the black liquor feed rate or the pulp production rate (P).

(5) For smelt dissolving tanks, in addition to the initial performance test required in this subpart and §60.8(a), you must conduct repeat TRS performance tests at intervals no longer than 5 years following the previous performance test using the procedures in paragraphs (e)(1) through (4) of this section.

(f) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) In place of Method 5 of Appendix A-3 of this part, Method 17 of Appendix A-6 of this part may be used if a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17 and the stack temperature is no greater than 204 °C (400 °F).

(2) In place of Method 16 of Appendix A-6 of this part, Method 16A, 16B, or 16C of Appendix A-6 of this part may be used.

(3) In place of Method 3B of Appendix A-2 of this part, ASME PTC 19.10-1981 (incorporated by reference—see §60.17) may be used.

No testing requirements are applicable to the proposed continuous digester system and associated NCG control systems.

§60.286a Affirmative defense for violations of emission standards during malfunction.

In response to an action to enforce the standards set forth in §§60.282a and 60.283a, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at §60.2. Appropriate penalties may be assessed if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense must not be available for claims for injunctive relief.

(a) *Assertion of affirmative defense.* To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control 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) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred; and

(3) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation 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 violation on ambient air quality, the environment, and human health; and

(6) All emission 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 violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source 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 violation resulting from the malfunction event at issue. The analysis must also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense must submit a written report to the Administrator with all necessary supporting documentation that explains how it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report must be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

The affirmative defense provisions are potentially applicable.

§60.287a Recordkeeping.

(a) The owner or operator must maintain records of the performance evaluations of the continuous monitoring systems.

(b) For each continuous monitoring system, the owner or operator must maintain records of the following information, as applicable:

(1) Records of the opacity of the gases discharged into the atmosphere from any recovery furnace or lime kiln using an ESP emission control device, except as specified in paragraph (b)(6) of this section, and records of the ESP secondary voltage and secondary current (or total secondary power) averaged over the reporting period for the opacity allowances specified in §60.284a(e)(1)(ii) and (iv).

(2) Records of the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from any lime kiln, recovery furnace, digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, except where the provisions of §60.283a(a)(1)(iii) or (iv) apply.

(3) Records of the incinerator combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple effect evaporator system, or condensate stripper system where the provisions of §60.283a(a)(1)(iii) apply and an incinerator is used as the combustion device.

(4) For any recovery furnace, lime kiln, or smelt dissolving tank using a wet scrubber emission control device:

(i) Records of the pressure drop of the gas stream through the control equipment (or smelt dissolving tank scrubber fan amperage), and

(ii) Records of the scrubbing liquid flow rate (or scrubbing liquid supply pressure).

(5) For any recovery furnace or lime kiln using an ESP control device:

(i) Records of the secondary voltage of each ESP collection field, and

(ii) Records of the secondary current of each ESP collection field, and

(iii) If used as an alternative to secondary voltage and current, records of the total secondary power of each ESP collection field.

(6) For any recovery furnace or lime kiln using an ESP followed by a wet scrubber, the records specified under paragraphs (b)(4) and (5) of this section.

(7) Records of excess emissions as defined in §60.284a(d).

(c) For each malfunction, the owner or operator must maintain records of the following information:

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

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with §60.11(d), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

Clearwater will comply with the applicable recordkeeping requirements highlighted (underlined) above

§60.288a Reporting.

(a) For the purpose of reports required under §60.7(c), any owner or operator subject to the provisions of this subpart must report semiannually periods of excess emissions defined in §60.284a(d).

(b) Within 60 days after the date of completing each performance test (defined in §60.8) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart to the EPA as follows. You must use the latest version of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*) existing at the time of the performance test to generate a submission package file, which documents performance test data. You must then submit the file generated by the ERT through the EPA's Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed by logging in to the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). Only data collected using test methods supported by the ERT as listed on the ERT Web site are subject to the requirement to submit the performance test data electronically. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, 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 (b). At the discretion of the delegated authority, you must also submit these reports, including the CBI, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator must submit the results of the performance test to the Administrator at the appropriate address listed in §60.4.

(c) Within 60 days after the date of completing each CEMS performance evaluation test as defined in §60.13, you must submit relative accuracy test audit (RATA) data to the EPA's Central Data Exchange (CDX) by using CEDRI in accordance with paragraph (b) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator must submit the results of the performance evaluation to the Administrator at the appropriate address listed in §60.4.

(d) If a malfunction occurred during the reporting period, you must submit a report that contains the following:

(1) 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.

(2) A description of actions taken by an owner or operator during a malfunction of an affected facility to minimize emissions in accordance with §60.11(d), including actions taken to correct a malfunction.

Clearwater will comply with the applicable reporting requirements highlighted (underlined) above.

Appendix E – Mercury Standards (40 CFR 61 Subpart E)

ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR data is current as of October 22, 2015

Title 40 → Chapter I → Subchapter C → Part 61 → Subpart E

Title 40: Protection of Environment
PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Subpart E—National Emission Standard for Mercury

CONTENTS

§61.50 Applicability.

The provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge.

[40 FR 48302, Oct. 14, 1975]

Clearwater burns wastewater treatment plant sludge in the No. 4 Power Boiler and is therefore subject to corresponding requirements.

§61.51 Definitions.

Terms used in this subpart are defined in the act, in subpart A of this part, or in this section as follows:

(a) *Mercury* means the element mercury, excluding any associated elements, and includes mercury in particulates, vapors, aerosols, and compounds.

(b) *Mercury ore* means a mineral mined specifically for its mercury content.

(c) *Mercury ore processing facility* means a facility processing mercury ore to obtain mercury.

(d) *Condenser stack gases* mean the gaseous effluent evolved from the stack of processes utilizing heat to extract mercury metal from mercury ore.

(e) *Mercury chlor-alkali cell* means a device which is basically composed of an electrolyzer section and a denuder (decomposer) section and utilizes mercury to produce chlorine gas, hydrogen gas, and alkali metal hydroxide.

(f) *Mercury chlor-alkali electrolyzer* means an electrolytic device which is part of a mercury chlor-alkali cell and utilizes a flowing mercury cathode to produce chlorine gas and alkali metal amalgam.

(g) *Denuder* means a horizontal or vertical container which is part of a mercury chlor-alkali cell and in which water and alkali metal amalgam are converted to alkali metal hydroxide, mercury, and hydrogen gas in a short-circuited, electrolytic reaction.

(h) *Hydrogen gas stream* means a hydrogen stream formed in the chlor-alkali cell denuder.

(i) *End box* means a container(s) located on one or both ends of a mercury chlor-alkali electrolyzer which serves as a connection between the electrolyzer and denuder for rich and stripped amalgam.

(j) *End box ventilation system* means a ventilation system which collects mercury emissions from the end-boxes, the mercury pump sumps, and their water collection systems.

(k) *Cell room* means a structure(s) housing one or more mercury electrolytic chlor-alkali cells.

(l) *Sludge* means sludge produced by a treatment plant that processes municipal or industrial waste waters.

(m) *Sludge dryer* means a device used to reduce the moisture content of sludge by heating to temperatures above 65 °C (ca. 150 °F) directly with combustion gases.

[38 FR 8826, Apr. 6, 1973, as amended at 40 FR 48302, Oct. 14, 1975]

Clearwater has read and understands these definitions and used them in providing this regulatory analysis.

§61.52 Emission standard.

(a) Emissions to the atmosphere from mercury ore processing facilities and mercury cell chlor-alkali plants shall not exceed 2.3 kg (5.1 lb) of mercury per 24-hour period.

(b) <u>Emissions to the atmosphere from sludge incineration plants</u>, sludge drying plants, or a combination of these <u>that process wastewater treatment plant sludges shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period</u>.

[40 FR 48302, Oct. 14, 1975, as amended at 65 FR 62151, Oct. 17, 2000]

Clearwater burns wastewater treatment plant sludge in the No. 4 Power Boiler and is therefore subject to identified standard.

§61.53 Stack sampling.

(a) *Mercury ore processing facility.* (1) Unless a waiver of emission testing is obtained under §61.13, each owner or operator processing mercury ore shall test emissions from the source according to Method 101 of appendix B to this part. The emission test shall be performed—

(i) Within 90 days of the effective date in the case of an existing source or a new source which has an initial start-up date preceding the effective date; or

(ii) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(2) The Administrator shall be notified at least 30 days prior to an emission test, so that he may at his option observe the test.

(3) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in a 24-hour period. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until the new emission level has been estimated by calculation and the results reported to the Administrator.

(4) All samples shall be analyzed and mercury emissions shall be determined within 30 days after the stack test. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(5) Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Administrator, for a minimum of 2 years.

(b) *Mercury chlor-alkali plant—hydrogen and end-box ventilation gas streams.* (1) Unless a waiver of emission testing is obtained under §61.13, each owner or operator employing mercury chlor-alkali cell(s) shall test emissions from hydrogen streams according to Method 102 and from end-box ventilation gas streams according to Method 101 of appendix B to this part. The emission test shall be performed—

(i) Within 90 days of the effective date in the case of an existing source or a new source which has an initial startup date preceding the effective date; or

(ii) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(2) The Administrator shall be notified at least 30 days prior to an emission test, so that he may at his option observe the test.

(3) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in a 24-hour period. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until the new emission has been estimated by calculation and the results reported to the Administrator.

(4) All samples shall be analyzed and mercury emissions shall be determined within 30 days after the stack test. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(5) Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Administrator, for a minimum of 2 years.

(c) *Mercury chlor-alkali plants—cell room ventilation system.* (1) Stationary sources using mercury chlor-alkali cells may test cell room emissions in accordance with paragraph (c)(2) of this section or demonstrate compliance with paragraph (c)(4) of this section and assume ventilation emissions of 1.3 kg/day (2.9 lb/day) of mercury.

(2) Unless a waiver of emission testing is obtained under §61.13, each owner or operator shall pass all cell room air in force gas streams through stacks suitable for testing and shall test emissions from the source according to Method 101 in appendix B to this part. The emission test shall be performed—

(i) Within 90 days of the effective date in the case of an existing source or a new source which has an initial startup date preceding the effective date; or

(ii) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(3) The Administrator shall be notified at least 30 days prior to an emission test, so that he may at his option observe the test.

(4) An owner or operator may carry out approved design, maintenance, and housekeeping practices. A list of approved practices is provided in appendix A of "Review of National Emission Standards for Mercury," EPA-450/3-84-014a, December 1984. Copies are available from EPA's Central Docket Section, Docket item number A-84-41, III-B-1.

(d) *Sludge incineration and drying plants.* (1) Unless a waiver of emission testing is obtained under §61.13, each owner or operator of a source subject to the standard in §61.52(b) shall test emissions from that source. Such tests shall be conducted in accordance with the procedures set forth either in paragraph (d) of this section or in §61.54.

(2) Method 101A in appendix B or Method 29 in appendix A to part 60 shall be used to test emissions as follows:

(i) The test shall be performed by May 28, 2014 in the case of an existing source or a new source which has an initial startup date preceding February 27, 2014.

(ii) The test shall be performed within 90 days of startup in the case of a new source which did not have an initial startup date preceding February 27, 2014.

(3) The Administrator shall be notified at least 30 days prior to an emission test, so that he may at his option observe the test.

(4) Samples shall be taken over such a period or periods as are necessary to determine accurately the maximum emissions which will occur in a 24-hour period. No changes shall be made in the operation which would potentially increase emissions above the level determined by the most recent stack test, until the new emission level has been estimated by calculation and the results reported to the Administrator.

(5) All samples shall be analyzed and mercury emissions shall be determined within 30 days after the stack test. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(6) Records of emission test results and other data needed to determine total emissions shall be retained at the source and shall be made available, for inspection by the Administrator, for a minimum of 2 years.

[38 FR 8826, Apr. 6, 1973, as amended at 40 FR 48302, Oct. 14, 1975; 47 FR 24704, June 8, 1982; 50 FR 46294, Nov. 7, 1985; 52 FR 8726, Mar. 19, 1987; 65 FR 62151, Oct. 17, 2000; 79 FR 11275, Feb. 27, 2014]

Clearwater has demonstrated compliance with the applicable standard using sludge sampling in accordance with §61.54.

§61.54 Sludge sampling.

(a) As an alternative means for demonstrating compliance with §61.52(b), an owner or operator may use Method 105 of appendix B and the procedures specified in this section.

(1) A sludge test shall be conducted within 90 days of the effective date of these regulations in the case of an existing source or a new source which has an initial startup date preceding the effective date; or

(2) A sludge test shall be conducted within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(b) The Administrator shall be notified at least 30 days prior to a sludge sampling test, so that he may at his option observe the test.

(c) Sludge shall be sampled according to paragraph (c)(1) of this section, sludge charging rate for the plant shall be determined according to paragraph (c)(2) of this section, and the sludge analysis shall be performed according to paragraph (c)(3) of this section.

(1) The sludge shall be sampled according to Method 105—Determination of Mercury in Wastewater Treatment Plant Sewage Sludges. A total of three composite samples shall be obtained within an operating period of 24 hours. When the 24-hour operating period is not continuous, the total sampling period shall not exceed 72 hours after the first grab sample is obtained. Samples shall not be exposed to any condition that may result in mercury contamination or loss.

(2) The maximum 24-hour period sludge incineration or drying rate shall be determined by use of a flow rate measurement device that can measure the mass rate of sludge charged to the incinerator or dryer with an accuracy of ±5 percent over its operating range. Other methods of measuring sludge mass charging rates may be used if they have received prior approval by the Administrator.

(3) The sampling, handling, preparation, and analysis of sludge samples shall be accomplished according to Method 105 in appendix B of this part.

(d) The mercury emissions shall be determined by use of the following equation.

$$E_{Hg} = \frac{M Q F_{sm(avg)}}{1000}$$

where:

E_{Hg} = Mercury emissions, g/day.

M = Mercury concentration of sludge on a dry solids basis, µg/g. Q =

Sludge changing rate, kg/day.

F_{sm} = Weight fraction of solids in the collected sludge after mixing. 1000 =

Conversion factor, kg µg/g.[2]

(e) No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase 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 Administrator.

(f) All sludge samples shall be analyzed for mercury content within 30 days after the sludge sample is collected. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(g) 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 Administrator, for a minimum of 2 years.

[40 FR 48303, Oct. 14, 1975, as amended at 49 FR 35770, Sept. 12, 1984; 52 FR 8727, Mar. 19, 1987; 53 FR 36972, Sept. 23, 1988]

Clearwater performed sludge sampling in accordance with §61.54 and demonstrated compliance with the standard.

§61.55 Monitoring of emissions and operations.

(a) *Wastewater treatment plant sludge incineration and drying plants.* All the sources for which mercury emissions exceed 1.6 kg (3.5 lb) per 24-hour period, demonstrated either by stack sampling according to §61.53 or sludge sampling according to §61.54, shall monitor mercury emissions at intervals of at least once per year by use of Method 105 of appendix B or the procedures specified in §61.53 (d) (2) and (4). The results of monitoring shall be reported and retained according to §61.53(d) (5) and (6) or §61.54 (f) and (g).

(b) *Mercury cell chlor-alkali plants—hydrogen and end-box ventilation gas streams.* (1) The owner or operator of each mercury cell chlor-alkali plant shall, within 1 year of the date of publication of these amendments or within 1 year of startup for a plant with initial startup after the date of publication, perform a mercury emission test that demonstrates compliance with the emission limits in §61.52, on the hydrogen stream by Method 102 and on the end-box stream by Method 101 for the purpose of establishing limits for parameters to be monitored.

(2) During tests specified in paragraph (b)(1) of this section, the following control device parameters shall be monitored, except as provided in paragraph (c) of this section, and recorded manually or automatically at least once every 15 minutes:

(i) The exit gas temperature from uncontrolled streams;

(ii) The outlet temperature of the gas stream for the final (i.e., the farthest downstream) cooling system when no control devices other than coolers and demisters are used;

(iii) The outlet temperature of the gas stream from the final cooling system when the cooling system is followed by a molecular sieve or carbon adsorber;

(iv) Outlet concentration of available chlorine, pH, liquid flow rate, and inlet gas temperature of chlorinated brine scrubbers and hypochlorite scrubbers;

(v) The liquid flow rate and exit gas temperature for water scrubbers;

(vi) The inlet gas temperature of carbon adsorption systems; and

(vii) The temperature during the heating phase of the regeneration cycle for carbon adsorbers or molecular sieves.

(3) The recorded parameters in paragraphs (b)(2)(i) through (b)(2)(vi) of this section shall be averaged over the test period (a minimum of 6 hours) to provide an average number. The highest temperature reading that is measured in paragraph (b)(2)(vii) of this section is to be identified as the reference temperature for use in paragraph (b)(6)(ii) of this section.

(4)(i) Immediately following completion of the emission tests specified in paragraph (b)(1) of this section, the owner or operator of a mercury cell chlor-alkali plant shall monitor and record manually or automatically at least once per hour the same parameters specified in paragraphs (b)(2)(i) through (b)(2)(vi) of this section.

(ii) Immediately following completion of the emission tests specified in paragraph (b)(1) of this section, the owner or operator shall monitor and record manually or automatically, during each heating phase of the regeneration cycle, the temperature specified in paragraph (b)(2)(vii) of this section.

(5) Monitoring devices used in accordance with paragraphs (b)(2) and (b)(4) of this section shall be certified by their manufacturer to be accurate to within 10 percent, and shall be operated, maintained, and calibrated

according to the manufacturer's instructions. Records of the certifications and calibrations shall be retained at the chlor-alkali plant and made available for inspection by the Administrator as follows: Certification, for as long as the device is used for this purpose; calibration for a minimum of 2 years.

(6)(i) When the hourly value of a parameter monitored in accordance with paragraph (b)(4)(i) of this section exceeds, or in the case of liquid flow rate and available chlorine falls below the value of that same parameter determined in paragraph (b)(2) of this section for 24 consecutive hours, the Administrator is to be notified within the next 10 days.

(ii) When the maximum hourly value of the temperature measured in accordance with paragraph (b)(4)(ii) of this section is below the reference temperature recorded according to paragraph (b)(3) of this section for three consecutive regeneration cycles, the Administrator is to be notified within the next 10 days.

(7) Semiannual reports shall be submitted to the Administrator indicating the time and date on which the hourly value of each parameter monitored according to paragraphs (b)(4)(i) and (b)(4)(ii) of this section fell outside the value of that same parameter determined under paragraph (b)(3) of this section; and corrective action taken, and the time and date of the corrective action. Parameter excursions will be considered unacceptable operation and maintenance of the emission control system. In addition, while compliance with the emission limits is determined primarily by conducting a performance test according to the procedures in §61.53(b), reports of parameter excursions may be used as evidence in judging the duration of a violation that is determined by a performance test.

(8) Semiannual reports required in paragraph (b)(7) of this section shall be submitted to the Administrator on September 15 and March 15 of each year. The first semiannual report is to be submitted following the first full 6 month reporting period. The semiannual report due on September 15 (March 15) shall include all excursions monitored through August 31 (February 28) of the same calendar year.

(c) As an alternative to the monitoring, recordkeeping, and reporting requirements in paragraphs (b)(2) through (8) of this section, an owner or operator may develop and submit for the Administrator's review and approval a plant-specific monitoring plan. To be approved, such a plan must ensure not only compliance with the emission limits of §61.52(a) but also proper operation and maintenance of emissions control systems. Any site-specific monitoring plan submitted must, at a minimum, include the following:

(1) Identification of the critical parameter or parameters for the hydrogen stream and for the end-box ventilation stream that are to be monitored and an explanation of why the critical parameter(s) selected is the best indicator of proper control system performance and of mercury emission rates.

(2) Identification of the maximum or minimum value of each parameter (e.g., degrees temperature, concentration of mercury) that is not to be exceeded. The level(s) is to be directly correlated to the results of a performance test, conducted no more than 180 days prior to submittal of the plan, when the facility was in compliance with the emission limits of §61.52 (a).

(3) Designation of the frequency for recording the parameter measurements, with justification if the frequency is less than hourly. A longer recording frequency must be justified on the basis of the amount of time that could elapse during periods of process or control system upsets before the emission limits would be exceeded, and consideration is to be given to the time that would be necessary to repair the failure.

(4) Designation of the immediate actions to be taken in the event of an excursion beyond the value of the parameter established in paragraph (c)(2) of this section.

(5) Provisions for reporting, semiannually, parameter excursions and the corrective actions taken, and provisions for reporting within 10 days any significant excursion.

(6) Identification of the accuracy of the monitoring device(s) or of the readings obtained.

(7) Recordkeeping requirements for certifications and calibrations.

(d) *Mercury cell chlor-alkali plants—cell room ventilation system.* (1) Stationary sources determining cell room emissions in accordance with §61.53(c)(4) shall maintain daily records of all leaks or spills of mercury. The records shall indicate the amount, location, time, and date the leaks or spills occurred, identify the cause of the leak or spill, state the immediate steps taken to minimize mercury emissions and steps taken to prevent future occurrences, and provide the time and date on which corrective steps were taken.

(2) The results of monitoring shall be recorded, retained at the source, and made available for

inspection by the Administrator for a minimum of 2 years.

[52 FR 8727, Mar. 19, 1987, as amended at 65 FR 62151, Oct. 17, 2000]

The results of the sludge sampling performed by Clearwater were less than 3.5 lb per 24-hour period. Therefore, no additional monitoring is applicable.

§61.56 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: Sections 61.53(c)(4) and 61.55(d). The authorities not delegated to States listed are in addition to the authorities in the General Provisions, subpart A of 40 CFR part 61, that will not be delegated to States (§§61.04(b), 61.12(d)(1), and 61.13(h)(1)(ii)).

[52 FR 8728, Mar. 19, 1987]

Appendix G – Response to Public Comment

Air Quality Permitting
Response to Public Comments

February 19, 2016

Tier I Operating Permit No. T1-2014.0022 &
Tier I Operating Permit No. T1-2014.0023

Clearwater Paper Corp. – PPD & CPD
Lewiston, Idaho

Facility ID No. 069-00001

Prepared by:
Dan Pitman, P.E., Permit Writer
AIR QUALITY DIVISION

Final

Table of Contents

BACKGROUND

The Idaho Department of Environmental Quality (DEQ) provided for public comment on the draft Tier I operating permits for Clearwater Paper Corporation from November 16, 2015 through December 16, 2015, in accordance with IDAPA 58.01.01.364.05. During this period, comments were submitted in response to DEQ's proposed action. Each comment and DEQ's response is provided in the following section. All comments submitted in response to DEQ's proposed action are included in the appendix of this document.

PUBLIC COMMENTS AND RESPONSES

Public comments regarding the technical and regulatory analyses and the air quality aspects of the draft permits are summarized below. Questions, comments, and/or suggestions received during the comment period that did not relate to the air quality aspects of the permit application, the Department's technical analysis, or the draft permits are not addressed. For reference purposes, a copy of the Rules for the Control of Air Pollution in Idaho can be found at:

http://adm.idaho.gov/adminrules/rules/idapa58/0101.pdf.

Comment 1: **Comments were received regarding the applicability of 40 CFR 61 Subpart E, National Emission Standards for Mercury. A commenter stated they interpret the mercury emission standard to apply to all emissions units at the facility.**

Response 1: Following is a quote of the applicability of the standard provided at §61.50:

"The provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge."

In order to be affected by the standard the source must process mercury ore to recovery mercury, use mercury chlor-alkali cells, or incinerate/dry wastewater treatment plant sludge. Clearwater incinerates wastewater sludge in the No. 4 Power Boiler and is an affected source. Sludge is not incinerated in any other combustion device.

Following is a quote of the relevant emission standard (40 CFR 61.52(b):

"Emissions to the atmosphere from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period."

The only emission unit at the facility that this standard applies to is the No. 4 Power Boiler which incinerates wastewater treatment sludge. There are no other affected emission units at the facility to which the standard applies (the entire facility is not a sludge incineration plant).

Comment 2: **Comments were received regarding ongoing compliance with the 7.1 pound per day mercury emission limit of 40 CFR 61 Subpart E.**

Response 2: This subpart required the source to collect sludge samples within 90 days of startup (40 CFR 61.54(a)(2)) which for the No. 4 Power Boiler was several decades ago. Additional sludge testing is required by this subpart only if the initial sample demonstrated emissions exceed 3.5 pounds per day (40 CFR 61.559a)). Clearwater certified in the application that they have analyzed sludge and emissions were determined to be less than 3.5 pounds per day, therefore no additional sampling is required by this subpart.

Even though the requirements of 40 CFR 61 Subpart E have been met, in accordance with IDAPA 58.01.01.322.09 the Tier I permit shall contain terms and conditions requiring sufficient testing to assure compliance. Ongoing compliance assurance is provided through the new boiler MACT emission standards for mercury. The No. 4 Power Boiler is subject to the industrial boiler MACT, 40 CFR 63 subpart DDDDD with a compliance date of 1/31/2017. The applicable mercury limit under the boiler MACT is 5.7E-6 lb/MMBtu. The 40 CFR 61 Subpart E mercury limit converted to the same units is 2.8 E-4 lb/MMBtu (nearly 50 times higher than the 40 CFR 61 Subpart E standard). The Boiler MACT requirements for mercury include monitoring and annual testing that are sufficient for assuring compliance with the7.1 pound per day emission limit of 40 CFR 61 subpart E.

Comment 3: A commenter stated that it is unclear whether the MACT provisions for the No. 4 Power Boiler apply to mercury emissions related to the incineration of waste water sludge.

Response 3: The No. 4 Power Boiler is subject to the industrial boiler MACT (40 CFR 63 Subpart DDDDD), including mercury emission limits and testing requirements that apply at all times (including when combusting wastewater sludge).

Comment 4: Comments were received regarding the applicability of the requirements of Acid Rain Permit requirements. Concerns were raised that the source may have lost the exception to applicability provided for solid waste incinerators.

Response 4: This facility is not an affected facility as defined in 40 CFR 72; therefore, acid rain permit requirements do not apply.

Applicability of the Acid Rain Permit requirements are specified at 40 CFR 72.6(a). The criteria for applicability are listed below:

> *a) Each of the following units shall be an affected unit, and any source that includes such a unit shall be an affected source, subject to the requirements of the Acid Rain Program:*
>
> *(1) A unit listed in table 1 of §73.10(a) of this chapter.*
>
> *(2) A unit that is listed in table 2 or 3 of §73.10 of this chapter and any other existing utility unit, except a unit under paragraph (b) of this section.*
>
> *(3) A utility unit, <u>except a unit under paragraph (b) of this section</u>, that: ...*

Clearwater Paper Corporation is not listed in Table 1, 2, or 3 of §73.10. Therefore, in order for Clearwater Paper Corporation to be an affected source it would have to be a "utility unit" and not qualify for the exception to applicability provided at 40 CFR 72.6(b).

All electrical generation units at Clearwater qualify as cogeneration units at 40 CFR 72.6(b)(4)(i) and therefore qualify for the exception to applicability to the Acid Rain Program as described in following citations.

> 40 CFR 72.6(b) - *The following types of units are not affected units subject to the requirements of the Acid Rain Program:*
>
> 40 CFR 72.6(b)(4) – *A cogeneration facility which:*

> 40 CFR 72.6(b)(4) (i) - *For a unit that commenced construction on or prior to November 15, 1990, was constructed for the purpose of supplying equal to or less than one-third its potential electrical output capacity or equal to or less than 219,000 MWe-hrs actual electric output on an annual basis to any utility power distribution system for sale (on a gross basis). If the purpose of construction is not known, the Administrator will presume that actual operation from 1985 through 1987 is consistent with such purpose. However, if in any three calendar year period after November 15, 1990, such unit sells to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis), that unit shall be an affected unit, subject to the requirements of the Acid Rain Program*;

All of the units that produce electricity at Clearwater Paper Corporation were constructed prior to November 15, 1990 and none were constructed for the purpose of supplying, nor do they supply, more than one-third of the units electrical output capacity to a "power distribution system" for sale. All of the electricity generated on-site is used at the Clearwater mill.

The exception to applicability is based on 40 CFR 72.6(b)(4) (i) (cogeneration facility) as described above, not on 40 CFR 76.6(b)(7) (solid waste incinerator) as the commenter suggests.

Two units generate steam for electrical generation at the Clearwater mill, the No. 4 Power Boiler and No. 5 Recovery Furnace. These units feed a common 1250 psi steam header and two (2) turbine generators (TG), No. 3 TG and No. 4 TG -- rated at 37 MW and 65 MW, respectively. The No. 4 Power Boiler was installed in September 1980 and the No. 5 Recovery Furnace was installed in June 1987. The electrical transactions with Avista are contractual only. At no time does Clearwater physically export power to the utility power distribution system or grid. As an example of electrical power generation rate and usage, the 2014 average generation rate for the site was approximately 45 MWs and the average plant demand was approximately 100 MWs resulting in Avista providing an average net of approximately 55 MWs to meet the site's electrical needs.

As described in the letter[1] from EPA's Acid Rain Program Applicability Determinations archive, not all electricity that is sold is automatically considered sales to a utility power distribution system. Rather, electricity used at the host facility or directly sold to another facility for industrial use does not qualify as sales to a "utility power distribution system." It is emphasized that all of the electricity generated on-site is used at the Clearwater mill.

DEQ has updated the Statement of Basis which supports the issuance of the permit to include the preceding discussion. The EPA letter noted in this response (Footnote 1) is included as an appendix to the Statement of Basis.

Comment 5: Clearwater requested that the following text and table be added to Section 4 of the permit for the Package Boilers.

"For the initial Package Boiler installation project to replace Power Boilers No. 2 and No. 3, the information in Table 4.4 shall be used for purposes of complying with this requirement:"

[1] August 8, 2003 EPA Letter from Sam Napolitano, Clean Markets Division to James T. Stewart, Chief Executive Officer, Mobile Energy Services Company – LLC

TABLE 4.4, 40 CFR 52.21(r)(6)(v) INFORMATION FOR THE INITIAL PACKAGE BOILER PROJECT

TYPE OF EMISSIONS	***NO_2 (T/yr)***	***CO (T/yr)***
Baseline Actual Emissions (BAE)	***446***	***93.6***
Significant defined by 52.21(b)(23)	***40***	***100***
Annual emission rate that would exceed BAE by a significant amount	***486***	***194***
Preconstruction Projection	***132***	***96.7***

Response 5: This language has not been added to the permit. The underlying Permit to Construct P-2008.0008, issued April 24, 2008 for the Package Boilers does not include this language, nor does this language occur in any Rule or Regulation. Therefore, the suggested language is not an applicable requirement to be included in the Tier I operating permit. Additionally, depending on when the Package Boilers are installed, baseline actual emissions and projected actual emissions may change from what is included in the proposed table.

Comment 6: Permit Condition 5.12 and 5.13 -Clearwater requested that permit require only one RATA for NOx and one for SO_2 on the No. 4 Power Boiler during the 5 year permit term because a RATA for SO_2 and NOx were performed in October 2015.

Response 6: The draft permit required performing two RATAs for SO_2 and two RATAs for NOx. The initial RATA for each pollutant was to occur during the 1st year of the permit term and then the second during the last year of the permit term. The permit has been modified to allow the RATAs conducted in October 2015 to replace the requirement to conduct RATAs during the 1st year of the permit term provided those tests satisfy the same requirements that the initial RATA must satisfy.

Comment 7: Permit Condition 9.11 – Clearwater requested that both NOx and PM performance testing be conducted once during the permit term on the No. 5 Recovery Furnace.

Response 7: The draft permit remains unchanged. A PM test is required once during the permit term and NO_x testing shall occur once during the first 12 months of the permit term and once during the last 12 months of the permit term.

This source was tested for PM once during the previous permit term. On 11/10/10 PM emissions were measured at 0.004 gr/dscf, which is 11 times less than the standard. Testing once during the permit term and the CAM requirements are sufficient to assure compliance.

The source was tested twice during the previous permit term for NOx. Test results for NOx are: 94 lb/hr & 51ppm (3/15/12), and 107 lb/hr & 60 ppm (9/3/13). Test results are between 50% & 80% of the standard. Testing twice during the permit term is warranted and is consistent with DEQ's guidance on source testing frequencies. Additionally, as the test results indicate NOx emissions can fluctuate depending on how the source is operated and testing twice during the permit is reasonable to assure compliance.

Comment 8: Permit Condition 14.7 – Clearwater requests that SO_2 testing on the non-condensable gas incinerator be once per permit term.

Response 8: Permit Condition 14.7 remains unchanged. If the SO_2 measured during the most recent performance test is less than or equal to 50% of any respective SO_2 standard listed in Permit

Condition 14.5, then the permittee shall conduct a performance test within five years from the most recent test date. If the SO_2 measured in the most recent performance test is between 50% and 80% of any respective SO_2 standard listed in Permit Condition 14.5, then the permittee shall conduct a performance test within three years from the most recent test date. If the most recent test exceeds 80% of the standard, a test shall be conducted with one year. This testing frequency remains unchanged from the previous Tier I operating permit. This source has the potential to emit large quantities of SO_2 and periodic testing is warranted.

Additionally, testing as required by this permit condition is warranted to assure that the scrubber controlling emission continues to operate in an efficient manner. Also, DEQ notes that this testing frequency is consistent with DEQ's guidance on source testing. If historical testing results are indicative of future emissions then testing will only be required by this permit condition once during the permit term; the initial test was conducted on September 25, 2007. Sulfur dioxide emissions were measured at 39% of the standard.

Comment 9: **Permit Condition 16.2 – Requiring the Lurgi scrubber to operate when the chlorine dioxide plant is not operating is an unreasonable permit condition. Either keep this condition the same as it is with the existing Tier 1 permit or change it to state the following: "The Lurgi scrubber shall operate a minimum of 95% of the Lurgi operating time on a calendar year basis."**

Response 9: The underlying permit to construct specifies that the scrubber shall operate 347 days per year. The Tier I permit simply reflects that requirement. Even if DEQ were to change the Tier I permit as suggested the underlying permit would still require operating 347 days per year. The underlying permit would need to be modified prior to making the suggested change to the Tier I permit.

Comment 10: **Section 21 of the permit – Clearwater requested many changes to this section of the permit to be consistent with changes to the Boiler MACT Regulation signed by EPA on November 5, 2015.**

Response 10: DEQ made all suggested changes. The sole purpose of Section 21 of the permit is to include the requirements of 40 CFR 63 Subpart DDDDD and the requested changes were necessary to be consistent with recent change to the regulation.

Comment 11: **Clearwater requested changes to the 40 CFR 60 Subpart BBa references in Section 24 of the permit.**

Response 11: DEQ made the suggested changes. DEQ had omitted that digester gases may be combusted in a recovery boiler subject to the provisions of §60.283(a)(2) as an alternative to combusting them in the non-condensable gas incinerator.

Appendix

Public Comments Submitted for

Tier I Operating Permit No. T1-2014.0022 & Tier I Operating Permit No. T1-2014.0023

www.idahoconservation.org

Idaho Conservation League

PO Box 844, Boise, ID 83701
208.345.6933

12/3/2015

Laura Sherrill
Air Quality Division
DEQ State Office
1410 N. Hilton
Boise, ID 83706

Submitted via email: laura.sherrill@deq.idaho.gov

RE: Draft Tier 1 air quality permit renewals for Clearwater Paper Corporation

Dear Ms. Sherrill;

Thank you for the opportunity to comment on the draft Tier 1 air quality permit renewals for Clearwater Paper Corporation's (Clearwater) consumer products and pulp and paper operations. Since 1973, the Idaho Conservation League has been Idaho's leading voice for clean water, clean air and wilderness—values that are the foundation for Idaho's extraordinary quality of life. The Idaho Conservation League works to protect these values through public education, outreach, advocacy and policy development. As Idaho's largest state-based conservation organization, we represent over 25,000 supporters, many of whom have a deep personal interest in protecting Idaho's air quality.

Our comments regarding Clearwater's Tier I permit are outlined below.

Regulation of Mecury Emissions

We are concerned about the mercury emissions from Clearwater's facilities and how they are being regulated. Clearwater's pulp and paper division is an affected facility under the National Emission Standards for Hazardous Air Pollutants (NESHAP) due to the wastewater sludge that is incinerated in the No. 4 Power Boiler. As a result, permit condition 11.1 contains the following applicable standards pursuant to 40 CFR 61.52(b):

> *Emissions to the atmosphere from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period.*

Based on the inclusion of these numeric standards and the relatively short (24-hour period) compliance window, one would assume that monitoring would occur on a similar time scale to ensure compliance with stated values. 40 CFR 61.53-54 provides two options, via stack or sludge sampling, for testing mercury emissions from wastewater incineration plants. Clearwater opted to perform sludge sampling and stated results were less than 3.5 lbs/day and therfore ongoing testing was not required. The statement of basis (SOB) states that the No. 4 Power Boiler has been in operation for decades though, and it is unclear if results from this initial sampling are still applicable today or if they are outdated. We are unsure how compliance with permit condition 11.1 will be validated if no monitoring or ongoing testing is required.

Additionally, within Clearwater's permit application are MACT provisions for No. 4 Power Boiler. It is unclear if these apply to mercury emissions related to the incineration of waste water sludge.

Finally, we interpret permit condition 11.1 as applying to facility-wide emissions of mercury. We are concerned that mercury emissions from the consumer products division are not being accounted for due to the current separation of Clearwater's facilities. The consumer products division has the potential to emit 2.4 lbs/yr of mercury.

We pose the following questions to DEQ regarding mercury emissions from this facility: First, how will compliance with permit condition 11.1 be demonstrated, and what monitoring and testing of wastewater sludge or stack emissions will be performed in accordance with 40 CFR 61.52(b)? Second, please clarify if the proposed MACT provisions for the No. 4 Power Boiler, including the 5.7×10^{-6} lb/MMBtu mercury limit and the annual performance testing requirement, will apply to mercury emissions resulting from wastewater incineration. If this MACT is not applicable to the wasterwater incineration emissions, are there other MACTs or regulations that should be enacted? Third, we ask that DEQ aggregrate mercury emissions from sources within both the pulp and paper division and consumer products division in order to ensure compliance pursuant to the requirements stated in 40 CFR 61.52(b).

Potential Applicability for the Acid Rain Program

The SOB prepared by DEQ for this facility reported PTE values of approximately 3,600 T/yr. of SO_2 and 4,200 T/yr. of NO_x. We believe this facility may require regulating under EPA's Acid Rain Program pursuant to 40 CFR 72.6(a)(3)(vii):

> *Was an exempt solid waste incinerator under paragraph (b)(7) of this section but during any three calendar year period after November 15, 1990 consumes 20 percent or more (on a Btu basis) fossil fuel.*

The SOB states that wastewater sludge is incinerated in the No. 4 Power Boiler. Further, the remaining power-generating equipment is fueled by natural gas or fuel oil, making it highly likely that this facility consumed 20% or more fossil fuel during any three calendar years.

Unless it can be shown that this facility does not meet the requirements for Acid Rain Program (ARP), we ask that this facility apply for an ARP permit and DEQ regulate this facility accordingly.

Dry Fuel Bin Change of Ownership

The SOB for the Pulp and Paper Division states that ownership of the dry fuel bins has changed from Clearwater to another unnamed entity. Accompanying this change in ownership is the removal of the compliance assurance monitoring (CAM) requirements.

Given that the dry fuel bins are known emitters that have historically required CAM, we seek confirmation from DEQ that the dry fuel bins are being properly regulated under a different permit since they are no longer included as part of Clearwater's facility.

Please do not hesitate to contact me at 208-345-6933 ext. 23 or ahopkins@idahoconservation.org if you have any questions regarding our comments or if we can provide you with any additional information on this matter.

Sincerely,

Austin Hopkins
Conservation Assistant