June 20, 2016

Mike Simon, Stationary Source Program Manager
Idaho Department of Environmental Quality
Air Quality Division
1410 N. Hilton
Boise, ID 83706
Tel: (208) 373 – 0502

RECEIVED
JUN 27 2016
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

Re: Plummer Forest Products, Post Falls
Facility ID No. 055-00018

Dear Mr. Simons,

Plummer Forest Products, Inc. (PFP) is submitting the enclosed Tier I Permit Renewal application for the PFP particleboard plant in Post Falls, Idaho. The PFP particleboard plant is regulated under Tier I Operating Permit No. T1-2011.0115, which became final on January 4, 2012. The Tier I permit expires on January 4, 2017 and the renewal application is due by July 4, 2016. The application includes the following items:

- Idaho Form CSTI
- Form GI, Signed by a Responsible Official
- Form CAM for the Sanderdust Boiler
- Form FRA with Attached Regulatory Analyses
- Emissions Calculations with Supporting Documentation

PFP will email all the files used to create this document in electronic format. Please contact Jeff Carlson at (208) 773 - 7521 or Diane Lorenzen at (406) 459 - 3995 if you have any questions about the application materials.

Signature by Responsible Official

Based on the information and belief formed after reasonable inquiry, the statements and information contained herein are true, accurate and complete, to the best of my knowledge.

Sincerely,
PLUMMER FOREST PRODUCTS

Mel Coulston

Mel Coulston
Operations Manager

Enclosure

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Cover Sheet for Air Permit Application – Tier I **Form CSTI**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Plummer Forest Products, Inc.		
2. Facility Name	Plummer Forest Products	3. Facility ID No.	055-00018
4. Brief Project Description - One sentence or less	Particleboard production		

PERMIT APPLICATION TYPE

5. ☐ Initial Tier I ☐ Tier I Administrative Amendment ☐ Tier I Minor Modification ☐ Tier I Significant Modification
☒ Tier I Renewal: Permit No.: T1-2011.0115 Date Issued: Jan. 4, 2012

FORMS INCLUDED

Included	N/A	Forms		DEQ Verify
☒	☐	Form CSTI – Cover Sheet		☐
☒	☐	Form GI – Facility Information		☐
☐	☒	Form EU0 – Emissions Units General		☐
☐	☒	Form EU1– Industrial Engine Information	Please specify number of EU1s attached: _____	☐
☐	☒	Form EU2– Nonmetallic Mineral Processing Plants	Please specify number of EU2s attached: _____	☐
☐	☒	Form EU3– Spray Paint Booth Information	Please specify number of EU3s attached: _____	☐
☐	☒	Form EU4– Cooling Tower Information	Please specify number of EU4s attached: _____	☐
☐	☒	Form EU5 – Boiler Information	Please specify number of EU5s attached: 2	☐
☐	☒	Form CBP– Concrete Batch Plant	Please Specify number of CBPs attached: _____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant	Please specify number of HMAPs attached:	☐
☐	☒	PERF – Portable Equipment Relocation Form		☐
☐	☒	Form BCE– Baghouses Control Equipment		☐
☐	☒	Form SCE– Scrubbers Control Equipment		☐
☐	☒	Form VSCE – Venturi Scrubber Control Equipment		☐
☐	☒	Form ESP – Electrostatic Precipitator		☐
☐	☒	Form AO – Afterburner/Oxidizer		☐
☐	☒	Form CYS – Cyclone Separator		☐
☐	☒	Form CA – Carbon Adsorber		☐
☒	☐	Forms EI-CP1 - EI-CP4– Emissions Inventory– criteria pollutants	(Excel workbook, all 4 worksheets)	☐
☒	☐	Form CAM – Compliance Assurance Monitoring		☐
☒	☐	Form FRA – Federal Regulation Applicability		☐

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

General Information - **Form GI**
4/7/16

Please see instructions on second page before filling out the form.

FACILITY AND PERMIT INFORMATION

1. Facility Name:	2. Facility ID Number:
Plummer Forest Products, Inc.	055-00018
3. Brief Project Description:	Tier I Renewal
4. Facility Contact Name:	5. Facility Contact Title:
Jeff Carlson	Environmental Manager
6. Facility Contact Telephone Number:	7. Facility Contact Email:
208.773.2426	j.carlson@nwpanel.com
8. Mailing address where permit will be sent (street/city/state/zip code):	9. Physical address of facility (if different than mailing address) (street/city/state/zip code):
P.O. Box 788 Post Falls, ID 83877	401 N. Potlatch Road Post Falls, ID 83877
10. County Facility is located	Kootenai
11. Is the equipment portable?	☒ No ☐ Yes
12. NAICS codes	Primary NAICS: 321219 / Secondary NAICS (if applicable):
13. Brief business description and principal product produced:	Particleboard Manufacturing
14. Describe any contiguous or adjacent facility this company owns or operates:	None
15. Permit Application Type. Provide Permit Number for existing permit. For a PTC, an application fee is required.	☐ Initial Permit to Construct (PTC) ☐ PTC Modification — PTC No. _____ Issued Date _____
	☐ Initial Tier II ☐ Tier II Modification ☐ Tier II Renewal — Tier II No. _____ Issued Date _____
	☐ Initial Tier I ☐ Tier I Administrative Amendment ☐ Tier I Minor Modification ☐ Tier I Significant Modification ☒ Tier I Renewal — Tier I No. 2011.0115 Issued Date 1/4/2012
16. **For Tier I permitted facilities only:** If you are applying for a PTC then you must specify how the PTC will be incorporated into the Tier I permit.	☐ Incorporate PTC at the time of Tier I renewal (IDAPA 58.01.01.209.05.a) ☐ Co-process PTC with Tier I Modification (IDAPA 58.01.01.209.05.b) ☐ Administrative amend the Tier I to incorporate PTC upon applicant's request (IDAPA 58.01.01.209.05.c)
17. ☒ Check here to request facility draft permit before final issuance.	

Certification of Truth, Accuracy, and Completeness (by Responsible Official)
I hereby certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this and any attached and/or referenced document(s) are true, accurate, and complete in accordance with IDAPA 58.01.01.123 124.

Responsible Official Signature _____ *Responsible Official Title* _____ *Date* _____

Print or Type Responsible Official Name _____

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Compliance Assurance Monitoring - **Form CAM**
Revision 2
08/28/08

Please see instructions on pages 3-8 before filling out the form.

IDENTIFICATION

1. Company Name:	**Plummer Forest Products, Inc.**	2. Facility Name:	Plummer Forest Products	3. Facility ID	No.: 055-00018
4. Brief Project Description:	Tier I renewal application.				

MONITORING APPROACH SUBMITTAL

Background

5. Emissions Unit	Description (type of emission point): Sander-dust Boiler	Identification (emission point number): Emissions Unit Group 1= Sander-dust Boiler
6. Applicable Regulation, Emission Limits, and Monitoring Requirements	Applicable regulation citation: IDAPA 58.01.01.677 PTC No. P-2010.0042 40 CFR 64.6	Pollutant: PM, while burning wood Emission limit: 0.200 gr/dscf at 8% oxygen Pollutant: PM, while burning gas Emission limit: 0.015 gr/dscf at 3% oxygen Pollutant: Emission limit:
		Monitoring requirements: Pressure drop across the multiclone. Voltage and current applied by each transformer/rectifier (T/R) set.
7. Control Technology	Brief description: Multiclone followed by ESP with two fields.	

Table 1. Monitoring Approach

	Indicator No. 1	Indicator No. 2	Indicator No. 3
I. Indicator Description	Pressure drop across the multiclone.	Voltage applied by each T/R set to the discharge electrodes.	Current applied by each T/R set to the discharge electrodes.
Measurement Approach	Pressure differential gauge with operator readout.	Continuous voltage monitor with operator readout for each T/R set.	Continuous current monitor with operator readout for each T/R set.
II. Indicator Range (Quality improvement plan threshold optional)	0 to 6 inches water column (IWC)	15 to 65 kilovolts (kV)	90 to 330 milliamps (mA)
III. Performance Criteria	———	———	———
A. Data Representativeness	The pressure differential ports are located upstream and downstream of the cyclone array in the multiclone.	The voltage is measured using instrumentation provided with the ESP	The current is measured using instrumentation provided with the ESP
B. Verification of Operational Status	Pressure differential gauge properly installed as per manufacturer instructions.	Verify that voltage meter is properly calibrated following any repair or maintenance.	Verify that current (amp) meter is properly calibrated following any repair or maintenance.
C. QA/QC Practices and Criteria	Confirm the gauge zeros out when there is no flow through unit.	Confirm that meter reads zero when the ESP is not operating.	Confirm that meter reads zero when the ESP is not operating.
D. Monitoring Frequency	Recorded once per day.	Recorded hourly. Monitoring complete if 20 of 24 hours recorded.	Recorded hourly. Monitoring complete if 20 of 24 hours recorded.
Data Collection Procedures	Data recorded in log book, maintained for 5 years.	Data recorded on ESP Hourly Checklist forms. Maintained for 5 years.	Data recorded on ESP Hourly Checklist forms. Maintained for 5 years.

Averaging Period	Reading is instantaneous at time recorded.	Voltage reading is instantaneous at the time recorded.	Current reading is instantaneous at the time recorded.

Justification	Present justification for selection of monitoring approach(es) and indicator range(s): Justification for Indicator 1: Multiclone pressure drop is often registered as 0 when the incoming flue gas is lightly loaded with particulate. A pressure drop higher than the indicated range could indicate that the unit is beginning to plug up. Justification for Indicator 2: Voltage drop below the range could indicate a malfunction, such as grounded electrodes. Justification for Indicator 3: Current drop below the range could indicate collection plates not clean, or other malfunction.

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Preapplication Meeting Information Form FRA (Federal Requirements Applicability) - Regulatory Review

In each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name: Plummer Forest Products, Inc.	2. Facility Name: Plummer Forest Products
3. Brief Project Description: Tier I renewal application.	

APPLICABILITY DETERMINATION	
4. List all applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). List all non-applicable subparts of the NSPS which may appear to apply to the facility but do not. Examples of NSPS-affected emissions units include internal combustion engines, boilers, turbines, etc. Applicant must thoroughly review the list of affected emissions units.	List of all applicable subpart(s): NSPS Subpart Dc does not apply to the sanderdust boiler because it was constructed before the applicability date. NSPS Subpart Dc may apply to the temporary boiler if one is ever installed. ☑ Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR part 61 and 40 CFR part 63). List all non-applicable subparts of the NESHAP which may appear to apply to the facility but do not. Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. Reference EPA's webpage on NESHAPs for more information.	List of all applicable subpart(s): NESHAP Subpart ZZZZ – Reciprocating Internal Combustion Engines. Applies to fire-water pump engine. NESHAP Subpart JJJJJJ – Industrial, Commercial, and Institutional Boilers Area Sources. Applies to the sanderdust boiler ☐ Not Applicable
6. For each subpart identified above, conduct a complete regulatory analysis using the instructions and referencing the example on the following pages. **Note** - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation does or does not apply. Regulatory reviews submitted with insufficient detail will be determined incomplete.	☑ A detailed regulatory review is provided (Follow instructions and example). ☐ DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.

IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT.

It is emphasized that it is the applicant's responsibility to satisfy all technical and regulatory requirements, and that DEQ will help the applicant understand those requirements prior to submittal of the application but that DEQ will not perform the required technical or regulatory analyses on the applicant's behalf.

ELECTRONIC CODE OF FEDERAL REGULATIONS
e-CFR data is current as of June 13, 2016

Title 40: Protection of Environment, PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES, Subpart ZZZZ—National Emissions Standards for Hazardous Air

Only the portions of this regulation that apply or could potentially apply to PFP are included. The only RICE at the PFP facility is the 171 hp compression ignition fire-pump engine that is used only for emergency purposes.

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.

§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. ***The fire pump engine is a diesel-fired (compression ignition) RICE. The PFP particleboard plant is an Area Source of HAP.***

(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. ***The fire-pump engine is a RICE.***

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source. ***The PFP facility is an area source of HAP.***

(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. ***The PFP facility is required to obtain a 40 CFR Part 70 permit for reasons other than this regulation.***

(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. ***Not applicable.***

(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). ***Not applicable.***

(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). ***Not applicable.***

(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). ***Not applicable.***

§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. ***The fire-pump engine is the affected source.***

(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. ***Not applicable.***

(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. ***Not applicable.***

(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. ***The fire pump engine was installed prior to 2006.***

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE. ***Not applicable.***

(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. ***Not applicable.***

(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. ***Not applicable.***

(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. ***Not applicable.***

(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. ***Not applicable.***

(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. ***Not applicable.***

(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. ***Not applicable.***

(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). ***Not applicable.***

(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. ***Not applicable.***

(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. ***Not applicable.***

(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: ***Not applicable.***

(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. ***Not applicable.***

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

§63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an … 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. ***The PFP fire-pump engine is an existing stationary CI RICE located at an area source. PFP complied with applicable requirements before May 3, 2013.***

(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. ***Not Applicable.***

(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. ***According to 63.6645(5), notifications are not required for an existing stationary emergency CI RICE. PFP understands that notification is not required for the fire pump engine.***

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? ***Not Applicable.***

§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? ***Not Applicable.***

§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? ***Not Applicable.***

§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. ***No numerical emission limitations apply to the PFP fire-pump engine.***

(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. ***The fire pump engine is an emergency engine with a rating of***

171 brake HP and is not subject to any requirements in Table 2b. It is subject to applicable operating limitations in Table 2d.

§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 ... ***Not Applicable***.

(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. ***PFP uses diesel fuel that meets the non-road specification.***

(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. ***PFP will keep this in mind if they buy a bigger engine.***

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.

PFP must comply with the operational requirements in Table 2d and listed above.

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? ***Not Applicable.***

§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? ***Not Applicable.***

§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or *an existing stationary RICE located at an area source of HAP emissions* you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2). **Not applicable. No performance tests are required for emergency engines.**

§63.6615 When must I conduct subsequent performance tests? ***Not applicable. No performance tests are required.***

§63.6620 What performance tests and other procedures must I use? ***Not applicable. No performance tests are required.***

§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(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:

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions; ***This description applies to the PFP fire-pump engine, PFP must operate the fire-water engine as described***

(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. ***The PFP fire-pump engine is equipped with a non-resettable hour meter.***

(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. ***PFP must operate the fire-water engine as described above during startup.***

(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. ***PFP is aware of this provision.***

§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart. ***Table 5 to Subpart ZZZZ does not contain emission or operating limitations that apply to the PFP fire pump engine.***

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. ***PFP is not required to demonstrate continuous compliance for the fire-pump engine.***

§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. ***PFP must maintain records of operation to ensure compliance with the operational limitations listed in Table 2d for this emergency engine.***

(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. ***PFP will report any deviations as required.***

(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: ***Not Applicable.***

(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). ***Not Applicable.***

(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. ***As per §63.6645(a)(5), the requirements in Table 8 do not apply to the PFP fire-pump engine.***

PFP must comply with the conditions of Section 63.6640(f) as listed below.

(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. ***Applies.***

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

(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). ***Applies.***

(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. ***Applies.***

(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. ***Not Applicable.***

(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. ***Not Applicable.***

(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. ***Not Applicable.***

(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. ***Applies.***

(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. ***Not Applicable.***

(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: ***Not Applicable.***

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;

(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. ***The PFP fire-pump engine is not subject to any numerical emission standards so this provision does not apply.***

§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. ***No reports in Table 7 apply to the PFP fire-pump engine.***

§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). ***Applies.***

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

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii). ***Not applicable.***

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment. ***Not applicable.***

(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. ***Not applicable.***

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section. ***Not 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. ***Not applicable.***

(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. ***Applies.***

(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. ***Not applicable.***

(2) An existing stationary emergency RICE. ***Applies.***

(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. ***Applies.***

(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. ***Not Applicable.***

(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. ***Applies.***

§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). ***Applies.***

(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. ***Applies.***

(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). ***Applies.***

OTHER REQUIREMENTS AND INFORMATION

§63.6665 What parts of the General Provisions apply to me? ***As per §63.6645(a)(5), the requirements of the general provisions do not apply to the PFP fire-water pump.***

§63.6670 Who implements and enforces this subpart? ***This section not applicable to PFP.***

§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: ***Only definitions that apply or could potentially apply to the PFP fire-pump engine are included on this list.***

Area source means any stationary source of HAP that is not a major source as defined in part 63.

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).

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

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.

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.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

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:

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.

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).

Responsible official means responsible official as defined in 40 CFR 70.2.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

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.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

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. ***Not Applicable.***

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. ***Not Applicable.***

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. ***Not Applicable.***

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. ***Not Applicable.***

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions. ***Not Applicable.***

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 . . .
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.	

[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.

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: ***No applicable performance tests for the PFP fire-pump engine.***

able 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: ***No applicable performance tests for the PFP fire-pump engine.***

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: ***No applicable requirements in Table 5 for emergency engines***

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 . . .
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…*	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.

[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.

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: ***No reports in Table 7 apply to the PFP fire-pump engine.***

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. ***As per §63.6645(a)(5), the requirements of the general provisions do not apply to the PFP fire-water pump.***

ELECTRONIC CODE OF FEDERAL REGULATIONS
e-CFR data is current as of June 10, 2016

Title 40: Protection of Environment. PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES. Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

WHAT THIS SUBPART COVERS

§63.11193 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in §63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in §63.2, except as specified in §63.11195.

The PFP sanderdust boiler is an industrial boilers located at an area source of HAP emissions. The boiler is therefore subject to Subpart JJJJJJ.

§63.11194 What is the affected source of this subpart?

(a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers within a subcategory, as listed in §63.11200 and defined in §63.11237, located at an area source. ***The PFP particleboard mill is an area source of HAPS. The affected source is the sanderdust boiler, it is an existing source.***

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in §63.11200 and as defined in §63.11237, located at an area source. ***Not applicable.***

(b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010. ***The sanderdust boiler is an existing source.***

(c) An affected source is a new source if you commenced construction of the affected source after June 4, 2010, and the boiler meets the applicability criteria at the time you commence construction. ***Not applicable.***

(d) An affected source is a reconstructed source if the boiler meets the reconstruction criteria as defined in §63.2, you commenced reconstruction after June 4, 2010, and the boiler meets the applicability criteria at the time you commence reconstruction. ***Not applicable.***

(e) An existing dual-fuel fired boiler meeting the definition of gas-fired boiler, as defined in §63.11237, that meets the applicability requirements of this subpart after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel. ***Not applicable.***

(f) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or part 71 as a result of this subpart. You may, however, be required to obtain a title V permit due to another reason or reasons. *See* 40 CFR 70.3(a) and (b) or 71.3(a) and (b). Notwithstanding the exemption from title V permitting for area sources under this subpart, you must continue to comply with the provisions of this subpart. ***The PFP facility is permitted under an Idaho Tier I (Title V) permit for reasons other than this NESHAPs requirement.***

§63.11195 Are any boilers not subject to this subpart?

The types of boilers listed in paragraphs (a) through (k) of this section are not subject to this subpart and to any requirements in this subpart. ***The sanderdust boiler is the only boiler at the PFP facility. It does not qualify for any of the exemptions listed below.***

(a) Any boiler specifically listed as, or included in the definition of, an affected source in another standard(s) under this part. ***Not Applicable***

(b) Any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act. ***Not Applicable***

(c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers), unless such units do not combust hazardous waste and combust comparable fuels. ***Not Applicable***

(d) A boiler that is used specifically for research and development. This exemption does not include boilers that solely or primarily provide steam (or heat) to a process or for heating at a research and development facility. This exemption does not prohibit the use of the steam (or heat) generated from the boiler during research and development, however, the boiler must be concurrently and primarily engaged in research and development for the exemption to apply. ***Not Applicable***

(e) A gas-fired boiler as defined in this subpart. ***Not Applicable***

(f) A hot water heater as defined in this subpart. ***Not Applicable***

(g) Any boiler that is used as a control device to comply with another subpart of this part, or part 60, part 61, or part 65 of this chapter provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler is provided by regulated gas streams that are subject to another standard. ***Not Applicable***

(h) Temporary boilers as defined in this subpart. ***Not Applicable***

(i) Residential boilers as defined in this subpart. ***Not Applicable***

(j) Electric boilers as defined in this subpart. ***Not Applicable***

(k) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part. ***Not Applicable***

§63.11196 What are my compliance dates?

(a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.

(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014. ***PFP complied with applicable work practice standards by March 21, 2014.***

(2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014. ***The sanderdust boiler is not subject to emission limits.***

(3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014. ***PFP completed the energy assessment by March 21, 2014.***

(b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011. ***Not Applicable***

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source. ***Not Applicable***

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in §63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD. ***Not Applicable***

Emission Limits, Work Practice Standards, Emission Reduction Measures, and Management Practices

§63.11200 What are the subcategories of boilers?

The subcategories of boilers, as defined in §63.11237 are:

(a) Coal. ***NA***

(b) Biomass. ***The sanderdust boiler is a biomass boiler.***

(c) Oil. ***NA***

(d) Seasonal boilers. ***NA***

(e) Oil-fired boilers with heat input capacity of equal to or less than 5 million British thermal units (Btu) per hour. ***NA***

(f) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up. ***NA***

(g) Limited-use boilers. ***NA***

§63.11201 What standards must I meet?

(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler. ***No emission limits in Table 1 apply to the sanderdust boiler.***

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement. ***PFP has complied with work practice standards in Table 2.***

(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler. ***Table 3 does not apply because there are no applicable emission limits.***

(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in §63.11237, during which time you must comply only with Table 2 to this subpart. ***Noted.***

General Compliance Requirements

§63.11205 What are my general requirements for complying with this subpart?

(a) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. ***This requirement applies to PFP.***

(b) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to §63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing. ***Does not apply because there are no applicable emission limits.***

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f). ***Does not apply because there are no applicable emission limits.***

(1) For each CMS required in this section (including CEMS, COMS, or CPMS)... ***No CMS is required.***

(2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan. ***No CMS is required.***

(3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan. ***No CMS is required.***

Initial Compliance Requirements

§63.11210 What are my initial compliance requirements and by what date must I conduct them?

(a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to

§63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to §63.11213 and Table 5 to this subpart. ***No applicable emission limits.***

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (j) of this section. ***No applicable emission limits.***

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (j) of this section. ***PFP has completed initial compliance demonstration.***

(d) For new or reconstructed affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix). ***Not applicable.***

(e) For new or reconstructed oil-fired boilers that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce particulate matter (PM) or sulfur dioxide emissions, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within 60 days of burning the new fuel. ***Not applicable.***

(f) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in §63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source. ***Not applicable.***

(g) For affected boilers that ceased burning solid waste consistent with §63.11196(d) and for which your initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste. ***Not applicable.***

(h) For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within subpart JJJJJJ or the boiler becoming subject to subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes must be submitted according to §63.11225(g). ***Not applicable.***

(i) For boilers located at existing major sources of HAP that limit their potential to emit (e.g., make a physical change or take a permit limit) such that the existing major source becomes an area source, you must comply with the applicable provisions as specified in paragraphs (i)(1) through (3) of this section. ***The PFP facility is an area source of HAP emissions without limitations.***

(1) Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source. ***Not applicable.***

(2) Any new or reconstructed boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2011 or startup. ***Not applicable.***

(3) Notification of such changes must be submitted according to §63.11225(g). ***Not applicable.***

(j) For existing affected boilers that have not operated between the effective date of the rule and the compliance date that is specified for your source in §63.11196, you must comply with the applicable provisions as specified in paragraphs (j)(1) through (3) of this section. ***Not applicable.***

(1) You must complete the initial compliance demonstration, if subject to the emission limits in Table 1 to this subpart, as specified in paragraphs (a) and (b) of this section, no later than 180 days after the re-start of the affected boiler and according to the applicable provisions in §63.7(a)(2). ***Not applicable.***

(2) You must complete the initial performance tune-up, if subject to the tune-up requirements in §63.11223, by following the procedures described in §63.11223(b) no later than 30 days after the re-start of the affected boiler. ***Not applicable.***

(3) You must complete the one-time energy assessment, if subject to the energy assessment requirements specified in Table 2 to this subpart, no later than the compliance date specified in §63.11196. ***Not applicable.***

§63.11211 How do I demonstrate initial compliance with the emission limits?

This section does not apply to the sanderdust boiler. There are no applicable emissions limits for this boiler.

§63.11212 What stack tests and procedures must I use for the performance tests?

This section does not apply to the sanderdust boiler. There are no applicable emissions limits for this boiler. Therefore, no performance testing is required.

§63.11213 What fuel analyses and procedures must I use for the performance tests?

This section does not apply to the sanderdust boiler. There are no applicable emissions limits for this boiler. Therefore, no performance testing or fuel analyses are required.

§63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

(a) If you own or operate an existing or new coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must conduct a performance tune-up according to §63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler. ***Not Applicable.***

(b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to §63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler. ***PFP has completed this requirement.***

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to this subpart and is an accurate depiction of your facility. ***PFP has completed this requirement.***

(d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available. ***Not Applicable.***

CONTINUOUS COMPLIANCE REQUIREMENTS

§63.11220 When must I conduct subsequent performance tests or fuel analyses?

This section does not apply to the sanderdust boiler. There are no applicable emissions limits for this boiler. Therefore, no performance testing or fuel analyses are required.

§63.11221 Is there a minimum amount of monitoring data I must obtain?

This section does not apply to the sanderdust boiler. There are no applicable emissions limits for this boiler. Therefore, no performance testing or fuel analyses are required.

§63.11222 How do I demonstrate continuous compliance with the emission limits?

This section does not apply to the sanderdust boiler. There are no applicable emissions limits for this boiler. Therefore, no performance testing or fuel analyses are required.

§63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. ***PFP has performed the tuneups as required.***

(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler. ***PFP has performed the tuneups as required.***

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.

(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.

(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.

(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. ***PFP has performed the tuneups as required.***

(d) Seasonal boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed seasonal boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph

(b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Seasonal boilers are not subject to the emission limits in Table 1 to this subpart or the operating limits in Table 3 to this subpart. ***PFP does not have a seasonal boiler.***

(e) Oil-fired boilers with a heat input capacity of equal to or less than 5 million Btu per hour must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed oil-fired boiler with a heat input capacity of equal to or less than 5 million Btu per hour, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. ***PFP does not have an oil-fired boiler.***

(f) Limited-use boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed limited-use boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Limited-use boilers are not subject to the emission limits in Table 1 to this subpart, the energy assessment requirements in Table 2 to this subpart, or the operating limits in Table 3 to this subpart. ***PFP does not have a limited-use boiler.***

(g) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available. ***The PFP sanderdust boiler is not subject to emission limits.***

§63.11224 What are my monitoring, installation, operation, and maintenance requirements?

(a) If your boiler is subject to a CO emission limit in Table 1 to this subpart... ***The PFP sanderdust boiler is not subject to a CO emission limit***

(b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under §63.8(f). ***The PFP sanderdust boiler is not subject to emission limits.***

(c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f). ***The PFP sanderdust boiler is not subject to emission limits.***

(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each CPMS according to the procedures in paragraphs (d)(1) through (4) of this section. ***The PFP sanderdust boiler does not have an operating limit that requires the use of a CMS.***

(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (e)(1) through (8) of this section by the compliance date specified in §63.11196. ***The PFP boiler does not have an opacity limit under this rule because it does not have applicable emission limits that are met through use of control technology.***

(f) If you use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (f)(1) through (8) of this section. ***Not applicable.***

§63.11225 What are my notification, reporting, and recordkeeping requirements?

(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.

(1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section. ***PFP has submitted notifications are required.***

(2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard. ***PFP has submitted an initial notification on schedule.***

(3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin. **Not applicable.**

(4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official. ***PFP has submitted notifications are required.***

(i) You must submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in §63.13.

(ii) "This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler."

(iii) "This facility has had an energy assessment performed according to §63.11214(c)."

(iv) For units that install bag leak detection systems: "This facility complies with the requirements in §63.11224(f)."

(v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13.

(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart. **Not applicable.**

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section. PFP is not subject to emission limits. ***The only requirement is the tuneup. The reports will be submitted as required.***

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart.

Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler."

(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(iii) "This facility complies with the requirement in §§63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section. ***PFP will continue to maintain the records as required.***

(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2 and each of the legitimacy criteria in §241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per §241.4, you must keep records documenting that the material is a listed non-waste under §241.4(a).

(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must also keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used.

(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.

(vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the

malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(6) You must keep the records of all inspection and monitoring data required by §§63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable).

(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years. ***PFP will continue to maintain the records as required.***

(e)(1) Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart ... ***PFP is not required to completed performance testing under this subpart.***

(f) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify: ***PFP has no plans to combust solid waste. The sanderdust boiler is not capable of combusting solid waste.***

(g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within subpart JJJJJJ, in the boiler becoming subject to subpart JJJJJJ, or in the boiler switching out of subpart JJJJJJ due to a change to 100 percent natural gas, or you have taken a permit limit that resulted in you being subject to subpart JJJJJJ, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify: ***Requirement Noted.***

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.

(2) The date upon which the fuel switch, physical change, or permit limit occurred.

§63.11226 Affirmative defense for violation of emission standards during malfunction.

In response to an action to enforce the standards set forth in §63.11201 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 40 CFR 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. ***PFP is aware of this provision.***

(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 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 paragraph (a) 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.

OTHER REQUIREMENTS AND INFORMATION

§63.11235 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. ***See Table 8.***

§63.11236 Who implements and enforces this subpart? *This section not applicable to PFP.*

§63.11237 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2 (the General Provisions), and in this section as follows: ***The list has been shortened to only include terms that apply or have the potential to apply to PFP.***

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 heat input means the heat input for the 12 months preceding the compliance demonstration.

Biomass means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (*e.g.,* almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings,

corn stalks, coffee bean hulls and grounds. This definition of biomass is not intended to suggest that these materials are or are not solid waste.

Biomass subcategory includes any boiler that burns any biomass and is not in the coal subcategory.

Boiler means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam and/or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. A device combusting solid waste, as defined in §241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers, process heaters, and autoclaves are excluded from the definition of *Boiler.*

Boiler system means the boiler and associated components, such as, feedwater systems, combustion air systems, fuel systems (including burners), blowdown systems, combustion control systems, steam systems, and condensate return systems, directly connected to and serving the energy use systems.

Calendar year means the period between January 1 and December 31, inclusive, for a given year.

Common stack means the exhaust of emissions from two or more affected units through a single flue. Affected units with a common stack may each have separate air pollution control systems located before the common stack, or may have a single air pollution control system located after the exhausts come together in a single flue.

Daily block average means the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown and periods when the unit is not operating.

Deviation (1) Means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any applicable requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

(2) A deviation is not always a violation.

Energy assessment means the following for the emission units covered by this subpart:

(1) The energy assessment for facilities with affected boilers with less than 0.3 trillion Btu per year (TBtu/year) heat input capacity will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (*e.g.,* steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour energy assessment.

(2) The energy assessment for facilities with affected boilers with 0.3 to 1.0 TBtu/year heat input capacity will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 33 percent of the affected boiler(s) energy (*e.g.,* steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour energy assessment.

(3) The energy assessment for facilities with affected boilers with greater than 1.0 TBtu/year heat input capacity will be up to 24 on-site technical labor hours in length for the first TBtu/year plus 8 on-site technical labor hours for every additional 1.0 TBtu/year not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 20 percent of the affected boiler(s) energy (*e.g.,* steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.

(4) The on-site energy use system(s) serving as the basis for the percent of affected boiler(s) energy production, as applicable, in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (*e.g.,* product X manufacturing area; product Y drying area; Building Z).

Energy management program means a program that includes a set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility. Facilities may establish their program through energy management systems compatible with ISO 50001.

Energy use system (1) Includes the following systems located on the site of the affected boiler that use energy provided by the boiler:

(i) Process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air conditioning systems; hot water systems; building envelop; and lighting; or

(ii) Other systems that use steam, hot water, process heat, or electricity, provided by the affected boiler.

(2) Energy use systems are only those systems using energy clearly produced by affected boilers.

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.

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.

Heat input means heat derived from combustion of fuel in a boiler and does not include the heat input from preheated combustion air, recirculated flue gases, returned condensate, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass fuel and hot water is withdrawn for use external to the vessel. Hot water boilers (*i.e.,* not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 million Btu per hour heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on-demand hot water.

Hourly average means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

Limited-use boiler means any boiler that burns any amount of solid or liquid fuels and has a federally enforceable average annual capacity factor of no more than 10 percent.

Load fraction means the actual heat input of a boiler divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (*e.g.,* for 50 percent load the load fraction is 0.5).

Minimum oxygen level means the lowest hourly average oxygen level measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable carbon monoxide emission limit.

Minimum total secondary electric power means the lowest hourly average total secondary electric power determined from the values of secondary voltage and secondary current to the electrostatic precipitator measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Operating day means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location. This definition includes oxygen trim systems.

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller.

Particulate matter (PM) means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.

Performance testing means the collection of data resulting from the execution of a test method used (either by stack testing or fuel analysis) to demonstrate compliance with a relevant emission standard.

Process heater means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. Process heaters include units that heat water/water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

Qualified energy assessor means:

(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:

(i) Boiler combustion management.

(ii) Boiler thermal energy recovery, including

(A) Conventional feed water economizer,

(B) Conventional combustion air preheater, and

(C) Condensing economizer.

(iii) Boiler blowdown thermal energy recovery.

(iv) Primary energy resource selection, including

(A) Fuel (primary energy source) switching, and

(B) Applied steam energy versus direct-fired energy versus electricity.

(v) Insulation issues.

(vi) Steam trap and steam leak management.

(vii) Condensate recovery.

(viii) Steam end-use management.

(2) Capabilities and knowledge includes, but is not limited to:

(i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.

(ii) Familiarity with operating and maintenance practices for steam or process heating systems.

(iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.

(iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.

(v) Boiler-steam turbine cogeneration systems.

(vi) Industry specific steam end-use systems.

Responsible official means responsible official as defined in §70.2.

Seasonal boiler means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory.

Shutdown means the cessation of operation of a boiler for any purpose. Shutdown begins either when none of the steam or heat 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, whichever is earlier. Shutdown ends when there is no steam and no heat being supplied and no fuel being fired in the boiler.

Solid fossil fuel includes, but is not limited to, coal, coke, petroleum coke, and tire-derived fuel.

Solid fuel means any solid fossil fuel or biomass or bio-based solid fuel.

Startup means either the first-ever firing of fuel in a boiler 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 is supplied for heating and/or producing electricity, or for any other purpose.

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

Tune-up means adjustments made to a boiler in accordance with the procedures outlined in §63.11223(b).

Vegetable oil means oils extracted from vegetation.

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.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, which is promulgated pursuant to section 112(h) of the Clean Air Act.

Table 1 to Subpart JJJJJJ of Part 63—Emission Limits. As stated in §63.11201, you must comply with the following applicable emission limits: ***There are no applicable requirements in Table 1 for an existing biomass boiler.***

Table 2 to Subpart JJJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices. As stated in §63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

If your boiler is in this subcategory . . .	You must meet the following . . .
6. Existing biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.
14. Existing coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.
16. Existing coal-fired, biomass-fired, or oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater), not including limited-use boilers	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items (1) to (4) appropriate for the on-site technical hours listed in §63.11237:

If your boiler is in this subcategory . . .	You must meet the following . . .
	(1) A visual inspection of the boiler system,
	(2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,
	(3) An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator,
	(4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
	(5) A list of major energy conservation measures that are within the facility's control,
	(6) A list of the energy savings potential of the energy conservation measures identified, and
	(7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

Table 3 to Subpart JJJJJJ of Part 63—Operating Limits for Boilers With Emission Limits. As stated in §63.11201, you must comply with the applicable operating limits: ***Table 3 does not apply because there are no applicable emission limits for the PFP sanderdust boiler.***

Table 4 to Subpart JJJJJJ of Part 63—Performance (Stack) Testing Requirements. As stated in §63.11212, you must comply with the following requirements for performance (stack) test for affected sources: ***Table 4 does not apply because there are no applicable testing requirements for the PFP sanderdust boiler.***

Table 5 to Subpart JJJJJJ of Part 63—Fuel Analysis Requirements. As stated in §63.11213, you must comply with the following requirements for fuel analysis testing for affected sources: ***Table 5 does not apply because there are no applicable fuel sampling requirements for the PFP sanderdust boiler.***

Table 6 to Subpart JJJJJJ of Part 63—Establishing Operating Limits. As stated in §63.11211, you must comply with the following requirements for establishing operating limits: ***Table 6 does not apply to the PFP sanderdust boiler.***

Table 7 to Subpart JJJJJJ of Part 63—Demonstrating Continuous Compliance. As stated in §63.11222, you must show continuous compliance with the emission limitations for affected sources according to the following: ***his section does not apply to the sanderdust boiler. There are no applicable emissions limits for this boiler. Therefore, no performance testing or fuel analyses are required.***

Table 8 to Subpart JJJJJJ of Part 63—Applicability of General Provisions to Subpart JJJJJJ

As stated in §63.11235, you must comply with the applicable General Provisions according to the following:

General provisions cite	Subject	Does it apply?
§63.1	Applicability	Yes.
§63.2	Definitions	Yes. Additional terms defined in §63.11237.
§63.3	Units and Abbreviations	Yes.
§63.4	Prohibited Activities and Circumvention	Yes.
§63.6(a), (b)(1)-(b)(5), (b)(7), (c), (f)(2)-(3), (g), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes.
§63.9	Notification Requirements	Yes, excluding the information required in §63.9(h)(2)(i)(B), (D), (E) and (F). See §63.11225.
§63.10(a) and (b)(1)	Recordkeeping and Reporting Requirements	Yes.
§63.10(b)(2)(iii)	Maintenance records	Yes.
§63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.
§63.10(b)(2)(vii) to (xiv)	Other CMS requirements	Yes.
§63.10(c)(1) to (9)	Recordkeeping for sources with CMS	Yes.

General provisions cite	Subject	Does it apply?
§63.10(d)(1) and (2)	General reporting requirements	Yes.
§63.10(d)(3)	Reporting opacity or visible emission observation results	No.
§63.10(d)(4)	Progress reports under an extension of compliance	Yes.
§63.10(d)(5)	SSM reports	No. *See* §63.11225 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.
§63.12	State Authority and Delegation	Yes.
§63.13-63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions	Yes.

POST FALLS PARTICLEBOARD PTE CALCULATION WORKSHEET

Enter values in yellow cells only

	Begin	End							
ROLLING 12 MONTH PERIOD	PTE	PTE				PTE	STEAM PRODUCTION FOR YEAR (MMLB)=	262.8	Est. Tons of Sander dust Burned, From Sheet PF-SB--1 (boiler--wood fuel)
TOTAL PRESS PRODUCTION (MSF 3/4")/HR =	74,792	HOURS OF OPERATION =		8760		PTE	MAX ANNUAL FURNISH PROCESSED (ODT/yr) =	150,000	
TOTAL PRESS PRODUCTION (MSF 3/4")/HR =	12.1						MAX HOURLY FURNISH PROCESSED (ODT/hr) =	22	
TOTAL NATURAL GAS USE (MMCF) =	324	3,316,536	Therms/yr				ESTIMATED SANDERDUST CONSUMED (BDT/YR) =	36,850	

Source/Pollutant	Throughput				Emission Factor		Emissions		Emission Factor Source & Remarks
	Hourly Maximum		Annual Maximum		Factor	Units	Hourly PTE (lb/hr)	Annual PTE (ton/yr)	
SB-1: KIPPER AND SONS BOILER/WOOD FUEL									boiler heat input conversion
CO	37.86	MMBtu/hr	388,524	MMBtu/yr	1.15	lb/MMBtu	43.5	223	Stack test 2/27/01
SO2	37.86	MMBtu/hr	388,524	MMBtu/yr	0.025	lb/MMBtu	0.95	4.86	AP-42, Table 1.6-2 (9/03): wood combustion in boilers
Particulate	37.86	MMBtu/hr	388,524	MMBtu/yr	0.054	lb/MMBtu	2.04	10.5	AP-42, Table 1.6-1 (9/03): wood combustion in boilers, source test 0.0994 lb/hr
PM10	37.86	MMBtu/hr	388,524	MMBtu/yr	0.0408	lb/MMBtu	1.54	7.93	AP-42, Table 1.6-1 (9/03): wood combustion in boilers, source test 0.0994 lb/hr
PM2.5	37.86	MMBtu/hr	388,524	MMBtu/yr	0.035	lb/MMBtu	1.33	6.80	AP-42, Table 1.6-1 (9/03): wood combustion in boilers, source test 0.0994 lb/hr
NOx	37.86	MMBtu/hr	388,524	MMBtu/yr	1.24	lb/MMBtu	46.9	241	Stack test 2/27/01
VOC	37.86	MMBtu/hr	388,524	MMBtu/yr	0.017	lb/MMBtu	0.64	3.30	AP-42, Table 1.6-3 (9/03): wood combustion in boilers
HAPS	37.86	MMBtu/hr	388,524	MMBtu/yr	0.0200	lb/MMBtu	0.76	3.89	AP-42 Section 1.6, Wood combustion, and NCASII Sources, HAPs factors totalled
GHG: CH4 (methane), short tons	37.86	MMBtu/hr	388,524	MMBtu/yr	0.0158	lb/MMBtu	0.60	3.08	Greenhouse Gas Emissions (CH4, N2O, CO2, CO2e [Carbon Dioxide equivalent]) uses emission factors from the Mandatory Greenhouse Gas Reporting Rule, 40 CFR Part 98 - Table C-1, Table C-2 and Table A-1 (Global Warming Potential GWP).
GHG: N2O (nitrous oxide), short tons	37.86	MMBtu/hr	388,524	MMBtu/yr	0.00792	lb/MMBtu	0.30	1.54	
CO2 (carbon dioxide, biogenic), short tons	37.86	MMBtu/hr	388,524	MMBtu/yr	206.36	lb/MMBtu	7,813	40,088	
SB-1: KIPPER AND SONS BOILER/NATURAL GAS FUEL									
CO	43,531	scf/hr	381	mmscf/yr	84	lb/mmscf	3.66	16.0	AP-42 Table 1.4-2 (7/98): Natural Gas Combustion
SO2	43,531	scf/hr	381	mmscf/yr	0.6	lb/mmscf	0.03	0.114	AP-42 Table 1.4-2 (7/98): Natural Gas Combustion
Particulate	43,531	scf/hr	381	mmscf/yr	0.52	lb/mmscf	0.02	0.10	EPA NEI Emission Factors Revised, March 30 2002
PM10	43,531	scf/hr	381	mmscf/yr	0.52	lb/mmscf	0.02	0.10	EPA NEI Emission Factors Revised, March 30 2002
PM2.5	43,531	scf/hr	381	mmscf/yr	0.43	lb/mmscf	0.02	0.08	EPA NEI Emission Factors Revised, March 30 2002
NOx	43,531	scf/hr	381	mmscf/yr	100	lb/mmscf	4.35	19.1	AP-42 Table 1.4-2 (7/98): Natural Gas Combustion
VOC	43,531	scf/hr	381	mmscf/yr	5.50	lb/mmscf	0.24	1.05	AP-42 Table 1.4-2 (7/98): Natural Gas Combustion
HAPs	43,531	scf/hr	381	mmscf/yr	1.89	lb/mmscf	0.08	0.360	AP-42 Table 1.4-2 (7/98): Natural Gas Combustion, HAP factors totalled
GHG: CH4 (methane), short tons	43,531	scf/hr	381	mmscf/yr	2.463	lb/mmscf	0.11	0.473	Greenhouse Gas Emissions (CH4, N2O, CO2, CO2e [Carbon Dioxide equivalent]) uses emission factors from the Mandatory Greenhouse Gas Reporting Rule, 40 CFR Part 98 - Table C-1, Table C-2 and Table A-1 (Global Warming Potential GWP).
GHG: N2O (nitrous oxide), short tons	43,531	scf/hr	381	mmscf/yr	0.226	lb/mmscf	0.01	0.0430	
GHG: CO2 (carbon dioxide), short tons	43,531	scf/hr	381	mmscf/yr	119,767	lb/mmscf	5,214	22,835	
IC-1: FIRE PUMP 1									
CO	208	hp	50	hr/yr	6.68E-03	lb/hp-hr	1.39	0.035	AP-42 Table 3.3-1 (10/96): Diesel Fuel
SO2	208	hp	50	hr/yr	2.05E-03	lb/hp-hr	0.43	0.011	AP-42 Table 3.3-1 (10/96): Diesel Fuel
Particulate	208	hp	50	hr/yr	2.20E-03	lb/hp-hr	0.46	0.011	AP-42 Table 3.3-1 (10/96): Diesel Fuel
PM10	208	hp	50	hr/yr	2.20E-03	lb/hp-hr	0.46	0.011	AP-42 Table 3.3-1 (10/96): Diesel Fuel
PM2.5	208	hp	50	hr/yr	2.20E-03	lb/hp-hr	0.46	0.011	AP-42 Table 3.3-1 (10/96): Diesel Fuel
NOx	208	hp	50	hr/yr	0.031	lb/hp-hr	6.45	0.161	AP-42 Table 3.3-1 (10/96): Diesel Fuel
VOC	208	hp	50	hr/yr	2.47E-03	lb/hp-hr	0.51	0.013	AP-42 Table 3.3-1 (10/96): Diesel Fuel (exhaust TOC)
HAPs	0.530	mmBtu/hr	50	hr/yr	3.87E-03	lb/mmBtu	2.05E-03	5.13E-05	AP-42 Table 3.3-1 (10/96): Diesel Fuel
GHG: CH4 (methane), short tons	0.530	mmBtu/hr	50	hr/yr	6.60E-03	lb/mmBtu	3.50E-03	8.74E-05	Greenhouse Gas Emissions (CH4, N2O, CO2, CO2e [Carbon Dioxide equivalent]) uses emission factors from the Mandatory Greenhouse Gas Reporting Rule, 40 CFR Part 98 - Table C-1, Table C-2 and Table A-1 (Global Warming Potential GWP).
GHG: N2O (nitrous oxide), short tons	0.530	mmBtu/hr	50	hr/yr	1.32E-03	lb/mmBtu	6.99E-04	1.75E-05	
GHG: CO2 (carbon dioxide), short tons	0.530	mmBtu/hr	50	hr/yr	162.7	lb/mmBtu	86.21	2.15	
DRYER: PARTICLE DRYER, BAGHOUSE									
Particulate	22.1	ODT/hr	150,000	ODT/yr	0.04	lb/ODT	0.88	3.00	Oregon AQ-EF02
PM10	22.1	ODT/hr	150,000	ODT/yr	0.04	lb/ODT	0.88	3.00	Assume PM10 is 100% of particulate.
PM2.5	22.1	ODT/hr	150,000	ODT/yr	0.04	lb/ODT	0.88	3.00	Assume PM2.5 is 100% of particulate.
VOC	12.1	MSF(3/4") /hr	74792	MSF(3/4") /yr	1.00	lb/MSF 3/4"	12.10	37.4	NCASI TB 771, Table 6.2.1.
HAPs	12.1	MSF(3/4") /hr	74792	MSF(3/4") /yr	6.75E-02	lb/MSF 3/4"	0.82	2.52	NCASI TB 771, Table 6.2.1. , source tests

Source/Pollutant	Throughput				Emission Factor		Emissions		Emission Factor Source & Remarks
	Hourly Maximum		Annual Maximum		Factor Units		Hourly PTE (lb/hr)	Annual PTE (ton/yr)	
PV-1: PRESS VENT 1									
Particulate	12.1	MSF(3/4") /hr	74792	MSF (3/4") /yr	0.402	lb/ODT	4.86	15.0	Source Tests 2/24/1995
PM10	12.1	MSF(3/4") /hr	74792	MSF (3/4") /yr	0.402	lb/ODT	4.86	15.0	Assume 100% of PM
PM2.5	12.1	MSF(3/4") /hr	74792	MSF (3/4") /yr	0.0402	lb/ODT	0.49	1.50	Assume 10% of PM10
VOC	12.1	MSF(3/4") /hr	74792	MSF (3/4") /yr	1.39	lb/MSF 3/4"	16.82	52.0	Source Tests 2/24/95
HAPS	22.1	ODT/hr	150,000	ODT/yr	0.11	lb/ton furnish	2.39	8.10	Source Tests, 2007
BV-2: BUILDING VENT 2 (North Raw Material Storage Building)									
Particulate	22.1	ODT/hr	75,000	ODT/yr	2.20E-02	lb/ODT	0.485	0.824	AP-42, Chapter 13.2.4, Aggregate Handling and Storage Piles, 1/95.
PM10	22.1	ODT/hr	75,000	ODT/yr	1.04E-02	lb/ODT	0.230	0.390	Assume 100% of PM
PM2.5	22.1	ODT/hr	75,000	ODT/yr	1.57E-03	lb/ODT	0.035	0.059	Assume 10% of PM10
BV-3: BUILDING VENT 3 (South Raw Material Storage Building)									
Particulate	22.1	ODT/hr	75,000	ODT/yr	2.20E-02	lb/ODT	0.485	0.824	AP-42, Chapter 13.2.4, Aggregate Handling and Storage Piles, 1/95. (See calculations)
PM10	22.1	ODT/hr	75,000	ODT/yr	1.04E-02	lb/ODT	0.230	0.390	Assume 100% of PM
PM2.5	22.1	ODT/hr	75,000	ODT/yr	1.57E-03	lb/ODT	0.035	0.059	Assume 10% of PM10
BH-1, Drag Chain Baghouse									
Particulate	41,960	dscfm	8,760	hr operation/yr	0.010	gr/dscf	3.60	15.8	Conservative estimate used in ISO PTC modelling work
PM10	41,960	dscfm	8,760	hr operation/yr	0.010	gr/dscf	3.60	15.8	Assume 100% of PM
PM2.5	41,960	dscfm	8,760	hr operation/yr	0.007	gr/dscf	2.41	10.6	Assume 67% of PM10 based on DEQ input
BH-3A: Hammer Mill Cyclone Bag Collector									Name changed from BH-2 in 2004 to reflect venting through BH-3
Particulate	25,510	dscfm	8,760	hr operation/yr	0.010	gr/dscf	2.19	9.58	Conservative estimate used in ISO PTC modelling work
PM10	25,510	dscfm	8,760	hr operation/yr	0.010	gr/dscf	2.19	9.58	Assume 100% of PM
PM2.5	25,510	dscfm	8,760	hr operation/yr	0.007	gr/dscf	1.47	6.42	Assume 67% of PM10 based on DEQ input
BH-3: Reclaim Air System Baghouse									
Particulate	19,060	dscfm	8,760	hr operation/yr	0.010	gr/dscf	1.63	7.16	Conservative estimate used in ISO PTC modelling work
PM10	19,060	dscfm	8,760	hr operation/yr	0.010	gr/dscf	1.63	7.16	Assume 100% of PM
PM2.5	19,060	dscfm	8,760	hr operation/yr	0.007	gr/dscf	1.09	4.79	Assume 67% of PM10 based on DEQ input
BH-5A: Outside Silo High Pressure Air System Baghouse									Name changed from BH-4 in 2004 to reflect venting through BH-5
Particulate	5,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	0.43	1.88	Conservative estimate used in ISO PTC modelling work
PM10	5,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	0.43	1.88	Assume 100% of PM
PM2.5	5,000	dscfm	8,760	hr operation/yr	0.007	gr/dscf	0.29	1.26	Assume 67% of PM10 based on DEQ input
BH-5: Scalper Air System Baghouse									
Particulate	12,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	1.03	4.51	Conservative estimate used in ISO PTC modelling work
PM10	12,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	1.03	4.51	Assume 100% of PM
PM2.5	12,000	dscfm	8,760	hr operation/yr	0.007	gr/dscf	0.69	3.02	Assume 67% of PM10 based on DEQ input
BH-6: Sanderdust Silo Negative Air System Baghouse									
Particulate	5,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	0.43	1.88	Conservative estimate used in ISO PTC modelling work
PM10	5,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	0.43	1.88	Assume 100% of PM
PM2.5	5,000	dscfm	8,760	hr operation/yr	0.007	gr/dscf	0.29	1.26	Assume 67% of PM10 based on DEQ input
BH-7: Sander Air System Baghouse									
Particulate	47,660	dscfm	8,760	hr operation/yr	0.010	gr/dscf	4.09	17.9	Conservative estimate used in ISO PTC modelling work
PM10	47,660	dscfm	8,760	hr operation/yr	0.010	gr/dscf	4.09	17.9	Assume 100% of PM
PM2.5	47,660	dscfm	8,760	hr operation/yr	0.007	gr/dscf	2.74	12.0	Assume 67% of PM10 based on DEQ input
VOC	12.1	MSF(3/4") /hr	74,792	#REF!	1.35E-01	lb/MSF 3/4"	1.63	5.05	NCASI TB 771 Table 6.4.1 (sum of THC + HAPs)

Source/Pollutant		Throughput: Hourly Maximum		Throughput: Annual Maximum		Emission Factor: Factor	Emission Factor: Units	Emissions: Hourly PTE (lb/hr)	Emissions: Annual PTE (ton/yr)	Emission Factor Source & Remarks
HAPS		12.1	MSF(3/4") /hr	74,792	#REF!	2.60E-02	lb/MSF 3/4"	0.31	0.97	NCASI TB 768 Table 6.3.1
BH-8: Sanderdust Overs Baghouse										
Particulate		2,500	dscfm	8,760	hr operation/yr	0.010	gr/dscf	0.21	0.939	Conservative estimate used in ISO PTC modelling work
PM10		2,500	dscfm	8,760	hr operation/yr	0.010	gr/dscf	0.21	0.939	Assume 100% of PM
PM2.5		2,500	dscfm	8,760	hr operation/yr	0.007	gr/dscf	0.14	0.629	Assume 67% of PM10 based on DEQ input
BH-10A, East Sawline Baghouse										Name changed from BH-9 in 2004 to reflect venting through BH-10
Particulate		30,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	2.57	11.3	Conservative estimate used in ISO PTC modelling work
PM10		30,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	2.57	11.3	Assume 100% of PM
PM2.5		30,000	dscfm	8,760	hr operation/yr	0.007	gr/dscf	1.72	7.55	Assume 67% of PM10 based on DEQ input
VOC		12.10	MSF(3/4") /hr	74,792	MSF (3/4") /yr	3.20E-02	lb/MSF 3/4"	0.39	1.20	NCASI TB 771 Table 6.4.1
HAPS		12.10	MSF(3/4") /hr	74,792	MSF (3/4") /yr	2.05E-02	lb/MSF 3/4"	0.35	1.20	Stack Test Results Jan 16, 2007
BH-10, West Sawline Baghouse										
Particulate		30,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	2.57	11.3	Conservative estimate used in ISO PTC modelling work
PM10		30,000	dscfm	8,760	hr operation/yr	0.010	gr/dscf	2.57	11.3	Assume 100% of PM
PM2.5		30,000	dscfm	8,760	hr operation/yr	0.007	gr/dscf	1.72	7.55	Assume 67% of PM10 based on DEQ input
VOC		12.10	MSF(3/4") /hr	74,792	ODT/yr	3.20E-02	lb/MSF 3/4"	0.39	1.20	NCASI TB 771 Table 6.4.1
HAPS		12.10	MSF(3/4") /hr	74,792	ODT/yr	1.60E-02	lb/MSF 3/4"	0.35	1.20	Stack Test Results Jan 16, 2007
FUGITIVE EMISSION CALCULATION DUE TO VEHICLE TRANSPORT										
Particulate									9.297	See Spreadsheet
PM10									1.814	See Spreadsheet
PM2.5									0.454	See Spreadsheet
FUGITIVE EMISSIONS DUE TO PILE DROPS										
Particulate									4.15E-03	See Spreadsheet
PM10									1.45E-03	See Spreadsheet
PM2.5									2.20E-04	See Spreadsheet

Facilty Wide Emissions with Baghouse

TOTAL SOx	**4.87**	**tons/yr PTE**
TOTAL NOx	**241**	**tons/yr PTE**
TOTAL CO	**223**	**tons/yr PTE**
TOTAL PM	**122**	**tons/yr PTE**
TOTAL PM10	**111**	**tons/yr PTE**
TOTAL PM2.5	**67.0**	**tons/yr PTE**
TOTAL VOC	**100**	**tons/yr PTE**
TOTAL HAPS	**17.9**	**tons/yr PTE**
TOTAL CH4	**3.08**	**tons/yr PTE**
TOTAL N2O	**1.54**	**tons/yr PTE**
TOTAL CO2	**22,837**	**tons/yr PTE (excluding biogenic)**

PLUMMER FOREST PRODUCTS								
POST FALLS PARTICLEBOARD								
HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS SUMMARY								
	Wood Boiler	Natural Gas Blr	Fire Pump	Particle Dryer	Sander BH	Sawline Baghouses	Press Vents	HAP Total
	PF-SB-1,Wood	PF-SB-1,Gas	PF-IC-1	Dryer	PF-BH-7	PF-BH-9,10	PF-PV-1	(tpy)
1,1,1-Trichloroethane	5.14E-03							5.14E-03
1,2-Dichloroethane	4.81E-03							4.81E-03
1,3 Butadiene			5.18E-07					5.18E-07
2,3,7,8-Tetrachlorodibenzo-p-dioxins	1.43E-09							1.43E-09
2,4,6-Trichlorophenol	3.65E-06							3.65E-06
2,4-Dinitrophenol	2.98E-05							2.98E-05
Methyl Ethyl Ketone (MEK)	8.95E-04							8.95E-04
4-Nitrophenol	1.82E-05	3.40E-04						3.58E-04
Acetaldehyde	1.38E-01		1.02E-05	2.10E+00			5.98E-01	2.84E+00
Acetophenone	5.31E-07							5.31E-07
Acrolein	6.63E-01		1.23E-06	4.91E-01				1.15E+00
Benzene	6.96E-01		1.24E-05	2.06E-01				9.03E-01
Benzo(a)anthracene	1.08E-05		2.23E-08					1.08E-05
Benzo(a)pyrene	4.31E-04		2.49E-09					4.31E-04
Benzo(b)fluoranthene	1.66E-05		1.31E-09					1.66E-05
Benzo(e)pyrene	4.31E-07							4.31E-07
Benzo(g,h,i)perylene	1.54E-05		6.48E-09					1.54E-05
Benzo(j,k)fluoranthene	2.65E-05							2.65E-05
Benzo(k)fluoranthene	5.97E-06		2.05E-09					5.97E-06
bis(2-Ethylhexyl)phthalate	7.79E-06							7.79E-06
Bromomethane	2.49E-03							2.49E-03
Carbon tetrachloride	7.46E-03							7.46E-03
Chlorine	1.31E-01							1.31E-01
Chlorobenzene	5.47E-03							5.47E-03
Chloroform	4.64E-03							4.64E-03
Chloromethane	3.81E-03							3.81E-03
Dibenzo(a,h)anthracene	1.51E-06							1.51E-06
Dichlorobenzene		1.94E-04						1.94E-04
Dichloromethane	4.81E-02							4.81E-02
Ethylbenzene	5.14E-03							5.14E-03

	Wood Boiler	Natural Gas Blr	Fire Pump	Particle Dryer	Sander BH	Sawline Baghouses	Press Vents	HAP Total
	PF-SB-1,Wood	PF-SB-1,Gas	PF-IC-1	Dryer	PF-BH-7	PF-BH-9,10	PF-PV-1	(tpy)
Formaldehyde	7.30E-01	1.21E-02		7.48E-02		9.00E-01	8.23E-01	2.54E+00
Hexane		2.91E-01						2.91E-01
Hydrogen chloride	3.15E+00							3.15E+00
Indeno(1,2,3,c,d)pyrene	1.44E-05		4.97E-09					1.44E-05
Methanol				2.99E-01	4.86E-01	1.50E+00	2.17E+00	4.45E+00
Methyl isobutyl ketone (MIBK)				4.88E-02				4.88E-02
Naphthalene	1.61E-02	9.88E-05	1.12E-06					1.62E-02
Pentachlorophenol	8.46E-06							8.46E-06
Phenanthrene	1.16E-03	2.75E-06	3.90E-07					1.16E-03
Phenol	8.46E-03			7.54E-01	4.86E-01			1.25E+00
Propanal	5.31E-04							5.31E-04
Propionaldehyde	1.01E-02			1.37E-01				1.47E-01
Styrene	3.15E-01							3.15E-01
Tetrachloroethene	6.30E-03							6.30E-03
Toluene	1.53E-01		5.42E-06	4.50E-01				6.03E-01
Vinyl chloride	2.98E-03							2.98E-03
Xylenes	4.15E-03		3.78E-06	5.78E-02				6.19E-02
Antimony	1.31E-03							1.31E-03
Arsenic	3.65E-03	3.24E-05						3.68E-03
Beryllium	1.82E-04	1.94E-06						1.84E-04
Cadmium	6.80E-04	1.78E-04						8.58E-04
Chromium, total	3.48E-03	2.27E-04						3.71E-03
Chromium, hexavalent	5.80E-04							5.80E-04
Cobalt	1.08E-03	1.36E-05						1.09E-03
Lead	7.96E-03	8.10E-05						8.04E-03
Manganese	2.65E-01	6.15E-05						2.65E-01
Mercury	5.80E-04	4.21E-05						6.22E-04
Nickel	5.47E-03	3.40E-04						5.81E-03
Selenium	4.64E-04	3.89E-06						4.68E-04
							Total	18.29
							Max	4.45

Emission Point: PF-SB-1
Emissions Unit Group: Kipper and Sons Boiler (multiclones & dry ESP)

Max Steam Production	30,000	lb/hr	
Heat Combustion Rate (0.82% eff.)	1,262	MMBtu/MMlb steam	
Max Heat Input	37.86	MMBtu/hr	
Annual Steam Production	262.8	MMlb/yr	
Annual Heat Input	331,654	MMBtu/yr	
Estimated Sanderdust Comsumed	36,850	BDT/yr	Heating value of sanderdust is 9 MMBtu/BDT

Criteria	Emission Factors for Permit Limit			Source Test Result for Emissions Inventory		
Pollutants	Factor	Units	Source/Notes	Factor	Units	Source
PM	0.054	lb/MMBtu	AP-42, Table 1.6-1 (9/03): wood combustion in boilers	0.0994	lb/hr	Nov. 27, 2012 source test
PM10	0.0408	lb/MMBtu	AP-42, Table 1.6-1 (9/03): wood combustion in boilers	0.0994	lb/hr	Nov. 27, 2012 source test
PM2.5	0.035	lb/MMBtu	AP-42, Table 1.6-1 (9/03): wood combustion in boilers	0.0994	lb/hr	Nov. 27, 2012 source test
SOx	0.025	lb/MMBtu	AP-42, Table 1.6-2 (9/03): wood combustion in boilers	0.025	lb/MMBtu	AP-42, Table 1.6-2 (9/03)
CO	1.15	lb/MMBtu	Stack Tests 2/27/01	1.15	lb/MMBtu	Stack Tests 2/27/01
NOx	1.24	lb/MMBtu	Stack Tests 2/27/01	1.24	lb/MMBtu	Stack Tests 2/27/01
VOC	0.017	lb/MMBtu	AP-42, Table 1.6-3 (9/03): wood combustion in boilers	0.017	lb/MMBtu	AP-42, Table 1.6-3 (9/03)

Hazardous Air Pollutants				Emissions	
Wood-fired Boiler HAPS				lb/hr	tpy
1,1,1-Trichloroethane	3.10E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.17E-03	5.14E-03
1,2-Dichloroethane	2.90E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.10E-03	4.81E-03
2,3,7,8-Tetrachlorodibenzo-p-dioxins	8.60E-12	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	3.26E-10	1.43E-09
2,4,6-Trichlorophenol	2.20E-08	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	8.33E-07	3.65E-06
2,4-Dinitrophenol	1.80E-07	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	6.81E-06	2.98E-05
Methyl Ethyl Ketone (MEK)	5.40E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	2.04E-04	8.95E-04
4-Nitrophenol	1.10E-07	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	4.16E-06	1.82E-05
Acetaldehyde	8.30E-04	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	3.14E-02	1.38E-01
Acetophenone	3.20E-09	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.21E-07	5.31E-07
Acrolein	4.00E-03	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.51E-01	6.63E-01
Benzene	4.20E-03	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.59E-01	6.96E-01
Benzo(a)anthracene	6.50E-08	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	2.46E-06	1.08E-05
Benzo(a)pyrene	2.60E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	9.84E-05	4.31E-04
Benzo(b)fluoranthene	1.00E-07	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	3.79E-06	1.66E-05
Benzo(e)pyrene	2.60E-09	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	9.84E-08	4.31E-07
Benzo(g,h,i)perylene	9.30E-08	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	3.52E-06	1.54E-05
Benzo(j,k)fluoranthene	1.60E-07	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	6.06E-06	2.65E-05

Hazardous Air Pollutants				Emissions	
Benzo(k)fluoranthene	3.60E-08	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.36E-06	5.97E-06
bis(2-Ethylhexyl)phthalate	4.70E-08	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.78E-06	7.79E-06
Bromomethane	1.50E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	5.68E-04	2.49E-03
Carbon tetrachloride	4.50E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.70E-03	7.46E-03
Chlorine	7.90E-04	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	2.99E-02	1.31E-01
Chlorobenzene	3.30E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.25E-03	5.47E-03
Chloroform	2.80E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.06E-03	4.64E-03
Chloromethane	2.30E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	8.71E-04	3.81E-03
Dibenzo(a,h)anthracene	9.10E-09	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	3.45E-07	1.51E-06
Dichloromethane	2.90E-04	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.10E-02	4.81E-02
Ethylbenzene	3.10E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.17E-03	5.14E-03
Formaldehyde	4.40E-03	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.67E-01	7.30E-01
Hydrogen chloride	1.90E-02	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	7.19E-01	3.15E+00
Indeno(1,2,3,c,d)pyrene	8.70E-08	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	3.29E-06	1.44E-05
Naphthalene	9.70E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	3.67E-03	1.61E-02
o-Xylene	2.50E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	9.47E-04	4.15E-03
Pentachlorophenol	5.10E-08	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.93E-06	8.46E-06
Phenanthrene	7.00E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	2.65E-04	1.16E-03
Phenol	5.10E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.93E-03	8.46E-03
Propanal	3.20E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.21E-04	5.31E-04
Propionaldehyde	6.10E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	2.31E-03	1.01E-02
Styrene	1.90E-03	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	7.19E-02	3.15E-01
Tetrachloroethene	3.80E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.44E-03	6.30E-03
Toluene	9.20E-04	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	3.48E-02	1.53E-01
Vinyl chloride	1.80E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	6.81E-04	2.98E-03
Antimony	7.90E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	2.99E-04	1.31E-03
Arsenic	2.20E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	8.33E-04	3.65E-03
Beryllium	1.10E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	4.16E-05	1.82E-04
Cadmium	4.10E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.55E-04	6.80E-04
Chromium, total	2.10E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	7.95E-04	3.48E-03
Chromium, hexavalent	3.50E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.33E-04	5.80E-04
Cobalt	6.50E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	2.46E-04	1.08E-03
Lead	4.80E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.82E-03	7.96E-03
Manganese	1.60E-03	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	6.06E-02	2.65E-01
Mercury	3.50E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.33E-04	5.80E-04
Nickel	3.30E-05	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.25E-03	5.47E-03
Selenium	2.80E-06	lb/MMBtu	AP-42 Table 1.6-3 (9/03): Wood Residue Combustion	1.06E-04	4.64E-04
Total HAPs	3.86E-02		Total HAPs	1.46E+00	6.41E+00
Max HAP	1.90E-02	HCl	Max HAP	7.19E-01	3.15E+00

Emission Point: PF-SB-1
Emissions Unit Group: Kipper and Sons Boiler (multiclones & dry ESP)

Natural Gas Combustion

Max Fuel Combustion: 323.9 mmscf/yr
0.037 mmscf/hr

Criteria Pollutants	Emission Factor	Notes	Emissions lb/hr	Emissions tpy
PM	0.52 lb/mmscf	EPA NEI Emission Factors Revised, March 30 2002	0.02	0.08
PM10	0.52 lb/mmscf	EPA NEI Emission Factors Revised, March 30 2002	0.02	0.08
PM2.5	0.43 lb/mmscf	EPA NEI Emission Factors Revised, March 30 2002	0.02	0.07
SOx	0.600 lb/mmscf	AP-42 Table 1.4-2 (7/98): Natural Gas Combustion	0.02	0.10
CO	84.00 lb/mmscf	AP-42 Table 1.4-1 (7/98): Natural Gas Combustion	3.12	13.60
NOx	100.000 lb/mmscf	AP-42 Table 1.4-1 (7/98): Natural Gas Combustion	3.71	16.19
VOC	5.500 lb/mmscf	AP-42 Table 1.4-2 (7/98): Natural Gas Combustion	0.20	0.89
Hazardous Air Pollutants				
2-Methylnaphthene	2.40E-05 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	8.91E-07	3.89E-06
Benzene	2.10E-03 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	7.79E-05	3.40E-04
Dichlorobenzene	1.20E-03 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	4.45E-05	1.94E-04
Fluoranthene	3.00E-06 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	1.11E-07	4.86E-07
Fluorene	2.80E-06 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	1.04E-07	4.53E-07
Formaldehyde	7.50E-02 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	2.78E-03	1.21E-02
Hexane	1.80E+00 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	6.68E-02	2.91E-01
Naphthalene	6.10E-04 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	2.26E-05	9.88E-05
Phenanthrene	1.70E-05 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	6.31E-07	2.75E-06
Pyrene	5.00E-06 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	1.86E-07	8.10E-07
Toluene	3.40E-03 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	1.26E-04	5.51E-04
Arsenic	2.00E-04 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	7.42E-06	3.24E-05
Beryllium	1.20E-05 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	4.45E-07	1.94E-06
Cadmium	1.10E-03 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	4.08E-05	1.78E-04
Chromium, total	1.40E-03 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	5.20E-05	2.27E-04
Cobalt	8.40E-05 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	3.12E-06	1.36E-05
Lead	5.00E-04 lb/mmscf	AP-42 Table 1.4-2 (7/98): Natural Gas Combustion	1.86E-05	8.10E-05
Manganese	3.80E-04 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	1.41E-05	6.15E-05
Mercury	2.60E-04 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	9.65E-06	4.21E-05
Nickel	2.10E-03 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	7.79E-05	3.40E-04
Selenium	2.40E-05 lb/mmscf	AP-42 Table 1.4-3 (7/98): Natural Gas Combustion	8.91E-07	3.89E-06
Total HAPs	1.89E+00	Total HAPs	7.01E-02	3.06E-01
Max HAP	1.80E+00 Hexane	Max HAP	6.68E-02	2.91E-01

Emission Point: PF-IC-1
Emissions Unit Group: Diesel Fire Pump Engine

Horse Power	208	hp
Heat Input	0.53	MMBtu/hr
Fuel Rate	3.84	gal/hr
Max Annual Hours	50	hrs/yr

Criteria Pollutants	Emission Factor	Notes	Emissions	
			lb/hr	tpy
PM	2.20E-03 lb/hp-hr	AP-42 Table 3.3-1 (10/96): Diesel Fuel (assumed PM = PM10)	0.46	0.011
PM10	2.20E-03 lb/hp-hr	AP-42 Table 3.3-1 (10/96): Diesel Fuel	0.46	0.011
PM2.5	2.20E-03 lb/hp-hr	AP-42 Table 3.3-1 (10/96): Diesel Fuel (assumed PM2.5 = PM10)	0.46	0.011
SOx	2.05E-03 lb/hp-hr	AP-42 Table 3.3-1 (10/96): Diesel Fuel	0.43	0.011
CO	6.68E-03 lb/hp-hr	AP-42 Table 3.3-1 (10/96): Diesel Fuel	1.39	0.035
NOx	0.031 lb/hp-hr	AP-42 Table 3.3-1 (10/96): Diesel Fuel	6.45	0.161
VOC	2.47E-03 lb/hp-hr	AP-42 Table 3.3-1 (10/96): Diesel Fuel (exhaust TOC)	0.51	0.013
Greenhouse Gas				
CH4	7.26E-03 lb/MMBtu	EPA GHG Factors, 40 CFR 98 Part C	3.85E-03	9.62E-05
NO2	1.32E-03 lb/MMBtu	EPA GHG Factors, 40 CFR 98 Part C	7.00E-04	1.75E-05
CO2	162.7 lb/MMBtu	EPA GHG Factors, 40 CFR 98 Part C	86.24	2.156
Hazardous Air Pollutants				
1,3-Butadiene	3.91E-05 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	2.07E-05	5.18E-07
Acenaphthene	1.42E-06 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	7.53E-07	1.88E-08
Acenaphthylene	5.06E-06 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	2.68E-06	6.70E-08
Acetaldehyde	7.67E-04 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	4.07E-04	1.02E-05
Acrolein	9.25E-05 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	4.90E-05	1.23E-06
Anthracene	1.87E-06 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	9.91E-07	2.48E-08
Benzene	9.33E-04 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	4.94E-04	1.24E-05
Benzo(a)anthracene	1.68E-06 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	8.90E-07	2.23E-08
Benzo(a)pyrene	1.88E-07 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	9.96E-08	2.49E-09
Benzo(b)fluoranthene	9.91E-08 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	5.25E-08	1.31E-09
Benzo(k)fluoranthene	1.55E-07 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	8.22E-08	2.05E-09
Benzo(g,h,i)perylene	4.89E-07 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	2.59E-07	6.48E-09
Chrysene	3.53E-07 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	1.87E-07	4.68E-09
Dibenzo(a,h)anthracene	5.83E-07 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	3.09E-07	7.72E-09
Fluoranthene	7.61E-06 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	4.03E-06	1.01E-07
Fluorene	2.92E-05 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	1.55E-05	3.87E-07
Formaldehyde	1.18E-03 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	6.25E-04	1.56E-05
Indeno(1,2,3,c,d)pyrene	3.75E-07 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	1.99E-07	4.97E-09
Naphthalene	8.48E-05 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	4.49E-05	1.12E-06
Phenanthrene	2.94E-05 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	1.56E-05	3.90E-07
Pyrene	4.78E-06 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	2.53E-06	6.33E-08
Toluene	4.09E-04 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engines	2.17E-04	5.42E-06
Xylenes	2.85E-04 lb/MMBtu	AP-42 Table 3.3-2 (10/96): Uncontrolled Diesel Engine	1.51E-04	3.78E-06

Baghouses
Hours of Operation: 8760

Emission Point: PF-BH-1
Emissions Unit Group: Drag Chain Baghouse
Design Flow: 41,960 dscfm

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work	3.60	15.75
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	2.41	10.55

Emission Point: PF-BH-3A
Emissions Unit Group: Hammermill Cyclone Bag Collector
Design Flow: 25,510 dscfm

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work	2.19	9.58
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	1.47	6.42

Emission Point: PF-BH-3
Emissions Unit Group: Hammermill Cyclone Bag Collector
Design Flow: 19,060 dscfm

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work	1.63	7.16
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	1.09	4.79

Emission Point: PF-BH-5A
Emissions Unit Group: Outside Dry Silo High Pressure Air System Baghouse
Design Flow: 5,000 dscfm

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work	0.43	1.88
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	0.29	1.26

Emission Point: PF-BH-5
Emissions Unit Group: Scalper Air System Baghouse
Design Flow: 12,000 dscfm

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work	1.03	4.51
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	0.69	3.02

Emission Point: PF-BH-6
Emissions Unit Group: Sanderdust Silo Negative Air System Baghouse
Design Flow: 5,000 dscfm

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work	0.43	1.88
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	0.29	1.26

Emission Point: PF-BH-7
Emissions Unit Group: Sander Air System Baghouse

Design Flow:	47,660	dscfm
Board Production:	12.1	MSF(3/4") /hr
Board Production:	74,792	MSF (3/4") /yr

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work	4.09	17.89
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	2.74	11.99
VOC	0.135	lb/MSF 3/4"	NCASI TB 771 Table 6.4.1 (mill 156)(sum of THC + HAPs)	1.63	5.04846
methanol	1.30E-02	lb/MSF 3/4"	NCASI TB 768 Table 6.3.1	0.16	0.486148
phenol	1.30E-02	lb/MSF 3/4"	NCASI TB 768 Table 6.3.1	0.16	0.486148

Emission Point: PF-BH-8
Emissions Unit Group: Sanderdust Overs Baghouse

Design Flow:	2,500	dscfm

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work	0.21	0.94
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	0.14	0.63

Emission Point: PF-BH-10A
Emissions Unit Group: East Sawline Baghouse

Design Flow:	47,660	dscfm
Board Production:	12.1	MSF(3/4") /hr
Board Production:	74,792	MSF (3/4") /yr
Furnish Production:	11.1	tons/hr
Furnish Production:	75,000	tons/yr

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work, 1/2 hours	4.09	8.95
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	2.74	5.99
VOC	0.032	lb/MSF 3/4"	NCASI TB 771 Table 6.4.1 (mill 156)(sum of THC + HAPs)	0.35	1.20
formaldehyde	1.20E-02	lb/ODT furnish	Stack Test Results Jan 16, 2007	0.13	0.45
methanol	2.00E-02	lb/ODT furnish	Stack Test Results Jan 16, 2007	0.22	0.75

NOTE: THE BOARD COOLER VENTS THROUGH BH-9 AND BH-10; THEREFORE VOC AND HAP EMISSIONS ARE ADDED (1/2 FOR EACH BAGHOUSE)

Emission Point: PF-BH-10
Emissions Unit Group: West Sawline Baghouse

Design Flow:	30,000	dscfm
Board Production:	12.1	MSF(3/4") /hr
Board Production:	74,792	MSF (3/4") /yr
Furnish Production:	11.1	tons/hr
Furnish Production:	75,000	tons/yr

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM/PM10	0.01	gr/dscf	Conservative estimate used in ISO PTC modeling work, 1/2 hours	2.57	5.63
PM2.5	6.70E-03	gr/dscf	Assume baghouse PM is 67% PM2.5, based on DEQ experience.	1.72	3.77
VOC	0.032	lb/MSF 3/4"	NCASI TB 771 Table 6.4.1 (mill 156)(sum of THC + HAPs)	0.39	1.20
formaldehyde	1.20E-02	lb/ton of furnish	Stack Test Results Jan 16, 2007	0.13	0.45
methanol	2.00E-02	lb/ton of furnish	Stack Test Results Jan 16, 2007	0.22	0.75

NOTE: THE BOARD COOLER VENTS THROUGH BH-9 AND BH-10; THEREFORE VOC AND HAP EMISSIONS ARE ADDED (1/2 FOR EACH BAGHOUSE)

Emission Point: PF-BV-2
Emissions Unit Group: Building Vents on North Storage Material Building (10 vents)

Furnish Production: 22 tons/hr
Furnish Production: 75,000 tons/yr

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM	2.20E-02	lb/ton	AP-42, Chapter 13.2.4, Aggregate Handling and Storage Piles, 1/95. (See calculations)	4.85E-01	8.24E-01
PM10	1.04E-02	lb/ton	AP-42, Chapter 13.2.4, Aggregate Handling and Storage Piles, 1/95. (See calculations)	2.30E-01	3.90E-01
PM2.5	1.57E-03	lb/ton	AP-42, Chapter 13.2.4, Aggregate Handling and Storage Piles, 1/95. (See calculations)	3.48E-02	5.90E-02

Emission Point: PF-BV-3
Emissions Unit Group: Building Vents on South Storage Material Building (10 vents)

Furnish Production: 22 tons/hr
Furnish Production: 75,000 tons/yr

Pollutants	Emission Factor		Notes	lb/hr	tpy
PM	2.20E-02	lb/ton	AP-42, Chapter 13.2.4, Aggregate Handling and Storage Piles, 1/95. (See calculations)	4.85E-01	8.24E-01
PM10	1.04E-02	lb/ton	AP-42, Chapter 13.2.4, Aggregate Handling and Storage Piles, 1/95. (See calculations)	2.30E-01	3.90E-01
PM2.5	1.57E-03	lb/ton	AP-42, Chapter 13.2.4, Aggregate Handling and Storage Piles, 1/95. (See calculations)	3.48E-02	5.90E-02

Assume moisture content of wood (M) = 15%
Assume mean wind speed (U), mph = 1

Use Drop PM and PM-10 emission Factors

$E = k(0.0032)[(U/5)^{1.3}/(M/2)^{1.4}]$

k = .74 for PM, 0.35 for PM10, 0.053 fo PM2.5

U = mean wind speed (mph)

M = moisture content (%)

E_{PM} = 1.10E-02 Multiply by 2 to account for both load and unload
E_{PM-10} = 5.19E-03 Multiply by 2 to account for both load and unload
$E_{PM2.5}$ = 7.86E-04 Multiply by 2 to account for both load and unload

Emission Point: PF-PV-1

Emissions Unit Group: Press Vents

Board Production:	12	MSF(3/4") /hr
Board Production:	74,792	MSF (3/4") /yr
Furnish Production:	22	tons/hr
Furnish Production:	150,000	tons/yr

Criteria Pollutants	Emission Factor		Emissions				Data Source
Uncontrolled Emissions	Factor	Units					
PM	0.402	lb/MSF 3/4"	4.86	lb/hr	15.03	tpy	Source tests 2/24/1995
PM10	0.402	lb/MSF 3/4"	4.86	lb/hr	15.03	tpy	Assume 100% of PM
PM2.5	0.0402	lb/MSF 3/4"	0.49	lb/hr	1.50	tpy	Assume 10% of PM10
VOC	1.36	lb/MSF 3/4"	16.46	lb/hr	50.86	tpy	Source tests 2/24/1995
Pollutants	**Emission Factor**		**Emissions**				**Data Source**
	Factor	Units					
acetaldehyde	1.60E-02	lb/MSF 3/4"	0.19	lb/hr	0.60	tpy	Source Tests 1/17/2007
formaldehyde	2.20E-02	lb/MSF 3/4"	0.27	lb/hr	0.82	tpy	Source Tests 1/17/2007
methanol	5.80E-02	lb/MSF 3/4"	0.70	lb/hr	2.17	tpy	Source Tests 1/17/2007
Total HAPs			1.16	lb/hr	3.59	tpy	

[1] The data from Technical Bulletin 771 represents direct-fired dryers and probably overestimates the amounts of HAPs from the steam-heated dryer at Post Falls.

AP-42 doesn't have emissions data from indirect fired kilns except formaldehyde and mthanol

Ratings:

Emission Point: Dryer, Previously Called PF-MC-1
Emissions Unit Group: Particle Dryer

Board Production:	12.1	MSF(3/4") /hr
Board Production:	74,792	MSF (3/4") /yr
Furnish Production:	22.1	ODT/hr
Furnish Production:	150,000	ODT/yr

Pollutants	Emission Factor		Emissions				Data Source
Emissions with Baghouse Control							
PM	0.04	lb/ODT furnish	0.88	lb/hr	3.00	tpy	Oregon AQ-EF02
PM10	0.04	lb/ODT furnish	0.88	lb/hr	3.00	tpy	Oregon AQ-EF02
PM2.5	0.04	lb/ODT furnish	0.88	lb/hr	3.00	tpy	Oregon AQ-EF02
VOC	1.00	lb/MSF 3/4"	12.10	lb/hr	37.40	tpy	NCASI TB 771, Table 6.2.1.
Pollutants	**Emission Factor**		**Emissions**				**Data Source**
	Factor	Units					
acetaldehyde	2.80E-02	lb/ODT furnish	0.62	lb/hr	2.10	tpy	NCASI TB 771, Table 6.2.1, AVG.
acrolein	6.55E-03	lb/ODT furnish	0.14	lb/hr	0.49	tpy	NCASI TB 771, Table 6.2.1, AVG.
benzene	2.75E-03	lb/ODT furnish	0.06	lb/hr	0.21	tpy	NCASI TB 771, Table 6.2.1, AVG.
formaldehyde	2.00E-03	lb/MSF 3/4"	0.02	lb/hr	0.07	tpy	Source Tests 2/12/2002
methanol	8.00E-03	lb/MSF 3/4"	0.10	lb/hr	0.30	tpy	Source Tests 2/12/2002
methyl isobutyl ketone (MIBK)	6.50E-04	lb/ODT furnish	0.01	lb/hr	0.05	tpy	NCASI TB 771, Table 6.2.1, AVG.
phenol	1.01E-02	lb/ODT furnish	0.22	lb/hr	0.75	tpy	NCASI TB 771, Table 6.2.1, AVG.
propionaldehyde	1.83E-03	lb/ODT furnish	0.04	lb/hr	0.14	tpy	NCASI TB 771, Table 6.2.1, AVG.
toluene	6.00E-03	lb/ODT furnish	0.13	lb/hr	0.45	tpy	NCASI TB 771, Table 6.2.1, AVG.
xylenes	7.70E-04	lb/ODT furnish	0.02	lb/hr	0.06	tpy	NCASI TB 771, Table 6.2.1, AVG.
Total HAPs			1.37E+00	lb/hr	4.62E+00	tpy	

[1] The data from Technical Bulletin 771 represents direct-fired dryers and probably overestimates the amounts of HAPs from the steam-heated dryer at Post Falls. AP-42 doesn't have emissions data from indirect fired kilns except formaldehyde and methanol

VEHICLE FUGITIVE DUST CALCULATIONS

Vehicle Specifications*

Equipment	Number of Vehicle Trips Per Day	Miles on Paved Roads per Trip	Miles on Unpaved Roads per Trip	Paved Vehicle Miles Traveled Per Day	Unpaved Vehicle Miles Traveled Per Day	Vehicle Weight (Tons)
Resin Delivery Trucks	1	0.4	0	0.4	0.0	52.5
Shavings Supply Trucks	20	0.45	0	9.0	0.0	30.4
Product Trucks	4	1.1	0	4.4	0.0	3.0
Plant Vehicles	5	0.4	0	2.0	0.0	0.0
	0	0	0	0.0	0.0	0.0

* Use of the above indicated vehicle parameters were used in conjunction with emission factor generation methods discussed in AP-42 sections 13.2.1 and 13.2.2. 251days of use per year and 203 days exceeding 0.01 inches of rain to determine emission estimates. Each emission estimate is provided in detail below.

FUGITIVE EMISSION CALCULATION DUE TO VEHICLE TRANSPORT
From AP-42 13.2.1
PAVED AREAS

number of days with more than 0.01 in of rain = 203
Reduction factor for unpaved surfaces = 0.44

The following equation may be used to estimate the dust emissions from a ***paved*** road.

$$E = k\left(\frac{sL}{2}\right)^{0.65}\left(\frac{W}{3}\right)^{1.5}$$

E = particulate emission factor
k = base emission factor for particulate size range
sL = road surface silt loading (grams per square meter)
W = average weight (tons) of the vehicles traveling the road

Tabulated data for k values

Size Range	Multiplier (k)		
	g/VKT	g/VMT	lb/VMT
PM-2.5	1.1	1.8	0.004
PM-10	4.6	7.3	0.016
PM-15	5.5	9	0.02
PM-30	24	38	0.082

UNITS
g/VKT grams per vehicle kilometer traveled
g/VMT grams per vehicle mile traveled
lb/VMT pounds per vehicle mile traveled

Values being used to calculate emission factor E:

	PM2.5	PM10	PM30	
sL* =	9.700	9.700	9.700	(g/m^2)
k =	0.004	0.016	0.082	(lb/Vehicle Mile Traveled)

* sL based on AP-42 Table 13.2.1-3, for Iron and Steel Manf.

		E (lbs/mile)			VMT for Vehicles of this type	# of Days of Operation	VMT for Vehicles of this type	Emissions (tpy)		
Equipment	W (tons)	$PM_{2.5}$	PM_{10}	TSP	Per Day	Per Year	Per Year	$PM_{2.5}$	PM_{10}	PM
Resin Delivery Trucks	53	0.82	3.27	16.75	0.4	251	100.4	0.041	0.164	0.841
Shavings Supply Trucks	30	0.36	1.44	7.37	9.0	251	2,259.0	0.406	1.625	8.330
Product Trucks	3	0.01	0.04	0.23	4.4	251	1,104.4	0.006	0.025	0.126
Plant Vehicles	0.00	0.00	0.00	0.00	2.0	251	502.0	0.000	0.000	0.000
TOTAL EMISSIONS FROM PAVED AREAS								0.45	1.81	9.30

CALCULATION OF FUGITIVE EMISSIONS FROM PILES AT POST FALLS PARTICLEBOARD

Source	Batch Operation Parameters: Pile Size (yd^3)	Density of Material ($Tons/Yd^3$)	Weight Handled per Operation (tons)	Time Period Involved With Each Operation (hr)	Throughput per operation (tons/hr)	No. Operations Per Day	Operating Days PerYear	Particle Size Multiplier (k): PM	PM_{10}	$PM_{2.5}$	Mean Wind Speed, U (mph)	Material Moisture Content, M (%)	Drop Formula Emiss. Fact. (E_d): PM (lb/ton)	PM_{10} (lb/ton)	PM2.5 (lb/ton)	Drop PM per Operation (lb)	Drop PM_{10} per Operation (lb)	Drop $PM_{2.5}$ per Operation (lb)	Actual Hourly Emissions: Drop PM per Hr (lb)	Drop PM-10 per Hr (lb)	Drop PM2.5 per Hr (lb)	Emissions avg. over 24 hrs.: Drop PM per Hr (lb/hr)	Drop PM-10 per Hr. (lb/hr)	Drop PM2.5 per Hr (lb/hr)	Drop PM per Year (Tons/yr)	Drop PM10 per year (tons/yr)	Drop PM2.5 per year (tons/yr)
Miscellaneous Piles																											
Sander Silo Truck Dump	64.0	0.18	11.23	1.0	1.12E+01	1	350	1.00	0.35	0.053	13	7	1.92E-03	6.71E-04	1.02E-04	2.15E-02	7.54E-03	1.14E-03	2.15E-02	7.54E-03	1.14E-03	8.98E-04	3.14E-04	4.76E-05	0.00377	0.00132	0.00020
Ash Pile Drop Emissions																											
Load-in	1.5	0.71	1.07	1.0	1.07E+00	1	350	1.00	0.35	0.053	13	15	6.60E-04	2.31E-04	3.50E-05	7.07E-04	2.48E-04	3.75E-05	7.07E-04	2.48E-04	3.75E-05	2.95E-05	1.03E-05	1.56E-06	0.00012	0.00004	0.00001
Load-out	1.5	0.71	1.07	1.0	1.07E+00	1	350	1.00	0.35	0.053	13	15	6.60E-04	2.31E-04	3.50E-05	7.07E-04	2.48E-04	3.75E-05	7.07E-04	2.48E-04	3.75E-05	2.95E-05	1.03E-05	1.56E-06	0.00012	0.00004	0.00001
Hog Fuel Pile																											
Load-in	1.0	0.20	0.20	1.0	2.00E-01	1	350	1.00	0.35	0.053	13	7	1.92E-03	6.71E-04	1.02E-04	3.84E-04	1.35E-04	2.04E-05	3.84E-04	1.35E-04	2.04E-05	1.60E-05	5.60E-06	8.49E-07	0.00007	0.00002	0.00000
Load-out	1.0	0.20	0.20	1.0	2.00E-01	1	350	1.00	0.35	0.053	13	7	1.92E-03	6.71E-04	1.02E-04	3.84E-04	1.35E-04	2.04E-05	3.84E-04	1.35E-04	2.04E-05	1.60E-05	5.60E-06	8.49E-07	0.00007	0.00002	0.00000
TOTALS																									**0.0042**	**0.0015**	**0.0002**

[1] Fugitives from drop operations are calculated according to the AP-42, Chapter 13.2.4 (1/95) drop equation; $E = k(0.0032)[(U/5)^{1.3}/(M/2)^{1.4}]$

[2] This cyclone serves the green stacker. No load-out calc's are included, because box is dumped into fuel b

Operating Hours 8040.0 hours/year

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Potlatch Corporation
Post Falls Particle Board Plant
Sander Dust Boiler
Emission Source Test Report

Determination of *Nitrogen oxides and Carbon monoxide Emissions*

Project No. 2001.2.4a

Prepared for:

Potlatch Corporation
PO Box 1388
Lewiston Idaho, 83501

Test Date:
February 27, 2001

Performed by:

Antec Environmental Services
PO Box 1609/12622 412Th SE
North Bend, Washington 98045

INTRODUCTION

On February 27, 2001, Antec Environmental Services (AES) conducted an air emission source test on the Sander Dust fired Boiler operated at the Potlatch Particleboard Facility located in Post Falls, Idaho. The purpose of the testing was to document emission factors used for IDEQ emission fees.

Parameters measured from the Boiler included; volume flow rates (*sdcfm*), oxygen (O_2), carbon dioxide (CO_2), Nitrogen oxides (*NOx*), and Carbon monoxide (*CO*). Table 1 represents a testing summary and outlines the parameters measured, test methods used, number of test runs performed, and duration of each test run.

Participants involved in the testing program are listed below with their affiliation:

Potlatch Corporation Post Falls Particle Board Plant PO Box 788 Post Falls, Idaho 83877-0788 Mr. Mike Weger Mill Manager (208) 777-2202 *Potlatch Corporation* PO Box 1388 Lewiston Id. 83501 Mr. John Emery Environmental Compliance Manager (208) 799-1223	*Antec Environmental Services* PO Box 1609/12622 412Th SE North Bend, Washington 98045 Mr. Andy Winkler Project Manager (425) 888-9090 Mr. Eric E. Olson Senior Air Quality Specialist (425) 888-9090
Idaho Division of Environmental Quality 2110 Ironwood Pkwy Coeur d' Alene, Idaho 83814 Mr. Michael L. Gersten Air Quality Analyst (208) 769-1422	

Table 1. Summary of Testing

Parameter	Test Method*	Sample Replicates/Time	Reporting Units
Volume Flow Rates	EPA 1-4	Three runs, 60 minutes each	O_2%, CO_2%, ACFM, SDCFM, Bws
NOx	EPA Method 7e	Three runs, 60 minutes each	ppm lbs/hr lbs/M lbs steam
CO	EPA Method 10	Three runs, 60 minutes each	ppm lbs/hr lbs/M lbs steam

EPA US Environmental Protection Agency

Boiler operating parameters were monitored by Potlatch operating personnel during each test run.

SUMMARY OF RESULTS

Results of the Boiler emission test are summarized in Table 2. The results presented in Table 2 are based on data found in Appendixes A and B. Table 3 presents the results for total particulate showing the individual test run data and averages. Boiler operating parameters recorded during the testing can be found in Appendix C. Applicable nomenclature and example calculations are included in Appendix D. The Source Test Plan and IDEQ correspondence are included in Appendix E. Quality assurance information relevant to the performance testing can be found in Appendix F.

Table 2. Summary of Results

Run Number	*Units*	*Run 1*	*Run 2*	*Run 3*	*Average*
Date of Run	2001	27-Feb	27-Feb	27-Feb	
Start Time		1026	1155	1325	
Stop Time		1126	1255	1425	
Unit Load	lbs/hr Steam	23980	23770	21760	23170
NO_X	ppm	544.6	514.9	537.7	532.4
NO_X	ppm@8% O2	585.4	544.4	578.0	569.3
NOx	Lbs/Hr	43.50	40.63	43.76	42.63
NOx	Lbs/M lbs Steam	1.81	1.71	2.01	1.84
CO	ppm	562.0	1023.4	834.5	806.6
CO	ppm@8% O2	604.2	1082.1	897.1	861.1
CO	Lbs/Hr	27.34	49.19	41.37	39.30
CO	Lbs/M lbs Steam	1.14	2.07	1.90	1.70

Data corrected to 68°F, 27.75 in. Hg (corrected for altitude of 2165'), per IDEQ regulations.

Boiler rated steam production capacity is 30,000 lbs/hr. The boiler operated at an average of 23,170 lbs/hr during test or 77.2% of rated capacity.

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Potlatch Corporation
Post Falls Particle Board Plant
Sander Dust Boiler
Emission Source Test Report

Determination of *Total Particulate Matter*

Project No. 2001.2.4

Prepared for:

Potlatch Corporation
PO Box 1388
Lewiston Idaho, 83501

Test Date:
February 27, 2001

Performed by:

Antec Environmental Services
PO Box 1609/12622 412Th SE
North Bend, Washington 98045

INTRODUCTION

On February 27, 2001, Antec Environmental Services (AES) conducted an air emission source test on the Sander Dust fired Boiler operated at the Potlatch Particleboard Facility located in Post Falls, Idaho. The purpose of the testing is to establish baseline boiler operating data and satisfy the testing requirements of the proposed Tier I Operating Permit.

Parameters measured from the Boiler included; volume flow rates, oxygen, carbon dioxide, total particulate matter, and visible emissions. Table 1 represents a testing summary and outlines the parameters measured, test methods used, number of test runs performed, and duration of each test run.

Participants involved in the testing program are listed below with their affiliation:

Potlatch Corporation Post Falls Particle Board Plant PO Box 788 Post Falls, Idaho 83877-0788 Mr. Mike Weger Mill Manager (208) 777-2202 Potlatch Corporation PO Box 1388 Lewiston Id. 83501 Mr. John Emery Environmental Compliance Manager (208) 799-1223	*Antec Environmental Services* PO Box 1609/12622 412th SE North Bend, Washington 98045 Mr. Andy Winkler Project Manager (425) 888-9090 Mr. Eric E. Olson Senior Air Quality Specialist (425) 888-9090
Idaho Division of Environmental Quality 2110 Ironwood Pkwy Coeur d' Alene, Idaho 83814 Mr. Michael L. Gersten Air Quality Analyst (208) 769-1422	

Table 1. Summary of Testing

Parameter	Test Method*	Sample Replicates/Time	Reporting Units
Volume Flow Rates	EPA 1-4	Three runs, 60 minutes each	O_2%, CO_2%, ACFM, SDCFM, Bws
Particulate Matter	EPA Method 5/202	Three runs, 60 minutes each	gr./dscf lbs/hr lbs/M lbs steam
Visual Emissions	EPA Method 9	Three observations, 6 minutes each, following each respective PM Test	Percent opacity, %

EPA US Environmental Protection Agency

Boiler operating parameters were monitored by Potlatch operating personnel during each test run.

SUMMARY OF RESULTS

Results of the Boiler emission test are summarized in Table 2. The results presented in Table 2 are based on data found in Appendixes A and B. Table 3 presents the results for total particulate showing the individual test run data and averages. Boiler operating parameters recorded during the testing can be found in Appendix C. Applicable nomenclature and example calculations are included in Appendix D. Quality assurance information relevant to the performance testing can be found in Appendix F.

Table 2. Summary of Results

	Boiler
Sample Date	***February 27, 2001***
SDCFM	***11174***
Thousand pounds of steam produced per hour, M lbs steam/hr	***23170***
Particulate Mater, PM	
Total gr./dscf	***0.0146***
Gr/dscf @ 8% O_2	***0.0141***
lbs/hr	***1.40***
lbs/M lbs steam	***0.061***
Visible Emissions, VE	
Number of Readings ≥20%	***0***
Number of Minutes ≥20%	***0***
Average of Readings ≥20%	***0***

Data corrected to 68°F, 27.75 in. Hg (corrected for altitude of 2165'), per IDEQ regulations.

Boiler rated steam production capacity is 30,000 lbs/hr. The boiler operated at an average of 23,170 lbs/hr during test or 77.2% of rated capacity.

Table 3. Total Particulate Summary, EPA Method 5/202

	Run #1	Run #2	Run #3	Average
Date:	2-27-2001	2-27-2001	2-27-2001	
Time start:	1026	1155	1325	
Finish:	1128	1257	1427	
Ts: *(Stack temperature, °R)*	997	1004	1011	***1004***
Vs: *(Gas velocity, ft./second)*	53.1	53.4	55.1	***53.9***
Acfm: *(Actual cubic feet/min., wet)*	22525	22652	23373	***22850***
sdcfm: *(Std.* cubic feet/min., dry)*	11149	11015	11359	***11174***
M lbs steam/hr: *(Thousand pounds steam per hr)*	23.980	23.770	21.760	***23170***
PM (Particulate Matter)				
gr./dscf: *(grains per dry std. cubic foot)*	0.0100	0.0156	0.0183	***0.0146***
gr./dscf@ 8% O_2: *(gr/dcsf corrected to 8% O_2)*	0.0108	0.0165	0.0197	***0.0157***
lbs/hr: *(pounds per hour)*	0.95	1.47	1.78	***1.40***
lbs/M lbs steam: *(pounds per M pounds steam)*	0.040	0.062	0.082	***0.061***
VE *(Visible Emissions)*				
Number of Readings ≥20%	0	0	0	***0***
Number of Minutes ≥20%	0	0	0	***0***
Average of Readings ≥20%	0	0	0	***0***

*Standard conditions corrected to 68°F, 27.75 in. Hg (corrected for altitude of 2165').

$$\frac{1.40 \frac{lb}{hr}}{23{,}170 \frac{mlb\ steam}{hr}} = \frac{0.0604\ lb\ PM}{M\ lb\ steam}$$

or

$$\frac{60.4\ lb\ PM}{mm\ LB\ Steam}$$

2/26/08

Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

DEFAULT CO_2 EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

Fuel type	Default high heat value	Default CO_2 emission factor
Coal and coke	mmBtu/short ton	kg CO_2/mmBtu
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coal Coke	24.80	113.67
Mixed (Commercial sector)	21.39	94.27
Mixed (Industrial coking)	26.28	93.90
Mixed (Industrial sector)	22.35	94.67
Mixed (Electric Power sector)	19.73	95.52
Natural gas	mmBtu/scf	kg CO_2/mmBtu
(Weighted U.S. Average)	1.026×10^{-3}	53.06
Petroleum products	mmBtu/gallon	kg CO_2/mmBtu
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2	0.138	73.96
Distillate Fuel Oil No. 4	0.146	75.04
Residual Fuel Oil No. 5	0.140	72.93
Residual Fuel Oil No. 6	0.150	75.10
Used Oil	0.138	74.00
Kerosene	0.135	75.20
Liquefied petroleum gases (LPG)[1]	0.092	61.71
Propane[1]	0.091	62.87
Propylene[2]	0.091	67.77
Ethane[1]	0.068	59.60
Ethanol	0.084	68.44
Ethylene[2]	0.058	65.96
Isobutane[1]	0.099	64.94
Isobutylene[1]	0.103	68.86

Butane[1]	0.103	64.77
Butylene[1]	0.105	68.72
Naphtha (<401 deg F)	0.125	68.02
Natural Gasoline	0.110	66.88
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02
Petrochemical Feedstocks	0.125	71.02
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.54
Heavy Gas Oils	0.148	74.92
Lubricants	0.144	74.27
Motor Gasoline	0.125	70.22
Aviation Gasoline	0.120	69.25
Kerosene-Type Jet Fuel	0.135	72.22
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	74.54
Other fuels—solid	mmBtu/short ton	kg CO_2/mmBtu
Municipal Solid Waste	9.95[3]	90.7
Tires	28.00	85.97
Plastics	38.00	75.00
Petroleum Coke	30.00	102.41
Other fuels—gaseous	mmBtu/scf	kg CO_2/mmBtu
Blast Furnace Gas	0.092×10^{-3}	274.32
Coke Oven Gas	0.599×10^{-3}	46.85
Propane Gas	2.516×10^{-3}	61.46
Fuel Gas[4]	1.388×10^{-3}	59.00
Biomass fuels—solid	mmBtu/short ton	kg CO_2/mmBtu
Wood and Wood Residuals (dry basis)[5]	17.48	93.80
Agricultural Byproducts	8.25	118.17
Peat	8.00	111.84
Solid Byproducts	10.39	105.51
Biomass fuels—gaseous	mmBtu/scf	kg CO_2/mmBtu
Landfill Gas	0.485×10^{-3}	52.07

Other Biomass Gases	0.655×10^{-3}	52.07
Biomass Fuels—Liquid	mmBtu/gallon	kg CO_2/mmBtu
Ethanol	0.084	68.44
Biodiesel (100%)	0.128	73.84
Rendered Animal Fat	0.125	71.06
Vegetable Oil	0.120	81.55

[1]The HHV for components of LPG determined at 60 °F and saturation pressure with the exception of ethylene.

[2]Ethylene HHV determined at 41 °F (5 °C) and saturation pressure.

[3]Use of this default HHV is allowed only for: (a) Units that combust MSW, do not generate steam, and are allowed to use Tier 1; (b) units that derive no more than 10 percent of their annual heat input from MSW and/or tires; and (c) small batch incinerators that combust no more than 1,000 tons of MSW per year.

[4]Reporters subject to subpart X of this part that are complying with §98.243(d) or subpart Y of this part may only use the default HHV and the default CO_2 emission factor for fuel gas combustion under the conditions prescribed in §98.243(d)(2)(i) and (d)(2)(ii) and §98.252(a)(1) and (a)(2), respectively. Otherwise, reporters subject to subpart X or subpart Y shall use either Tier 3 (Equation C-5) or Tier 4.

[5]Use the following formula to calculate a wet basis HHV for use in Equation C-1: $HHV_w = ((100 - M)/100)*HHV_d$ where HHV_w = wet basis HHV, M = moisture content (percent) and HHV_d = dry basis HHV from Table C-1.

[78 FR 71950, Nov. 29, 2013]

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Table C-2 to Subpart C of Part 98—Default CH_4 and N_2O Emission Factors for Various Types of Fuel

Fuel type	Default CH_4 emission factor (kg CH_4/mmBtu)	Default N_2O emission factor (kg N_2O/mmBtu)
Coal and Coke (All fuel types in Table C-1)	1.1×10^{-02}	1.6×10^{-03}
Natural Gas	1.0×10^{-03}	1.0×10^{-04}
Petroleum (All fuel types in Table C-1)	3.0×10^{-03}	6.0×10^{-04}
Fuel Gas	3.0×10^{-03}	6.0×10^{-04}
Municipal Solid Waste	3.2×10^{-02}	4.2×10^{-03}
Tires	3.2×10^{-02}	4.2×10^{-03}
Blast Furnace Gas	2.2×10^{-05}	1.0×10^{-04}
Coke Oven Gas	4.8×10^{-04}	1.0×10^{-04}

Biomass Fuels—Solid (All fuel types in Table C-1, except wood and wood residuals)	3.2×10^{-02}	4.2×10^{-03}
Wood and wood residuals	7.2×10^{-03}	3.6×10^{-03}
Biomass Fuels—Gaseous (All fuel types in Table C-1)	3.2×10^{-03}	6.3×10^{-04}
Biomass Fuels—Liquid (All fuel types in Table C-1)	1.1×10^{-03}	1.1×10^{-04}

Note: Those employing this table are assumed to fall under the IPCC definitions of the "Energy Industry" or "Manufacturing Industries and Construction". In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC "Energy Industry" category may employ a value of 1g of CH_4/mmBtu.

[78 FR 71952, Nov. 29, 2013]

The "NG_process_gas_LPG_PM_factors" spreadsheet was originally created per request by R5 states during a call in late January 2010
It was modified in March 30, 2012 by adding additional natural gas-related combustion SCCs and is provided for SLT to consider for 2011 reporting

This spreadsheet contains PM emission factors for natural gas, process gas, and LPG. It includes PM25-FIL, PM10-FIL, PM-CON, PM25-PRI and PM10-PRI
For these fuels, the efs were revised dramatically around 2004 using some preliminary data from Ron Myers EPA
Ron Myers is the lead on the development of a condensible PM test method
The method is not final but some preliminary data was available and the data showed the current AP42 factors were off by a factor of 10 or 20.
The emission inventory group in EPA used the preliminary data to adjust the 2002 NEI and has also used these for the 2008 NEI.

This spreadsheet is an attempt to pull together the PM factors for gaseous fuel into one place.
These emission factors can be considered for inventory calculations when there are no site-specific data available.
Site specific test data are preferred over these or any emission factors. Where available, site specific information should be used.

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SCC	SCC_L1	SCC_L2	SCC_L3	SCC_L4	FUEL	New PM10-PRI Factor (lb/Million dscf)	New PM25-PRI Factor (lb/Million dscf)
10100601	External Combustion Boilers	Electric Generation	Natural Gas	Boilers > 100 Million Btu/hr except Tangential	NG	0.52	0.43
10100602	External Combustion Boilers	Electric Generation	Natural Gas	Boilers < 100 Million Btu/hr except Tangential	NG	0.52	0.43
10100604	External Combustion Boilers	Electric Generation	Natural Gas	Tangentially Fired Units	NG	0.52	0.43
10100701	External Combustion Boilers	Electric Generation	Process Gas	Boilers > 100 Million Btu/hr	PG	0.52	0.43
10100702	External Combustion Boilers	Electric Generation	Process Gas	Boilers < 100 Million Btu/hr	PG	0.52	0.43
10101001	External Combustion Boilers	Electric Generation	Liquified Petroleum Gas (LPG)	Butane	LPG	0.52	0.43
10101002	External Combustion Boilers	Electric Generation	Liquified Petroleum Gas (LPG)	Propane	LPG	0.52	0.43
10101003	External Combustion Boilers	Electric Generation	Liquified Petroleum Gas (LPG)	Butane/Propane Mixture: Specify Percent Butane in Comments	LPG	0.52	0.43
10200601	External Combustion Boilers	Industrial	Natural Gas	> 100 Million Btu/hr	NG	0.52	0.43
10200602	External Combustion Boilers	Industrial	Natural Gas	10-100 Million Btu/hr	NG	0.52	0.43
10200603	External Combustion Boilers	Industrial	Natural Gas	< 10 Million Btu/hr	NG	0.52	0.43
10200604	External Combustion Boilers	Industrial	Natural Gas	Cogeneration	NG	0.52	0.43
10200701	External Combustion Boilers	Industrial	Process Gas	Petroleum Refinery Gas	PG	0.52	0.43
10200704	External Combustion Boilers	Industrial	Process Gas	Blast Furnace Gas	PG	0.52	0.43
10200707	External Combustion Boilers	Industrial	Process Gas	Coke Oven Gas	PG	0.52	0.43
10201001	External Combustion Boilers	Industrial	Liquified Petroleum Gas (LPG)	Butane	LPG	0.52	0.43
10201002	External Combustion Boilers	Industrial	Liquified Petroleum Gas (LPG)	Propane	LPG	0.52	0.43
10201003	External Combustion Boilers	Industrial	Liquified Petroleum Gas (LPG)	Butane/Propane Mixture: Specify Percent Butane in Comments	LPG	0.52	0.43
10201401	External Combustion Boilers	Industrial	CO Boiler	Natural Gas	NG	0.52	0.43
10201402	External Combustion Boilers	Industrial	CO Boiler	Process Gas	PG	0.52	0.43
10300601	External Combustion Boilers	Commercial/Institutional	Natural Gas	> 100 Million Btu/hr	NG	0.52	0.43
10300602	External Combustion Boilers	Commercial/Institutional	Natural Gas	10-100 Million Btu/hr	NG	0.52	0.43
10300603	External Combustion Boilers	Commercial/Institutional	Natural Gas	< 10 Million Btu/hr	NG	0.52	0.43
10301001	External Combustion Boilers	Commercial/Institutional	Liquified Petroleum Gas (LPG)	Butane	LPG	0.52	0.43
10301002	External Combustion Boilers	Commercial/Institutional	Liquified Petroleum Gas (LPG)	Propane	LPG	0.52	0.43
10301003	External Combustion Boilers	Commercial/Institutional	Liquified Petroleum Gas (LPG)	Butane/Propane Mixture: Specify Percent Butane in Comments	LPG	0.52	0.43
10500106	External Combustion Boilers	Space Heaters	Industrial	Natural Gas	NG	0.52	0.43
10500110	External Combustion Boilers	Space Heaters	Industrial	Liquified Petroleum Gas (LPG)	LPG	0.52	0.43
10500206	External Combustion Boilers	Space Heaters	Commercial/Institutional	Natural Gas	NG	0.52	0.43
10500210	External Combustion Boilers	Space Heaters	Commercial/Institutional	Liquified Petroleum Gas (LPG)	LPG	0.52	0.43
20100201	Internal Combustion Engines	Electric Generation	Natural Gas	Turbine	NG	0.31	0.19
20200201	Internal Combustion Engines	Industrial	Natural Gas	Turbine	NG	0.31	0.19
20200203	Internal Combustion Engines	Industrial	Natural Gas	Turbine: Cogeneration	NG	0.31	0.19
20300202	Internal Combustion Engines	Commercial/Institutional	Natural Gas	Turbine	NG	0.31	0.19
20400301	Internal Combustion Engines	Engine Testing	Turbine	Natural Gas	NG	0.31	0.19
2101006000	Stationary Source Fuel Combustion	Electric Utility	Natural Gas	Total: Boilers and IC Engines	NG	0.52	0.43
2101006001	Stationary Source Fuel Combustion	Electric Utility	Natural Gas	All Boiler Types	NG	0.52	0.43
2101006002	Stationary Source Fuel Combustion	Electric Utility	Natural Gas	All IC Engine Types	NG	0.31	0.19
2101007000	Stationary Source Fuel Combustion	Electric Utility	Liquified Petroleum Gas (LPG)	Total: All Boiler Types	LPG	0.52	0.43
2102006000	Stationary Source Fuel Combustion	Industrial	Natural Gas	Total: Boilers and IC Engines	NG	0.52	0.43
2102006001	Stationary Source Fuel Combustion	Industrial	Natural Gas	All Boiler Types	NG	0.52	0.43
2102006002	Stationary Source Fuel Combustion	Industrial	Natural Gas	All IC Engine Types	NG	0.31	0.19
2102007000	Stationary Source Fuel Combustion	Industrial	Liquified Petroleum Gas (LPG)	Total: All Boiler Types	LPG	0.52	0.43
2103006000	Stationary Source Fuel Combustion	Commercial/Institutional	Natural Gas	Total: Boilers and IC Engines	NG	0.52	0.43
2103007000	Stationary Source Fuel Combustion	Commercial/Institutional	Liquified Petroleum Gas (LPG)	Total: All Combustor Types	LPG	0.52	0.43
2103007005	Stationary Source Fuel Combustion	Commercial/Institutional	Liquified Petroleum Gas (LPG)	All Boiler Types	LPG	0.52	0.43
2103007010	Stationary Source Fuel Combustion	Commercial/Institutional	Liquified Petroleum Gas (LPG)	Asphalt Kettle Heaters	LPG	0.52	0.43
2104006000	Stationary Source Fuel Combustion	Residential	Natural Gas	Total: All Combustor Types	NG	0.52	0.43
2104006010	Stationary Source Fuel Combustion	Residential	Natural Gas	Residential Furnaces	NG	0.52	0.43
2104007000	Stationary Source Fuel Combustion	Residential	Liquified Petroleum Gas (LPG)	Total: All Combustor Types	LPG	0.52	0.43
2199007000	Stationary Source Fuel Combustion	Total Area Source Fuel Combustion	Liquified Petroleum Gas (LPG)	Total: All Boiler Types	LPG	0.31	0.19
27300320	Internal Combustion Engines	Off-highway LPG-fueled Engines	Industrial Equipment	Industrial Fork Lift: Liquified Petroleum Gas (LPG)	LPG	0.52	0.43
30290005	Industrial Processes	Food and Agriculture	Fuel Fired Equipment	Liquified Petroleum Gas (LPG): Process Heaters	LPG	0.52	0.43
30500209	Industrial Processes	Mineral Products	Asphalt Concrete	Asphalt Heater: LPG	LPG	0.31	0.19
30590005	Industrial Processes	Mineral Products	Fuel Fired Equipment	Liquified Petroleum Gas (LPG): Process Heaters	LPG	0.52	0.43
30600105	Industrial Processes	Petroleum Industry	Process Heaters	Natural Gas-fired	NG	0.52	0.43
30600107	Industrial Processes	Petroleum Industry	Process Heaters	LPG-fired	LPG	0.52	0.43
30622005	Industrial Processes	Petroleum Industry		Underground Storage and Other Remediation: Soil: LPG	LPG	0.52	0.43
30622205	Industrial Processes	Petroleum Industry		Underground Storage and Other Remediation: Vapor Extract: LPG	LPG	0.52	0.43
30622405	Industrial Processes	Petroleum Industry		Underground Storage and Other Remediation: Air Stripping: LPG	LPG	0.52	0.43
30690004	Industrial Processes	Rubber and Miscellaneous Plastics Products	Fuel Fired Equipment	Liquified Petroleum Gas (LPG): Process Heaters	LPG	0.52	0.43
31000404	Industrial Processes	Oil and Gas Production	Process Heaters	Natural Gas	NG	0.52	0.43
31000414	Industrial Processes	Oil and Gas Production	Process Heaters	Natural Gas: Steam Generators	NG	0.52	0.43
39000689	Industrial Processes	In-process Fuel Use	Natural Gas	General	NG	0.52	0.43
39092051	Industrial Processes	In-process Fuel Use	Fuel Storage - Pressure Tanks	LPG: Withdrawal Loss	LPG	0.52	0.43
39901001	Industrial Processes	Miscellaneous Manufacturing Industries	Process Heater/Furnace	LPG	LPG	0.52	0.43
40201004	Petroleum and Solvent Evaporation	Surface Coating Operations	Coating Oven Heater	Liquified Petroleum Gas (LPG)	LPG	0.52	0.43
40600172	Petroleum and Solvent Evaporation	Transportation and Marketing of Petroleum Products	Tank Cars and Trucks	Transit Losses - LPG: Loaded with Fuel	LPG	0.52	0.43
40600173	Petroleum and Solvent Evaporation	Transportation and Marketing of Petroleum Products	Tank Cars and Trucks	Transit Losses - LPG: Return with Vapor	LPG	0.52	0.43
50190010	Waste Disposal	Solid Waste Disposal - Government	Auxiliary Fuel/No Emissions	Liquified Petroleum Gas (LPG)	LPG	0.52	0.43
50290010	Waste Disposal	Solid Waste Disposal - Commercial/Institutional	Auxiliary Fuel/No Emissions	Liquified Petroleum Gas (LPG)	LPG	0.52	0.43
50390010	Waste Disposal	Solid Waste Disposal - Industrial	Auxiliary Fuel/No Emissions	Liquified Petroleum Gas (LPG)	LPG	0.52	0.43

Potlatch Corporation
Post Falls Particle Board Plant
Press Vents,
Rotary Dryer Multi-Cyclone
Emission Source Test Report

Determination of

Press Vent: *Formaldehyde*
Methanol

Rotary Dryer: *Particulate Matter,*
Formaldehyde
Methanol

Project No. 2002.2.3

Prepared for:

Potlatch Corporation
PO Box 1388
Lewiston Idaho, 83501

Test Date:

February 12 & 13, 2002

Performed by:

Antec Environmental Services

1411 20th Street NW
Suite B
Auburn, Washington 98001-3424

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INTRODUCTION

During February 12 and 13, 2002, Antec Environmental Services (AES) conducted a series of air emission source tests on the Particle Board Press Vents and Rotary Dryer Multi-Cyclone exhaust stack operated at the Potlatch Particle Board Facility located in Post Falls, Idaho. The purpose of the formaldehyde and opacity testing was to satisfy the requirements as specified in the IDEQ Permit to Construct No. 55-00018.

Parameters measured from the Particle Board Press Vents and Rotary Dryer included; volume flow rates, oxygen, carbon dioxide, particulate matter and methanol. Table 1 represents a testing summary and outlines the parameters measured, test methods used, number of test runs performed, and duration of each test run.

Participants involved in the testing program are listed below with their affiliation:

Potlatch Corporation Post Falls Particle Board Plant PO Box 788 Post Falls, Idaho 83877-0788 Mr. Mike Weger Mill Manager (208) 777-2202 Potlatch Corporation PO Box 1388 Lewiston Id. 83501 Mr. John Emery Senior Environmental Engineer (208) 799-1223	*Antec Environmental Services* 1411 20th Street NW, Suite B Auburn, Washington 98001-3424 Mr. Andy Winkler Project Manager (253) 735-8838 Mr. Eric E. Olson Senior Air Quality Specialist (253) 735-8838
Idaho Division of Environmental Quality 2110 Ironwood Pkwy Coeur d' Alene, Idaho 83814 Mr. Michael L. Gersten Air Quality Analyst (208) 769-1422	

Table 1. Summary of Testing

Emission Unit ID	Emission Parameter	EPA Method	No. Sample Runs	Time per Sample	Reporting Units
ROTARY DRYER	Formaldehyde	NCASI 98.01	3	60 Minutes	ppm as Formaldehyde lbs/hr as Formaldehyde lbs Formaldehyde/ M ft^2, 3/4"
	Methanol	NCASI 98.01	3	60 Minutes	ppm as Methanol lbs/hr as Methanol lbs methanol/ M ft^2, 3/4"
	Visual Emissions	EPA 9	3	6 Minutes 24 readings	% Opacity
	Particulate Matter	EPA Method 5/202	3	60 Minutes	gr/dscf lbs/hr lbs/Ton BDT

Emission Unit ID	Emission Parameter	EPA Method	No. Sample Runs	Time per Sample	Reporting Units
Particle Board Press Vents	Formaldehyde	NCASI 98.01	3 vents 2 runs each	60 Minutes	ppm as Formaldehyde lbs/hr as Formaldehyde lbs Formaldehyde/ M ft^2, 3/4"
	Methanol	NCASI 98.01	3 vents 2 runs each	60 Minutes	ppm lbs/hr as Methanol lbs methanol/M ft^2, 3/4"
	Visual Emissions	EPA 9	3	6 Minutes 24 readings	% Opacity

Dryer operating parameters were monitored by Potlatch operating personnel during each test run.

SUMMARY OF RESULTS

Results of the Particle Board Press Vents and Rotary Dryer emission tests are summarized in Table 2. The results presented in Table 2 are based on data found in Appendixes A and B. . Applicable nomenclature and example calculations are included in Appendix C. The Source Test Plan submitted to the agency is found in Appendix D. Press and Dryer operating data is documented Appendix E. Quality assurance information relevant to the performance testing can be found in Appendix F.

Table 2. Summary of Results

Particle Board Press Vents

Press Vent A

Formaldehyde

	Run #1	*Run #2*	*Average*
Formaldehyde parts per million, ppm dry:	0.4	01.6	***01.0***
pounds per hour, as Formaldehyde:	0.07	0.24	***0.16***
lbs Formaldehyde/M ft^2, 3/4" basis:	0.008	0.026	***0.017***

Methanol

	Run #1	*Run #2*	*Average*
Methanol parts per million, ppm dry:	4.1	6.6	***5.4***
pounds per hour, as Methanol:	0.71	1.08	***0.89***
lbs Methanol/M ft^2, 3/4" basis:	0.08	0.12	***0.10***

Press Vent B

Formaldehyde

	Run #1	*Run #2*	*Average*
Formaldehyde parts per million, ppm dry:	1.3	0.8	***1.1***
pounds per hour, as Formaldehyde:	0.20	0.12	***0.16***
lbs Formaldehyde/M ft^2, 3/4" basis:	0.022	0.013	***0.018***

Methanol

	Run #1	*Run #2*	*Average*
Methanol parts per million, ppm dry:	7.3	3.3	***5.3***
pounds per hour, as Methanol:	1.20	0.51	***0.86***
lbs Methanol/M ft^2, 3/4" basis:	0.13	0.05	***0.09***

Press Vent C

Formaldehyde

	Run #1	Run #2	Average
Formaldehyde parts per million, ppm dry:	1.6	1.7	***1.7***
pounds per hour, as Formaldehyde:	0.23	0.26	***0.25***
lbs Formaldehyde/M ft^2 , 3/4" basis:	0.024	0.028	***0.026***

Methanol

	Run #1	Run #2	Average
Methanol parts per million, ppm dry:	7.6	1.4	***4.5***
pounds per hour, as Methanol:	1.14	0.23	***0.68***
lbs Methanol/M ft^2, 3/4" basis:	0.12	0.02	***0.07***

Particle Board Press Vent Total Emissions

Total Formaldehyde

Average Formaldehyde, ppm:	***1.2***
Formaldehyde Total lbs/hr:	***0.56***
Total lbs Formaldehyde/M ft^2 , 3/4" basis:	***0.061***

Total Methanol

Average Methanol, ppm:	***5.1***
Methanol Total lbs/hr:	***2.44***
Total lbs Methanol/M ft^2 , 3/4" basis:	***0.26***

Particle Board Press Vent

Visible Emissions

	Run #1	Run #2	Run #3	Average
Number of Readings above 20% Opacity	0	0	0	***0***
Number of Minutes above 20% Opacity	0	0	0	***0***
Average of Readings above 20% Opacity	0	0	0	***0***

Rotary Dryer Multi-Clone
Formaldehyde

	Run #1	Run #2	Run #3	Average
Formaldehyde parts per million, ppm dry:	0.3	0.1	0.1	**0.1**
pounds per hour, as Formaldehyde:	0.03	0.01	0.01	**0.02**
lbs Formaldehyde/M ft^2, ¾" basis:	0.003	0.001	0.001	**0.002**

Methanol

	Run #1	Run #2	Run #3	Average
Methanol parts per million, ppm dry:	0.9	0.3	0.7	**0.6**
pounds per hour, as Methanol:	0.11	0.04	0.08	**0.07**
lbs Methanol/M ft^2, ¾" basis:	0.010	0.005	0.008	**0.008**

Table 2. Summary of Results continued....

Rotary Dryer Particulate Results

	Run 1	Run 2	Run 3	Average
Date:	2/13/2002	2/13/2002	2/13/2002	
Time Start:	920	1153	1350	1350
End:	1022	1303	1453	1453
Particulate Matter				
Concentration – gr/dscf	0.017	0.014	0.021	**0.017**
Mass Emission – lbs/hr	3.58	2.83	4.28	**3.56**
- lbs/Ton Dried	0.22	0.23	0.27	**0.24**
Visible Emissions				
Number of Readings above 20% Opacity	0	0	0	**0**
Number of Minutes above 20% Opacity	0	0	0	**0**
Average of Readings above 20% Opacity	0	0	0	**0**
Emissions Parameters				
Volume Flow				
- acfm	29,694	29,355	29,185	**29,411**
- sdcfm	24,751	24,421	23,665	**24,279**
H_2O, % volume	0.9	1.0	3.2	**1.7**
Exhaust Gas Temperature, °F	131	132	134	**132**
Dryer Production Rate				
-1000 lbs Dried per hour	16.285	12.077	15.730	**14.697**

SUMMARY of PROCEDURES

The reference methods followed during the emission testing were the same as outlined in the submitted *Source Test Plan*, see *Apendix C.0*. Additional site information and deviations/variations from the submitted plan are as follows:

EPA Method 1:

Sample port location meet method requirements for straight run diameters straight before and after.

Press Vent Outlet Stack:

The Partical Board Press Vents consisted of three roof vents; each was equipped with stack extensions and flow straightening vanes.

Each Stack Extension was configured as follows:

Diameters Before (upstream): 2.0
Diameters After (downstream): 0.7

Stack Diameter: 53.0"

Sixteen total sample points were used during the test

Dryer Multiclone Outlet Stack:

Diameters Before (upstream): 7.0
Diameters After (downstream): 2.0

Stack Diameter: 36.0"

Twenty-four total sample points were used during the test

NCASI Method 98.01:

No method deviations were encountered during the test runs.

EPA Method 5/202

No method deviations were encountered during the test runs.

Process Equipment	Description	Throughput Units	Pounds of Pollutant per Throughput Unit[1]				
			PM[2]	SO_2	NO_x	CO	VOC
Wood-Fired Boilers	Dutch Oven	1000 lb steam	0.4[3]	0.014	0.31[4]	3.0[4]	0.13
	Spreader-Stoker	1000 lb steam	0.4[3]	0.014	0.31[4]	2.0[4, 5]	0.13
	Fuel Cell	1000 lb steam	0.4[3]	0.014	0.31[4]	1.0[4, 6]	0.13
Veneer Dryer – Gas Heat	Doug Fir (uncontrolled)	1000 ft^2 (3/8" basis)	0.52	NA[7]	0.12	0.02	0.22
	Doug Fir (Burley or 45% control)	1000 ft^2 (3/8" basis)	0.29	NA	0.12	0.02	0.22
	Hemlock, White Fir (uncontrolled)	1000 ft^2 (3/8" basis)	0.15	NA	0.12	0.02	0.22
	Hemlock, White Fir (Burley or 45% control)	1000 ft^2 (3/8" basis)	0.10	NA	0.12	0.02	0.22
Veneer Dryer – Steam Heat	Doug Fir (uncontrolled)	1000 ft^2 (3/8" basis)	1.01	NA	NA	NA	0.04
	Doug Fir (Burley or 45% control)	1000 ft^2 (3/8" basis)	0.56	NA	NA	NA	0.04
	Hemlock, White Fir (uncontrolled)	1000 ft^2 (3/8" basis)	0.25	NA	NA	NA	0.04
	Hemlock, White Fir (Burley or 45% control)	1000 ft^2 (3/8" basis)	0.15	NA	NA	NA	0.04
Veneer Dryer – Wood Fired	All species (<20% moisture in fuel)	1000 ft^2 (3/8" basis)	0.75[8]	NA	0.4	1.4	0.2
	All species (≥20% moisture in fuel)	1000 ft^2 (3/8" basis)	1.50	NA	0.4	1.4	0.2
Cyclone- Dry and Green chips, Shavings, Hogged Fuel/Bark, Green Sawdust	Medium Efficiency	Bone dry tons	0.5	NA	NA	NA	NA
	High Efficiency	Bone dry tons	0.2	NA	NA	NA	NA
	Baghouse control	Bone dry tons	0.001	NA	NA	NA	NA
Cyclone - Sanderdust	High Efficiency	Bone dry tons	2.0	NA	NA	NA	NA
	Baghouse control	Bone dry tons	0.04	NA	NA	NA	NA
Target Box		Bone dry tons	0.1	NA	NA	NA	NA
Lumber Dry Kilns	Douglas Fir	1000 board feet	0.02[9]	NA	NA	NA	0.6
	Hemlock	1000 board feet	0.05[9]	NA	NA	NA	0.39[12]
	Ponderosa Pine	1000 board feet	ND[10]	NA	NA	NA	1.7[10]
Press Vents - uncontrolled	Particleboard	1000 ft^2 (3/4" basis)	SS[11]	NA	NA	NA	SS
	Hardboard	1000 ft^2 (1/8" basis)	SS	NA	NA	NA	SS

[1] The emissions factors listed in this table should only be used when better information (i.e., source test data) is not available.
[2] The PM_{10} and $PM_{2.5}$ fractions are dependent upon the type of control equipment. See AQ-EF03 for estimated PM_{10} and $PM_{2.5}$ fractions.
[3] The PM factors are equivalent to 0.1 gr/dscf at 65% boiler efficiency. For other allowable emissions concentrations, the emission factor may be ratioed (e.g., 0.2/0.1 gr/dscf x 0.40 = 0.80 lb/10^3 steam).
[4] These factors are based on collective source tests as of 1992.
[5] Spreader-Stokers with small combustion chambers may exhibit higher CO levels.
[6] Recent tests have shown CO levels in the range of 0.1 to 0.5.
[7] There is no applicable emission factor because the pollutant is either not emitted or emitted at negligible levels.
[8] Based on statewide rule limit.
[9] Based on OSU study (2000)
[10] No data available, but expected to be less than Douglas fir factor.
[11] Use source specific data because most plants have performed source testing.
[12] Based on OSU Study (2006)

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Project No. 2723 Permit No. T1-060110

SOURCE EVALUATION REPORT

Potlatch Forest Products Corp.
Post Falls, Idaho

Press (Three Exhausts) & Two Baghouses (One Exhaust)
Hazardous Air Pollutants (HAPs)

January 16 and 17, 2007

Test Site:
Potlatch Forest Products Corp.
401 N. Potlatch Road
Post Falls, ID 83854

Air Pollution Emission Testing

3.2 Table of Results:

Table 1

Summary of Production Based Results

Based on Two Run Averages for Each Press Vent and
Three Run Averages for the Baghouse Exhaust

Unit: pounds-HAP per 1000 square feet particle board, 3/4" basis

	Press Vent (Total for Three Vents)	Baghouse
Acetaldehyde	0.0033 [1]	BDL [2]
Acrolein [3]	BDL	BDL
Formaldehyde	0.081	0.017
Methanol	0.099	0.028 [4]
Propionaldehyde [3]	BDL	BDL
Phenol [3]	BDL	BDL

Unit: pounds-HAP per 1000 pounds wood furnish

	Press Vent (Total for Three Vents)	Baghouse
Acetaldehyde	0.0010 [1]	BDL
Acrolein [3]	BDL	BDL
Formaldehyde	0.024	0.0059
Methanol	0.029	0.0095 [4]
Propionaldehyde [3]	BDL	BDL
Phenol [3]	BDL	BDL

[1] Acetaldehyde concentration for Vent A was between the MDL and MRL for the first run and was below the detection limit (BDL) for the second run and for all runs on Vents B and C.
[2] BDL = Below the (method) detection limit
[3] Acrolein, propionaldehye, and phenol concentrations were BDL for all runs.
[4] Methanol concentrations for the baghouse were estimated results between the MDL and MRL for all three runs.

Table 2

Press Vent Test Results - HAPs Above MDL [5]

Two-Run Averaged Results for Each Vent

Test Date: January 17, 2007	**Units**	**Vent A**	**Vent B**	**Vent C**	**Total**
Sample Time	min	60	60	60	
Sampling Results					
Acetaldehyde					
Concentration, Dry Basis	ppmvd	0.19	BDL	BDL	
Rate	lb/hr	0.031	BDL	BDL	0.031
Particle Board Basis (3/4")	lb/10^3 SF3/4"	0.0033	BDL	BDL	0.0033
Wood Furnish Basis	lb/10^3 lb	0.0010	BDL	BDL	0.0010
Formaldehyde					
Concentration	ppmvd	2.9	2.1	2.9	
Rate	lb/hr	0.326	0.237	0.201	0.764
Particle Board Basis (3/4")	lb/10^3 SF3/4"	0.0349	0.0252	0.0212	0.0813
Wood Furnish Basis	lb/10^3 lb	0.0104	0.0075	0.0062	0.0241
Methanol					
Concentration	ppmvd	2.0	3.7	3.6	
Rate	lb/hr	0.240	0.427	0.268	0.935
Particle Board Basis (3/4")	lb/10^3 SF3/4"	0.0257	0.0452	0.0282	0.099
Wood Furnish Basis	lb/10^3 lb	0.0077	0.0133	0.0082	0.029
Average Sample Flow Rate	ml/min	385.4	392.6	386.9	
Flow Rate (Actual)	acf/min	26,500	25,300	16,100	
Flow Rate (Standard)	dscf/min	24,300	22,900	14,800	62,000
Temperature	°F	77	79	74	
Moisture (Psychrometry)	%	0.4	1.0	0.9	

Process/Production Data		**Run 1**	**Run 2**	**Run 3**	**Average**
Particle Board Production (3/4")	MSF 3/4"	9.3	9.3	9.6	9.4
Wood Furnish	10^3 lb/hr	31.2	31.4	33.6	32.1

[5] Acrolein, propionaldehyde and phenol results were all below the method detection limit (MDL) as defined in Section 3.3.

Table 3

Common Baghouse Exhaust Test Results - HAPs Above MDL [7]

Test Date: January 16, 2007	**Units**	**Run 1**	**Run 2**	**Run 3**	**Average**
Start Time		12:34	14:40	16:32	
End Time		13:34	15:40	17:32	
Sample Time	min	60	60	60	60
Sampling Results					
Formaldehyde					
Concentration	ppmvd	0.98	0.70	0.51 [8]	0.73
Rate	lb/hr	0.25	0.18	0.12	0.19
Particle Board Basis (3/4")	lb/10^3 SF3/4"	0.020	0.020	0.012	0.017
Wood Furnish Basis	lb/10^3 lb	0.0075	0.0060	0.0041	0.0059
Methanol [9]					
Concentration	ppmvd	1.5	0.95	0.94	1.1 [9]
Rate	lb/hr	0.42	0.24	0.24	0.30
Particle Board Basis (3/4")	lb/10^3 SF3/4"	0.033	0.026	0.024	0.028
Wood Furnish Basis	lb/10^3 lb	0.012	0.0080	0.0079	0.0095
Average Sample Flow Rate	ml/min	391.8	382.6	383.8	389.4
Flow Rate (Actual)	acf/min	59,300	59,800	55,000	58,000
Flow Rate (Standard)	dscf/min	55,300	55,800	51,300	54,100
Temperature	°F	67	67	66	67
Moisture (Psychrometry)	%	0.4	0.3	0.4	0.4
Process/Production Data					
Wood, Main Weighbelt	No. Loads	19	14	15	16
Particle Board Production (3/4")	MSF 3/4"	12.7	9.3	10.0	10.7
Wood Furnish	10^3 lb/hr	33.7	30.4	30.2	31.4
Sawline BH Pressure Drop	in H_2O				0.40
Board Cooler BH Pressure Drop	in H_2O				0.70

[7] Acetaldehyde, acrolein, propionaldehyde and phenol results were all below the method detection limit (MDL) as defined in Section 3.3.
[8] The formaldehyde concentration was between the MDL and MRL for the third run, but above the detection limit (BDL) for the other two runs.
[9] The methanol laboratory results for all three runs were an estimated concentration less than the method reporting limit (MRL), but greater than or equal to the MDL.