

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date:**

**Region:** Washington Regional Office  
**County:** Martin  
**NC Facility ID:** 5900069  
**Inspector's Name:** Betsy Huddleston  
**Date of Last Inspection:** 09/23/2009  
**Compliance Code:** B / Violation - emissions

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<b>Applicant (Facility's Name):</b> Domtar Paper Company, LLC  <b>Facility Address:</b> Domtar Paper Company, LLC NC Highway 149 North Plymouth, NC 27962  <b>SIC:</b> 2611 / Pulp Mills <b>NAICS:</b> 322121 / Paper (except Newsprint) Mills  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			<b>SIP:</b> <b>NSPS:</b> <b>NESHAP:</b> .1109 Case-by-Case MACT <b>PSD:</b> <b>PSD Avoidance:</b> <b>NC Toxics:</b> <b>112(r):</b> <b>Other:</b>
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 5900069.09C <b>Date Received:</b> 09/11/2009 <b>Application Type:</b> 112(j) Part I <b>Application Schedule:</b> TV-Significant <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 04291/R35 <b>Existing Permit Issue Date:</b> 01/21/2010 <b>Existing Permit Expiration Date:</b> 01/31/2011
Diane Hardison Environmental Manager (252) 793-8611 P O Box 787 Plymouth, NC 27962	Dennis Askew Plant Manager  NC Highway 149 North Plymouth, NC 27962	Diane Hardison Environmental Manager (252) 793-8611 P O Box 787 Plymouth, NC 27962	
<b>Review Engineer:</b> Jenny Kelvington  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____		<b>Comments / Recommendations:</b> Issue 04291/R36 <b>Permit Issue Date:</b> <b>Permit Expiration Date:</b>	

**I. Purpose of Application No. 5900069.09B**

Domtar Paper Company, LLC is located in Plymouth, Martin County, North Carolina. Application No. 5900069.09C, received September 11, 2009, is a Part 2 MACT "Hammer" application for three existing boilers listed below. This is a Notice of MACT approval as required by 40 CFR, as listed below:

- Hog fuel/No. 6 fuel oil/coal/used oil/sludge/high volume low concentration (HVLC) gases-fired boiler (**ID No. 1HFB; 835 million Btu per hour maximum heat input from hog fuel; 617 million Btu per hour maximum heat input from No. 6 fuel oil; or 701.2 from hog fuel and 319.8 million Btu per hour maximum heat input from coal**) equipped with a low NOX/OFA system and a multicyclone/electroscrubber system; [No. 1 Hog Fuel Boiler]
- Hog fuel/No. 6 fuel oil/coal/used oil/sludge/high volume low concentration (HVLC) gases- fired boiler (**ID No. 2HFB; 889 million Btu per hour maximum heat input from combined fuels or 800 million Btu per hour maximum heat input from No. 6 fuel oil**) equipped with a multicyclone/electroscrubber system [No. 2 Hog Fuel Boiler]; and
- Low sulfur No. 2 fuel oil/No. 6 fuel oil-fired boiler (**ID No.66-25-2050; 360 million Btu per hour maximum heat input**) equipped with an open spray tower-type wet scrubber [Package Boiler].

## II. Permit Modifications/Changes

The following table describes the modifications to the current permit.

Pages	Section	Description of Changes
Cover	-	Amend permit revision numbers and all dates
All	Page Headers	Amend permit revision number
3	List of Affected Sources	Add Case-By-Case MACT designation and ID numbers to affected boilers ( <b>ID Nos. HFB1, HFB2, and PB1</b> ).
19	A.I. 27	Add 15A NCAC 2D .1109: Case-by-Case MACT requirements for the temporary boilers.
19-31	A.I.28	Add 15A NCAC 2D .1109: Case-by-Case MACT requirements for boilers ( <b>ID Nos. HFB1, HFB2, and PB1</b> )

## III. Regulatory Review – 15A NCAC 2D .1109 –Case-by-Case MACT

1. Generally: On July 20, 2007, the D.C. Circuit Court vacated the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, which had been promulgated under 40 CFR 63, Subpart DDDDD. The North Carolina Attorney General’s office has determined that the NESHAP vacatur equates to the failure of the U.S. EPA to promulgate a standard as required under Section 112(d) of the Clean Air Act (CAA). As a result, the site-specific Maximum Achievable Control Technology (MACT) standards required under CAA §112(j), commonly referred to as the MACT “hammer” provisions, have been triggered. North Carolina regulations implementing the MACT hammer are found at 15A NCAC 2D .1109.

On September 11, 2009, the NC DAQ received a Part 2 MACT “Hammer” application from this facility asking that the NC DAQ establish 112(j) emissions limitations.

NC DAQ has developed this guidance to provide standards and compliance procedures that it has determined meet the requirements of § 112(j) (<http://daq.state.nc.us/permits/112j/>).

2. Case-By-Case MACT Determination: The two hog fuel boilers (**ID Nos. HFB1 and HFB2**) can fire coal, dry wood, green wood, residual fuel oil, onsite generated used oil, and sludge. These boilers are also control devices for HVLC gases which are not considered a fuel. Each boiler has a heat input capacity of greater than 100 MMBtu/hr and each is equipped with a multicyclone/ electroscrubber control system. In addition, a NOX/OFA system controls NO<sub>x</sub> emissions from boiler (**ID No. HFB1**). The hog fuel boilers fire primarily green wood and thus are categorized as wet wood-fired boilers greater than 100 MMBtu heat input. The package boiler (**ID No. 66-25-2050**) can fire distillate and residual fuel oils and its emissions are controlled by a wet scrubber. This package boiler fires predominantly No. 6 fuel oil and is categorized as a residual fuel-fired boiler greater than 100 MMBtu heat input.

Each affected source shall comply with the applicable emissions limitations listed in the following table or choose to use the Health-Based Compliance Alternative (HBCA) to comply with the applicable limits.

Fuel Fired	Heat Input Capacity in MMBtu/hr [C]	Pollutant	Emission Limitation
Green Wood (≥20% Moisture Content)	100 ≤ C	Particulate Matter (filterable)	0.18 lb/MMBtu
		<b>Total Selected Metals*</b>	<b>0.0003 lb/MMBtu</b>
		<b>Mercury</b>	<b>0.000005 lb/MMBtu</b>
		<b>Hydrogen Chloride</b>	<b>0.02 lb/MMBtu</b>
		<b>Carbon Monoxide</b>	<b>555 ppmvd<sup>1</sup>, 7% O<sub>2</sub></b>

<sup>1</sup> The presumptive 112(j) CO limit for green and dry wood fired boilers is 555 ppmv @ 7% oxygen based on AP-42 Chapter 1.6; Table 1.6-2; Sept. 2003. The AP-42 factor is 0.6 lbs CO/MMBtu and has been converted to ppmv using the following equation:

$$\text{ppm, 7\%} = (0.6 \text{ lb/MMBtu}) ((21-7)/21) (359 \text{ dscf/mole}) / (28 \text{ lb/mole}) / (\text{Fd}) * 10^6$$

Fuel Fired	Heat Input Capacity in MMBtu/hr [C]	Pollutant	Emission Limitation
Dry Wood ( <i>&lt;20% Moisture Content</i> )	$30 \leq C$	Particulate Matter (filterable)	0.39 lb/MMBtu
		<b>Total Selected Metals*</b>	<b>0.0005 lb/MMBtu</b>
		<b>Mercury</b>	<b>0.000005 lb/MMBtu</b>
		<b>Hydrogen Chloride</b>	<b>0.02 lb/MMBtu</b>
		<b>Carbon Monoxide</b>	<b>555 ppmvd<sup>1</sup>, 7% O<sub>2</sub></b>
Coal	$100 \leq C$	Particulate Matter (filterable)	0.08 lb/MMBtu
		<b>Total Selected Metals</b>	<b>0.0004 lb/MMBtu</b>
		<b>Mercury</b>	<b>0.000003 lb/MMBtu</b>
		<b>Hydrogen Chloride</b>	<b>0.05 lb/MMBtu</b>
		<b>Carbon Monoxide</b>	<b>133 ppmvd, 7% O<sub>2</sub></b>
Residual Fuel Oil (Nos. 4, 5, and 6)	All Capacities	Particulate Matter (filterable)	0.45 lb/MMBtu
		<b>Total Selected Metals*</b>	<b>0.002 lb/MMBtu</b>
		<b>Mercury</b>	<b>0.00002 lb/MMBtu</b>
		<b>Carbon Monoxide</b>	<b>28 ppmvd, 7% O<sub>2</sub></b>

The NC DAQ received a Part 2 MACT “Hammer” application from this facility asking that the NC DAQ establish 112(j) emission limitations in accordance with NC DAQ recommendations. Domtar proposed to use the HBCA for TSM, hydrogen chloride (HCl), and mercury and comply with the NC DAQ carbon monoxide limitations consistent with the NC DAQ recommendations.

#### **Site Specific Compliance Demonstration**

Domtar has conducted HAP emissions tests or fuel analysis for every emission point covered under this standard within the affected source facility according to the requirements of the DAQ guidance. Source testing for the hog fuel boilers has included analyses for both HCl and Cl<sub>2</sub>, the eight selected metals, and mercury. Testing was performed in 2006 and 2008 and consisted of at least three separate runs lasting one hour each at worst-case operating conditions. Each individual HAP was considered zero **only** when all of the test runs resulted in non-detect measurements. The analytical results for chlorine for all test runs were below the detection limit and thus reported as zero. In all other cases, the non-detect results were factored in as one-half of the method detection limit since the applicable HAP was detected in one or more of the other samples tested.

Domtar performed fuel analysis over the past few years for the different types of fuels fired in the boilers including No. 2 and No. 6 fuel oils, hog fuel, coal, sludge, and waste oil, to determine the mixture of fuels that would yield the worst case emissions of mercury, TSM, and HCl. Fuel analyses of the residual fuel fired in the package boiler assumed any chlorine detected will be emitted as Cl<sub>2</sub>. Coal results in the highest HCl emissions, while sludge results in the highest TSM and mercury emissions. As permitted, the worst case fuel for the hog fuel boilers is a combination of coal and biomass for HCl and a combination of sludge and biomass for TSM and mercury. For the package boiler, No. 6 fuel oil is the worst case fuel for all HCl, TSM, and mercury.

Domtar used fuel analysis data for package boiler PB1 (assuming all fuel pollutants are emitted to the atmosphere and not accounting for control) and stack test data for hog fuel boilers HFB1 and HFB2 to determine the maximum HAP emission rates. The maximum hourly emission rate for each HAP was calculated according to the following equation:

$$E_{i,s} = \sum_{j=1}^I (R_{i,j} \times I_j) \quad (\text{Eq. 1})$$

Where:

$E_{i,s}$  = Max. hourly emission rate for HAP i at each emission point s associated with a affected source j, lbs/hr

i = Applicable HAP, where i = (HCl, Cl<sub>2</sub>, Manganese, or Mercury)

s = Individual emission point

- $j$  = Each affected source associated with an emission point,  $s$   
 $t$  = Total number of affected sources associated with an emission point  $s$   
 $R_{i,j}$  = Emission rate for HAP  $i$  at affected source  $j$  associated with emission point  $s$ , lb/MMBtu.  
 $I_j$  = Max. rated heat input of each affected source  $j$  emitting HAP  $i$  associated with emission point  $s$ , MMBtu/hr.

The maximum hourly HAP emission rates, based upon stack testing and fuel analysis for the fuel fired in the hog fuel boilers and the higher emission factor (AP-42 or NCASI) for the No. 6 fuel oil fired in the package boiler are summarized below:

Hazardous Air Pollutant	Hog Fuel Boiler HFB1 (lbs/hour)	Hog Fuel Boiler HFB2 (lbs/hour)	Package Boiler PB1 (lbs/hour)
Mercury	1.26-03	8.67-04	2.68-04
HCl	1.37+01	9.16+01	3.21-01
Arsenic Compounds	7.85-03	6020-03	3.14-02
Beryllium Compounds	1.93-04	9.60-04	6.59-06
Cadmium Compounds	1.33-03	6.94-04	4.79-03
Chromium VI	1.67-02	2.63-02	1.69-02
Lead	1.79-02	1.37-02	4.79-03
Manganese	7.00-02	2.42-02	7.13-03
Nickel Compounds	1.98-02	3.68-02	8.64-01
Selenium	1.75-03	8.40-02	1.66-03

Domtar conducted an initial Air Toxics Risk Assessment at maximum emission rates for the hog fuel boilers and the maximum emission rates based on only NCASI emission factors for the package boiler to determine if the facility qualifies for a Health-Based Compliance Alternative (HBCA). The assessment consisted of a dispersion modeling analysis (following the guidance contained in [Guideline on Air Quality Models](#) (USEPA 2005) and the [Guidelines for Evaluation the Air Quality Impacts of Toxic Air Pollutants in North Carolina](#) (NCDAQ 2009), and Hazard Quotient (HQ)/ Hazard Index (HI) calculations for arsenic, beryllium, cadmium, chromium VI, hydrochloric acid (HCl), lead, manganese, mercury, nickel, and selenium.

Mr. Mark Yoder, Meteorologist, NC DAQ Air Quality Analysis Branch (AQAB), reviewed the assessment in August 2010 and found the facility eligible for HBCA. [See attached review dated August 6, 2010.] The carcinogenic and non-cancer chronic inhalation HI's for the facility are 0.96 and 0.37, the lifetime cancer inhalation risk is less than 1 in 1,000,000 and the maximum off-site HQs for each HAP are all less than 1.0. A facility is considered a "low risk" when HI and HQ values are less than 1.0. This shows that the risk to the public due to long-term inhalation of air emissions from the three boilers is below the low risk thresholds. Therefore, Mr. Yoder determined that the Domtar Plymouth Mill may utilize the HBCA to demonstrate compliance with the Boiler MACT.

On November 12, 2010, Domtar submitted a revised risk assessment with emission rates optimized such that the HQ/HI values were just less than 1. As shown in the table below, the emission rates used in the optimized risk assessment were equal to or greater than by a factor of 20 to 1000 of the maximum HAP emission rate for the hog fuel boilers and equal to or greater than the maximum mercury, HCl, beryllium, chromium, and nickel emission rate for the package boiler. However, the rates of arsenic, cadmium lead, manganese, and selenium emissions used in the risk assessment were only 1 to 10 percent of the maximum rate of emissions calculated using AP-42 emission factors for No. 6 fuel oil combustion.

**EMISSION RATE MODEL DIVIDED BY MAXIMUM EMISSION RATE**

<b>Hazardous Air Pollutant</b>	<b>Hog Fuel Boiler HFB1</b>	<b>Hog Fuel Boiler HFB2</b>	<b>Package Boiler PB1</b>
Mercury	100	100	19
HCl	20	20	16
Arsenic Compounds	1	1	0.01
Beryllium Compounds	1	1	1
Cadmium Compounds	1	1	0.02
Chromium VI	1	1	1
Lead	100	100	0.08
Manganese	100	100	0.1
Nickel Compounds	1	1	1
Selenium	1000	1000	0.1

Mr. Jerry Freeman, Meteorologist, NC DAQ AQAB, reviewed this second assessment and found the facility eligible for HBCA at the higher emission rates. [See attached review dated December 3, 2010.] The carcinogenic and non-cancer chronic inhalation HI's for the facility are 0.99 and 0.98, the lifetime cancer inhalation risk is less than 1 in 1,000,000 and the maximum off-site HQs for each HAP are all less than 1.0. A facility is considered a "low risk" when HI and HQ values are less than 1.0. This shows that the risk to the public due to long-term inhalation of air emissions from the three boilers is below the low risk thresholds. Therefore, Mr. Freeman determined that the Domtar Plymouth Mill may utilize the HBCA at the optimized emission rates to demonstrate compliance with the Boiler MACT.

Domtar will comply with the boiler MACT as follows:

**a. Total Selected Metals (TSM)**

In accordance with the 112(j) application guidance provided by NC DAQ, affected facilities may propose either a total selected metal (TSM) limit or a filterable PM limit. Domtar has chosen to comply with the TSM limit. In general TSM includes arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium. Domtar has opted for the HBCA for each of the eight selected metal and submitted a site-specific compliance demonstration which indicates that none of the health quotient (HQ) values for the selected metals are greater than 1.0 (1 in 1,000,000) at locations where people live or congregate (e.g., schools, daycare centers, etc.) and which includes every emission point subject to this standard that emits these selected metals.

Domtar has proposed the following emission limits for the eight selected metals for which they shown poses a low risk.

**Emission Limits for All Permitted Fuels**

<b>Pollutant</b>	<b>HFB1 (lbs/hour)</b>	<b>HFB2 (lbs/hour)</b>	<b>PB1 (lbs/hour)</b>
Arsenic (As)	7.85E-03	6.20E-03	3.17E-04
Beryllium (Be)	1.93E-04	9.60E-04	6.67E-06
Cadmium (Cd)	1.33E-03	6.94E-04	9.55E-05
Chromium (Cr) VI	0.0167	0.0263	0.0169
Lead (Pb)	1.79	1.37	3.62E-04
Manganese (Mn)	7.00	2.42	7.20E-04
Nickel (Ni)	0.0198	0.0368	0.864
Selenium (Se)	17.5	840	1.64E-04

NC DAQ has determined that these limits are acceptable. An initial compliance demonstration will be required for each HAP modeled at or below the maximum emission rate determined from stack testing or fuel analysis or calculated using AP-42 or NCASI emission factors within 180 days of the initial compliance date.

Compliance is demonstrated for lead, manganese, and selenium emissions from the hog fuel boilers as these HAPs were modeled at rates 100 to 1000 times the maximum emissions expected.

**b. Mercury (Hg)**

Domtar proposed the following mercury limits for the two hog fuel boilers and the package boiler in accordance with the NC DAQ application guidance and with the site specific compliance demonstration which showed the health risk from mercury emissions from the three boilers to be low. The facility is eligible for the HBCA for mercury because their site-specific compliance demonstration indicates that none of the health index (HI) values for mercury are greater than 1.0 at locations where people live or congregate (e.g., schools, daycare centers, etc.).

**Emission Limits for All Permitted Fuels**

Pollutant	HFB1	HFB2	PB1
Mercury (Hg)	0.126 lb/hr	0.0867 lb/hr	5.19E-03 lb/hr
	0.00015 lb/MMBtu	0.000098 lb/MMBtu	0.0000014 lb/MMBtu

NC DAQ has determined that the proposed mercury limits are acceptable. Compliance is demonstrated since the mercury emission limits are 19 to 100 times the maximum emissions expected.

**c. HCl**

Domtar proposed the following HCl limits for the two hog fuel boilers and the package boiler in accordance with the NC DAQ application guidance and with the site specific compliance demonstration which showed the health risk from mercury emissions from the three boilers to be low. The facility is eligible for the HBCA for HCl because their site-specific compliance demonstration indicates that none of the health index (HI) values for HCl and Cl<sub>2</sub> are greater than 1.0 at locations where people live or congregate (e.g., schools, daycare centers, etc.). As required, Domtar’s eligibility demonstration includes every emission point subject to this standard that emits either HCl or Cl<sub>2</sub>.

**Emission Limits for All Permitted Fuels**

Pollutant	HFB1	HFB2	PB1
HCl Equivalent <sup>1</sup> (HCl)	274 lb/hr	1830 lb/hr	5.10 lb/hr
	0.33 lb/MMBtu	2.1 lb/MMBtu	0.014 lb/MMBtu

NC DAQ has determined that the proposed HCl equivalent limits are acceptable. Compliance is demonstrated since the HCl emission limits are 16 to 20 times the maximum emission rate expected

**d. Carbon Monoxide (CO)**

Domtar opted to comply with the carbon monoxide (CO) emission limitations recommended by the NC DAQ in the application guidance (See <http://daq.state.nc.us/permits/112j/>) for coal-fired boilers and residual fuel oil-fired boilers and the revised NC DAQ recommended 112(j) CO limit for green and dry wood fired boilers. The presumptive NC DAQ 30-day rolling average limit for wood-fired boilers is 555 ppmv CO @ 7% oxygen based on AP-42 Chapter 1.6; Table 1.6-2; Sept. 2003. The NCDAQ requests comment on the CO emission limit. Domtar has indicated that they plan to install a continuous emissions monitor on one of the hog-fueled boiler their boilers to obtain 30 days of CO emission data. This data, along with other relevant data and comments will be reviewed prior to the issuance of the final 112(g) determination for this facility.

Fuel Fired	Emission Limitation
Green Wood ( <i>≥20% Moisture Content</i> )	555 ppmvd <sup>1</sup> , 7% O <sub>2</sub>
Dry Wood ( <i>&lt;20% Moisture Content</i> )	555 ppmvd <sup>1</sup> , 7% O <sub>2</sub>
Coal	133 ppmvd, 7% O <sub>2</sub>
Residual Fuel Oil (Nos. 4, 5, and 6)	28 ppmvd, 7% O <sub>2</sub>

1. The emission limit for wood-fired boilers may be revised pending the outcome of NC DAQ’s evaluation.

Emissions from the hog fuel boilers (**ID Nos. HFB1 and HFB2**) and the package boiler (**ID No. PB1**) shall not exceed the emissions limits listed below:

Pollutant	HFB1 (lbs/hour)	HFB2 (lbs/hour)	PB1 (lbs/hour)	Fuel Combusted
Carbon Monoxide (CO) @ 7% O <sub>2</sub>	NA	NA	30 ppmvd	No. 2 fuel oil
	28 ppmvd	28 ppmvd	28 ppmvd	No. 6 fuel oil
	555 ppmvd	555 ppmvd	N/A	Hog fuel (wood bark - biomass)/ used oil/ sludge
	133 ppmvd	133 ppmvd	N/A	coal

When firing multiple fuels (e.g. wood with oil) the CO limit will be based on the weighted average of each fuel fired based on that fuels heat input provided that fuel is fired at a greater than 10 percent annual capacity factor. (for example of this approach see 15A NCAC 2D .0503) . The proposed permit establishes the CO emission limitation in proportion to the heat input of the particular fuels combusted. The 30 day rolling average emission limit in ppmvd, corrected to 7% O<sub>2</sub> is calculated as follows:

$$E_{CO} = [(30)(DFO) + 28 (RFO) + 555 (HF) + (133)(C) + 28(RFO)]/(DFO + RFO + HF + C)$$

Where:

E<sub>CO</sub> = allowable CO emission rate in ppmvd, corrected to 7% O<sub>2</sub>;

DFO = heat input of distillate fuel oil;

RFO = heat input of residual fuel oil;

HF = heat input of hog fuel; and

C = heat input of coal.

**IV. Draft Permit Review Summary**

Ms. Katy Forney and Ms. Gracy DeNois (U.S. EPA, Region IV) were provided a draft permit for review on December ?, 2010. *No comments were received at the time of permit issuance. ??*

A 30-day public notice period was initiated on December ?, 2010. *No comments were received at the time or permit issuance.??*

**V. Recommendations**

This permit modification application for the Domtar Paper Company, LLC located in Plymouth, Martin County, North Carolina has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

**Issue Permit No. 04291R36**

**ATTACHMENT I: 15A NCAC 2D .1109 “MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY” REQUIREMENTS ADDED TO PERMIT NO. 04291R36**

I. 27. 15A NCAC 2D .1109 "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY" – In order to avoid the applicability of 15A NCAC 2D .1109, the boilers (ID Nos. ES-RB1 and ES-RB2) shall not remain on site for more than 180 consecutive days. If either boiler remains on site for longer than 180 consecutive days, the Permittee shall notify the Regional Office in writing within 10 days of exceeding the 180 day period.

I. 28. 15A NCAC 2D .1109 “MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY”

**Emission Limitations**

(a) Emissions from the hog fuel boilers (ID Nos. HFB1 and HFB2) and the package boiler (ID No. PB1) shall not exceed the emissions limits listed below:

Pollutant	HFB1 (lbs/hour)	HFB2 (lbs/hour)	PB1 (lbs/hour)	Fuel Combusted
Mercury (Hg)	0.126	0.0867	5.19E-03	Any
HCl Equivalent <sup>1</sup> (HCl)	274	1.83E+03	5.10	Any
Arsenic (As)	7.85E-03	6.20E-03	3.17E-04	Any
Beryllium (Be)	1.93E-04	9.60E-04	6.67E-06	Any
Cadmium (Cd)	1.33E-03	6.94E-04	9.55E-05	Any
Chromium (Cr) VI	0.0167	0.0263	0.0169	Any
Lead (Pb)	1.79	1.37	3.62E-04	Any
Manganese (Mn)	7.00	2.42	7.20E-04	Any
Nickel (Ni)	0.0198	0.0368	0.864	Any
Selenium (Se)	17.5	840	1.64E-04	Any
Carbon Monoxide (CO) <sup>2,3</sup> @ 7% O <sub>2</sub>	NA	NA	30 ppmvd	No. 2 fuel oil
	28 ppmvd	28 ppmvd	28 ppmvd	No. 6 fuel oil
	555 ppmvd	555 ppmvd	N/A	Hog fuel (wood bark - biomass)/ used oil/ sludge
	133 ppmvd	133 ppmvd	N/A	coal

1 HCl-equivalent is defined by the following equation:

$$E = E_{HCl} + E_{Cl_2} * (RfC_{HCl} / RfC_{Cl_2})$$

Where:

- E = HCl-equivalent emission rate (in lbs/hr);
- E<sub>HCl</sub> = Hydrogen chloride emission rate (in lbs/hr);
- E<sub>Cl<sub>2</sub></sub> = Chlorine emission rate (in lbs/hr);
- RfC<sub>HCl</sub> = Reference concentration for HCl (20 µg/m<sup>3</sup>); and
- RfC<sub>Cl<sub>2</sub></sub> = Reference concentration for Cl<sub>2</sub> (0.20 µg/m<sup>3</sup>)

2. The emissions limitation is proportional to the heat input of the particular fuels combusted. The limit in ppmvd, corrected to 7% O<sub>2</sub> is calculated as follows:

$$E_{CO} = [(30)(DFO) + 28 (RFO) + 560 (HF) + (133)(C) + 28(RFO)] / (DFO + RFO + HF + C)$$

Where:

- E<sub>CO</sub> = allowable CO emission rate in ppmvd, corrected to 7% O<sub>2</sub>;
- DFO = heat input of distillate fuel oil;
- RFO = heat input of residual fuel oil;
- HF = heat input of hog fuel; and
- C = heat input of coal.

3. 30-day rolling average

- (b) The emissions limitations for a specific fuel type in 28 (a) above shall only apply for a particular boiler when the Permittee fires at least 10% of that fuel in the boiler on a consecutive 12-month period average heat input basis. If the Permittee fires less than 10% of a specific fuel in a boiler on a 12-month basis, the respective emissions limitations and the testing, monitoring, and recordkeeping associated with that particular fuel shall not apply for the boiler. However, the Permittee must retain records of the fuels fired in the boiler in accordance with condition of this permit.

**Initial Compliance Date**

- (c) The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is [3 years from permit issuance]. These conditions need not be included on the annual compliance certification until after the initial compliance date. The Permittee shall follow the procedures in 15A NCAC 2D .0535 for any excess emissions that occur during periods of startup, shutdown, or malfunction.
- (d) Within 180 days of the initial compliance date, the Permittee shall conduct either performance testing or fuel analysis to demonstrate compliance with the arsenic, beryllium, cadmium, chromium VI, and nickel emission limits listed in 28 (a) above for hog fuel boilers (**ID Nos. HFB1 and HFB2**).
- (e) Within 180 days of the initial compliance date, the Permittee shall conduct either performance testing or fuel analysis to demonstrate compliance with the arsenic, beryllium, cadmium chromium VI, lead, manganese, nickel, and selenium emission limits listed in 28(a) above for package boiler (**ID No. PB1**).

**Control Device and Continuous Monitoring System Requirements**

- (f) The Permittee shall install, operate and maintain control devices and continuous monitoring systems (CMS) for the hog fuel boilers (**ID Nos. HFB1 and HFB2**) and package boiler (**ID No. PB1**) as follows:
- i. Mercury and selected metals (arsenic, beryllium, cadmium, chromium VI, lead, manganese, nickel, and selenium) emissions from hog fuel boilers (**ID Nos. HFB1 and HFB2**) shall be controlled by multicyclones followed by electroscrubbers.
  - ii. Mercury, selected metals, and hydrogen chloride emissions from the package boiler (**ID No. PB1**) shall be controlled by a wet scrubber.
  - iii. The Permittee shall inspect and maintain each multicyclone and scrubber in accordance with Permit Conditions 22(a) and 23(a) above.
  - iv. The Permittee shall install, operate, and maintain an opacity monitor at a combined exhaust location for each set of three electroscrubbers associated with each hog fuel boiler. The Permittee shall maintain opacity of exhaust from the electroscrubbers at less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent.
  - v. The Permittee shall install, operate, and maintain a liquid flowmeter (CMS) or a gas pressure drop indicator (CMS) on the wet scrubber. The Permittee shall maintain the 12-hour average pressure drop and/or liquid flow-rate for the wet scrubber at or above the operating levels, adjusted for variability, established during the performance test that demonstrated compliance with the applicable emission limits.
  - vi. The Permittee shall inspect and maintain the multicyclones in accordance with Condition 22 (a) above.

**Performance Testing**

- (g) The performance tests shall be conducted in accordance with the following methods, as applicable:
- i. Select sampling port locations and traverse points using Method 1 in 40 CFR 60, Appendix A;
  - ii. Determine the velocity and volumetric flow rate of the stack gas using Method 2, 2F, or 2G in 40 CFR 60, Appendix A;
  - iii. Determine oxygen and carbon dioxide concentrations of the stack gas using Method 3A

- or 3B in 40 CFR 60, Appendix A, or ASME PTC 19, Part 10 (1981) (IBR, see 40 CFR 63.14(i));
- iv. Measure the moisture content of the stack gas using Method 4 in 40 CFR 60, Appendix A;
- v. Measure pollutant emission concentrations, as follows:
  - A. Metals: Use Method 29 in 40 CFR 60, Appendix A or for Hg only, use Method 101A in 40 CFR 61, Appendix B or ASTM Method D6784-02 (IBR, see 40 CFR 63.14(b));
  - B. Hydrogen Chloride: Use Method 26 or 26A in 40 CFR 60, Appendix A; and
- vi. Convert emission concentration to pound per million British thermal units (lb/MMBtu) emission rates using Method 19 F-factor methodology in 40 CFR 60, Appendix A.
- (h) The Permittee has demonstrated compliance with the HCl emissions limitation for the hog fuel boilers (**ID Nos. HFB1 and HFB2**) in 28 (a) above during stack testing performed in 2006, 2008, and 2010. If additional emission testing is required to demonstrate compliance with HCl emission limit, the testing shall be performed in accordance General Condition JJ at the maximum normal operating load while burning coal and hog fuel at the maximum normal operating load unless no coal has been fired in the boiler after the initial compliance date. If no coal has been fired, any required performance tests for HCl from hog fuel boilers (**ID Nos. HFB1 and HFB2**) shall be conducted at the maximum normal operating load while burning hog fuel. If the results of the test are above the limit given in 28 (a) above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109.
- (i) The Permittee has demonstrated compliance with the mercury emissions limitation for the hog fuel boilers (**ID Nos. HFB1 and HFB2**) in 28 (a) above during stack testing performed in 2006, 2008, and 2010. If additional testing is required to demonstrate compliance with the mercury emissions limit, the testing shall be performed in accordance with General Condition JJ while burning sludge and biomass at the maximum normal operating load.
- (j) Performance tests for arsenic, beryllium, cadmium, chromium VI, and nickel from hog fuel boilers (**ID Nos. HFB1 and HFB2**), shall be conducted in accordance with General Condition JJ while burning sludge and biomass at the maximum normal operating load.
- (k) Performance tests for arsenic, beryllium, cadmium, chromium VI, lead, manganese, nickel and selenium from boiler (**ID No. PB1**) shall be conducted in accordance with General Condition JJ at the maximum normal operating load while burning No. 6 fuel oil.
- (l) Each required performance test shall include three separate test runs as specified in 40 CFR 63.7(e)(3). Each test run must last at least 1 hour. Performance tests may not be conducted during periods of startup, shutdown, or malfunction. Test results shall be used to:
  - i. Demonstrate initial compliance with the applicable standard(s). To determine compliance with the emission limits, use the F-Factor methodology and equations in Sections 12.2 and 12.3 of EPA Method 19 of 40 CFR Part 60, Appendix A to convert the measured concentrations to pounds per million Btu heat input (lb/MMBtu) emission rates using F-factors.
  - ii. Establish operating parameters for the wet scrubber controlling emissions from the package boiler (**ID No. PB1**) as follows:

Pollutant(s)	Requirements for Performance Test
Selected metals	1. Collect pressure drop or liquid flow rate data every 15 minutes during the entire period of the performance test; and, 2. Determine the average pressure drop or liquid flow rate for each individual test run in the 3-run performance test by computing the average of all the 15-minute readings taken during each test run.

The minimum liquid flowrate or pressure drop operating limits shall be the highest 3-run average minimum value established during any of the performance tests.

**Fuel Analysis**

- (m) The fuel analysis shall be conducted in accordance with the NC DAQ approved Site Specific Boiler MACT Fuel Sampling Plan dated August 2005 referenced henceforth as the “August 2005 Fuel Sampling Plan.”
- (n) The Permittee shall obtain, at a minimum, three composite fuel samples for each solid fuel type according to the following procedures:
  - i. If sampling from a belt (or screw) feeder, stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. Collect all the material (fines and coarse) in the full cross-section. Transfer the sample to a clean plastic bag.
  - ii. If sampling from a fuel pile or truck, select a minimum of five sampling locations uniformly spaced over the surface of the pile. At each sampling site, dig into the pile to a depth of 18 inches. Insert a clean flat square shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling. Transfer all samples to a clean plastic bag for further processing.
  - iii. Collect a minimum of three samples at approximately equal intervals during the testing period for each composite sample. Thoroughly mix and pour the entire composite sample over a clean plastic sheet. Break sample pieces larger than 3 inches into smaller sizes. Make a pie shape with the entire composite sample and subdivide it into four equal parts. Separate one of the quarter samples and grind the sample in a mill.
- (o) The Permittee shall determine the concentration of pollutants in the fuel (Hg, Cl<sub>2</sub>, and/or selected) in units of lbs/MMBtu of each composite sample for each fuel type according to the procedures in following table.

<b>Pollutant(s)</b>	<b>Task</b>	<b>Method</b>
mercury, selected metals and/or HCl	Collect Fuel Samples	<ul style="list-style-type: none"> <li>• Procedures in the August 2005 Fuel Sampling Plan and Conditions 28(p) and (q),above.</li> <li>• ASTM D2234-00, D2234M-03 (for coal) . or</li> <li>• ASTM D6323-98 (2003) (for biomass)*</li> </ul>
	Prepare Compositied Fuel Samples	<ul style="list-style-type: none"> <li>• Procedures in the August 2005 Fuel Sampling Plan and Conditions 28(p) and (q), above.</li> <li>• SW-846-3050B (for solid samples); or</li> <li>• SW-846-3020A (for liquid samples); or</li> <li>• ASTM D2013-01 (for coal); or</li> <li>• ASTM E829-94 (for biomass)</li> </ul>
	Determine Heat Content	<ul style="list-style-type: none"> <li>• Procedure in the August 2005 Fuel Sampling Plan</li> <li>• ASTM D5865-03a (for coal); or</li> <li>• ASTM D5865-03a (for biomass)</li> </ul>
	Determine Moisture Content	<ul style="list-style-type: none"> <li>• Procedure in the August 2005 Fuel Sampling Plan</li> <li>• ASTM D3137-03* or</li> <li>• ASTM E871-82 (1998)*</li> </ul>
Mercury	Measure Hg Concentration in Sample	<ul style="list-style-type: none"> <li>• Procedure in the August 2005 Fuel Sampling Plan</li> <li>• ASTM D6722-01 (for coal)* or</li> <li>• SW-846-7471A (for solid samples); or</li> <li>• SW-846-7470A (for liquid samples).</li> </ul>
	Convert Concentration into lbs/hour	<ul style="list-style-type: none"> <li>• Procedure in the August 2005 Fuel Sampling Plan</li> <li>• Method 19 F-factor methodology in 40 CFR 60, Appendix A</li> </ul>
Selected Metals	Measure Metal Concentrations in Sample	<ul style="list-style-type: none"> <li>• Procedure in the August 2005 Fuel Sampling Plan</li> <li>• SW-846-6010B or ASTM D6357-04 (for arsenic, beryllium, cadmium, chromium, lead, manganese, and nickel for all solid fuels); and,</li> <li>• ASTM D4606-03 (for selenium in coal)* or</li> <li>• ASTM E885-88 (1996) (for biomass)*</li> </ul>

Pollutant(s)	Task	Method
	Convert Concentration into lbs/hour	<ul style="list-style-type: none"> <li>• Procedure in the August 2005 Fuel Sampling Plan</li> <li>• Method 19 F-factor methodology in 40 CFR 60, Appendix A</li> </ul>
HCl	Measure HCl Concentration in Sample	<ul style="list-style-type: none"> <li>• Procedure in the August 2005 Fuel Sampling Plan</li> <li>• SW-846-9250 or ASTM D6721-01 (for coal); or,</li> <li>• SW-846-9076 (for biomass)</li> </ul>
	Convert Concentration into lbs/hour	<ul style="list-style-type: none"> <li>• Procedure in the August 2005 Fuel Sampling Plan</li> <li>• Method 19 F-factor methodology in 40 CFR 60, Appendix A</li> </ul>

\*IBR, see 40 CFR 63.14(b)

(p) If the Permittee elects to demonstrate compliance with an applicable emission limit through fuel analysis, the Permittee must meet the following requirements:

- i. To demonstrate compliance with the applicable emission limit for HCl for boilers (**ID Nos. HFB1 and HFB2**), the HCl emission rate calculated using the following equation must be less than the applicable emission limit.

$$\text{HCl} = Q_t \times \text{Summation of } [(C_{i90}) (Q_i) (1.028)]$$

Where:

HCl = HCl emission rate from the boiler in lbs/hour.

$C_{i90}$  = 90th percentile confidence level concentration of chlorine in fuel type, i, in lbs/MMBtu.

$Q_i$  = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If the affected source does not burn multiple fuel types, insert a value of "1" for  $Q_i$ .

i = 1 to the number of different fuel types burned in the affected source for the mixture that has the highest content of chlorine.

1.028 = Molecular weight ratio of HCl to chlorine.

$Q_T$  = Total Maximum Heat Input of Worst Case Fuels in MMBtu/hr.

- ii. To demonstrate compliance with the applicable emission limit for mercury and other selected metals, the emission rate calculated for the affected source using the equation below must be less than the applicable emission limit.

$$\text{M} = Q_t \times \text{Summation of } [(M_{i90}) (Q_i) (1.028)]$$

Where:

M = metal emission rate from the boiler in lbs/hour.

$M_{i90}$  = 90th percentile confidence level concentration of the metal in fuel, i, in lbs/MMBtu.

$Q_i$  = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of selected metals. If the affected source does not burn multiple fuel types, insert a value of "1" for  $Q_i$ .

i = 1 to the number of different fuel types burned in the affected source for the mixture that has the highest content of the metal.

$Q_T$  = Total Maximum Heat Input of Worst Case Fuels in MMBtu/hr.

- (q) The Permittee must report the results of fuel analyses within 60 days after the completion of the analyses. This report should also verify that the operating limits for your affected source have not changed or provide documentation of revised operating parameters.

**Fuel Use and Monitoring Requirements**

- (r) The Permittee shall maintain the fuel type or fuel mixture such that the HAP emission rates are less than the applicable emission limits whenever fuel analysis is used to comply with any HAP limit in 28(a) above.
- (s) The Permittee shall maintain records of the type and amount of all fuels burned in each affected source during the reporting period to demonstrate that:
  - i. All fuel types and mixtures of fuels burned would result in HCl and metal emission that are lower than the applicable emission limit for each pollutant (if the facility demonstrates compliance using fuel analysis); or,
  - ii. All fuel types and mixtures of fuels burned would result in lower fuel input of chlorine, and metals than the maximum values calculated during the last performance tests (if the facility demonstrates compliance through performance testing); or,
  - iii. The fuel types and mixtures of fuels fired at the sources were limited to only gaseous fuel and/or distillate fuel oil (if the facility demonstrates compliance by burning only these fuels).

**Boiler Inspection and Maintenance**

- (t) For boilers (**ID Nos. HFB1, HFB2, and PB1**), the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
  - i. Inspect the burners, and clean or replace any components of the burners as necessary;
  - ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,
  - iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.
  - iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

**Site-Specific Monitoring Plan**

- (u) The Permittee shall develop a site-specific monitoring plan for each required continuous emissions monitoring system (CEMS), continuous opacity monitoring system (COMS), and continuous monitoring system (CMS). The plan shall be submitted to the NC DAQ Stationary Source Compliance Branch (SSCB) at least 60 days before the initial performance evaluation of the CMS. The plan must include the elements listed below:
  - i. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (c)(3), and (c)(4)(ii);
  - ii. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d); and
  - iii. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
  - iv. The Permittee must conduct a performance evaluation of each CEMS, COMS, and CMS in accordance with the site-specific monitoring plan.
  - v. The Permittee must operate and maintain the CEMS, COMS, and CMS in continuous operation in accordance with the site-specific monitoring plan.
- (v) The Permittee shall install, operate, and maintain a CEMS for carbon monoxide and oxygen according to the procedures listed in i. through viii. below for each boiler (**ID Nos. HFB1, HFB2, and PB1**). The carbon monoxide and oxygen shall be monitored at the same location at the outlet of the boiler. The Permittee shall:
  - i. Install, operate, and maintain the CEMS according to the applicable procedures under Performance Specification (PS) 3 or 4A of 40 CFR 60, Appendix B, and according to the site-specific monitoring plan.
  - ii. Conduct a performance evaluation of the CEMS according to the requirements in 40 CFR 63.8 and according to PS 4A of 40 CFR 60, Appendix B.
  - iii. Complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period for the CEMS.
  - iv. Reduce the CEMS data as specified in 40 CFR 63.8(g)(2).

- v. Calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.
- vi. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
- vii. Not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the boiler is operating at less than 50 percent of its rated capacity for purposes of calculating data averages. The Permittee must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations, constitutes a deviation from the monitoring requirements.

A 30-day rolling average emission rate above the applicable emission limitation shall constitute a violation of the standard. The Permittee is not required to operate the CEMS for the package boiler (**ID No. PB1**) when firing only distillate fuel.

- (w) The Permittee shall install, operate, certify and maintain a COMS for each hog fuel boiler (**ID Nos. HFB1 and HFB2**) according to the procedures listed below. The Permittee must:
  - i. Install, operate, and maintain the COMS according to PS 1 of 40 CFR 60, Appendix B.
  - ii. Conduct a performance evaluation of the COMS according to the requirements in 40 CFR 63.8 and according to PS 1 of 40 CFR 60, Appendix B.
  - iii. As specified in 40 CFR 63.8(c)(4)(i), complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period for the COMS.
  - iv. Reduce the COMS data as specified in 40 CFR 63.8(g)(2).
  - v. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.
  - vi. Include in the site-specific monitoring plan, procedures and acceptance criteria for operating and maintaining the COMS according to the requirements in 40 CFR 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of the COMS.
  - vii. Operate and maintain the COMS according to the requirements in the monitoring plan and the requirements of 40 CFR 63.8(e). Identify periods the COMS is out-of-control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.
  - viii. Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.
- (x) The Permittee shall operate, and maintain each CMS (includes pressure drop indicators, flowmeters, and pH monitors) according to the procedures listed below.
  - i. The CMS shall complete a minimum of one cycle of operation for each successive 15-minute period. A valid hour of data must have a minimum of four successive cycles of operation.
  - ii. Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), conduct all monitoring in continuous operation at all times that the affected unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
  - iii. For purposes of calculating data averages, the Permittee may not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. The Permittee shall use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation

- iv. from the monitoring requirements.
- iv. Determine the 12-hour block average of all recorded readings, except as provided in paragraph iii. above.
- v. Record the results of each inspection, calibration, and validation check.
- vi. Operation above the established maximum or below the established minimum operating limits shall constitute a violation of established operating limits.
- (y) If a **flow measurement device** is used as a CMS for the wet scrubber controlling emissions from package boiler (**ID No. PB1**), the Permittee shall:
  - i. Locate the flow sensor and other necessary equipment in a position that provides a representative flow.
  - ii. Use a flow sensor with a measurement sensitivity of 2 percent of the flow rate.
  - iii. Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
  - iv. Conduct a flow sensor calibration check at least semiannually.
- (z) For each **pressure measurement device** used as a CMS, the Permittee shall:
  - i. Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure.
  - ii. Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.
  - iii. Use a gauge with a minimum tolerance of 1.27 centimeters of water or a transducer with a minimum tolerance of 1 percent of the pressure range.
  - iv. Check pressure tap pluggage daily.
  - v. Use a manometer to check gauge calibration quarterly and transducer calibration monthly.
  - vi. Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

**Recordkeeping Requirements**

- (aa) The Permittee shall maintain a copy of each notification and report required by this standard, including all documentation supporting any Notification of Compliance Status.
- (bb) The Permittee shall maintain records of performance tests, fuel analyses, or other compliance demonstrations, CMS performance evaluations, and opacity observations.
- (cc) For each required CEMS and COMS, the Permittee shall maintain the following records:
  - i. All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);
  - ii. A record of each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);
  - iii. All CMS calibration checks; and,
  - iv. All adjustments and maintenance performed on CMS;
- (dd) The Permittee shall maintain records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, carbon monoxide, and pH used to demonstrate compliance with the standard.
- (ee) For each affected source, the Permittee shall maintain the following records:
  - i. Records of monthly fuel use by each affected source, including the type(s) of fuel and amount(s) used.
  - ii. A copy of all calculations and supporting documentation of maximum Cl<sub>2</sub>, metals, and/or Hg fuel input that were conducted to demonstrate compliance with and associated limit through performance testing. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum Cl<sub>2</sub>, selected metals and/or Hg fuel input. The Permittee may use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type. However, the Permittee must calculate Cl<sub>2</sub>, selected metals, and/or Hg fuel input for each boiler.
  - iii. A copy of all calculations and supporting documentation of HCl, selected metals, and/or Hg emission rates that were conducted to demonstrate compliance with and associated limit through fuel analysis. Supporting documentation should include results of any fuel

analyses and basis for the estimates of emission rates. The Permittee may use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type. However, the Permittee must calculate the emission rate for each boiler.

**Reporting Requirements**

- (ff) Performance Testing. For each required performance test, the Permittee shall follow the procedures outlined below:
- i. The Permittee shall submit a completed Protocol Submittal Form to the DAQ Regional Supervisor at least 45 days prior to the scheduled test date. A copy of the Protocol Submittal Form may be obtained from the Regional Supervisor.
  - ii. The Permittee shall submit **two** copies of the test report to the DAQ. The test report shall contain at a minimum the following information:
    - A. a description of the training and air testing experience of the person directing the test;
    - B. a certification of the test results by sampling team leader and facility representative;
    - C. a summary of emissions results and text detailing the objectives of the testing program, the applicable state and federal regulations, and conclusions about the testing and compliance status of the emission source(s);
    - D. a detailed description of the tested emission source(s) and sampling location(s) process flow diagrams, engineering drawings, and sampling location schematics should be included as necessary;
    - E. all field, analytical, and calibration data necessary to verify that the testing was performed as specified in the applicable test methods;
    - F. example calculations for at least one test run using equations in the applicable test methods and all test results including intermediate parameter calculations; and
    - G. documentation of facility operating conditions during all testing periods and an explanation relating these operating conditions to maximum normal operation. If necessary, provide historical process data to verify maximum normal operation.
- (gg) The testing requirement(s) shall be considered satisfied only upon written approval of the test results by the DAQ. The DAQ will review emission test results with respect exclusively to the specified testing objectives as proposed by the Permittee and approved by the DAQ.
- (hh) Notification of Compliance Status. The Permittee must submit a Notification of Compliance Status that meets the requirements of §63.9(h)(2)(ii) before the close of business on the 60th day following the completion of the final required performance test and/or other initial compliance demonstration. The Notification of Compliance Status report must contain the following information, as applicable:
- i. A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.
  - ii. Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.
  - iii. Identification of whether the facility is complying with the PM emission limit or the alternative TSM emission limit.
  - iv. Identification of whether the facility demonstrated compliance with each applicable emission limit through performance testing or fuel analysis.
  - v. Identification of whether the facility plans to demonstrate compliance by emissions averaging.
  - vi. A certification signed by the Responsible Official that the facility has met all applicable emission limits and work practice standards.
  - vii. A summary of the CO emissions monitoring data and the maximum CO emission levels recorded during the performance test.
  - viii. If the affected source fires only distillate fuel oil in package boiler (**ID No. PB1**), include a certification of such that is signed by the Responsible Official.