



Temporary Permit

Permit No: TP-0156

Date Issued: April 6, 2015

This certifies that:

Concord Steam Corporation
123 Pleasant Street
PO Box 2520
Concord, NH 03301

has been granted a Temporary Permit for:

Four (4) Boilers and One (1) Emergency Generator

at the following facility and location:

Concord Steam Corporation
123 Pleasant Street
Concord, NH 03301

Facility ID Number: **3301300032**

Application Number: **14-0217**, received May 14, 2014 – Temporary Permit

which includes devices that emit air pollutants into the ambient air as set forth in the permit application referenced above and additional information received **December 5, 2014** which was filed with the New Hampshire Department of Environmental Services, Air Resources Division (Division) in accordance with RSA 125-C of the New Hampshire Laws. Request for permit renewal must be received by the Division at least 90 days prior to expiration of this permit and must be accompanied by the appropriate permit application forms.

This permit is valid upon issuance and expires on **October 31, 2016**.

A handwritten signature in blue ink, appearing to read "Cra...".

Director
Air Resources Division

Abbreviations and Acronyms

AAL	Ambient Air Limit
acf	actual cubic foot
ags	above ground surface
ASTM	American Society of Testing and Materials
bhp	break horse power
Btu	British thermal units
CAS	Chemical Abstracts Service
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DES	New Hampshire Department of Environmental Services
Env-A	New Hampshire Code of Administrative Rules – Air Resources Division
ESP	Electrostatic Precipitator
ft	foot or feet
ft ³	cubic feet
gal	gallon
HAP	Hazardous Air Pollutant
hp	horsepower
hr	hour
kW	kilowatt
lb	pound
LPG	Liquefied Petroleum Gas
LNB	Low NOx Burner
MM	million
MSDS	Material Safety Data Sheet
MW	megawatt
NAAQS	National Ambient Air Quality Standard
NG	Natural Gas
NOx	Oxides of Nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM ₁₀	Particulate Matter < 10 microns
ppm	parts per million
psi	pounds per square inch
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RICE	Reciprocating Internal Combustion Engine
RSA	Revised Statutes Annotated
RTAP	Regulated Toxic Air Pollutant
scf	standard cubic foot
SO ₂	Sulfur Dioxide
TSP	Total Suspended Particulate
tpy	tons per consecutive 12-month period
ULSD	Ultra Low Sulfur Diesel (15 ppm by weight)
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

I. Facility Description

Concord Steam Corporation (the Facility) is a wood & fossil fuel fired steam and electricity generating facility. The existing plant is currently operating under Title V Permit TV-OP-033 and temporary permit TP-0133. The Facility has a combined gross fossil fuel heat input limited to less than 250 MMBtu/hr comprised of four steam boilers supplying thermal energy to a district heating system comprised of publicly and privately owned buildings in Concord, NH. The steam also generates electricity by means of two backpressure turbines rated at 1,500 kW and 750 kW. The Facility has submitted an application to make changes at the facility. These changes include: installing a new 5 MW condensing turbine with an associated cooling tower; eliminating the combustion of No. 6 fuel oil and specification used oil in all boilers; increasing the heat input capacity of two boilers combusting biomass; and installing particulate, nitrogen oxide and carbon monoxide controls for the biomass boilers. The planned changes at the Facility require a permit. The requirements in TV-OP-033 and TP-0133 also remain in effect.

II. Emission Unit Identification

This permit covers the devices identified in Table 1.

Table 1 – Emission Unit Identification				
Emission Unit ID	Device Identification	Manufacturer Model Number Serial Number	Installation Date	Maximum Design Capacity Fuel Types¹
EU01	Bigelow Boiler #1	Bigelow LH3F NA	1958	40 MMBtu/hr Natural Gas – equivalent to 39,216 cf/hr
EU02	Bigelow Boiler #3	Bigelow LH3F NA	1979	60 MMBtu/hr Natural Gas – equivalent to 58,824 cf/hr
EU03	Bigelow Boiler #5	Bigelow LH3F 2760	1949	60 MMBtu/hr Natural Gas – equivalent to 58,824 cf/hr 75 MMBtu/hr Untreated wood ² – equivalent to 8.19 tons/hr
EU04	Union HP#6	Union HP 3755	1969 ³	80 MMBtu/hr Natural Gas – equivalent to 78,431 cf/hr 80 MMBtu/hr Untreated wood ² – equivalent to 8.74 tph
EU05	Emergency Generator	Cummings VTA1710GS2 37104362	1981	600kW (6.39 MMBtu/hr; 900 bhp) Diesel fuel oil – equivalent to 40.9 gal/hr

¹ The hourly fuel rates presented in Table 1 are set assuming a heating value of 1020 Btu/cf for natural gas, 137,000 Btu/gal for diesel fuel oil, and 4,577 Btu/lb of wood.

² “Untreated wood” means any timber, board or sawn dimensional lumber, which has not been treated, coated or preserved. This term does not include any manufactured building material, such as plywood or wafer board.

³ The Union boiler #6 was constructed in 1969 and initial startup occurred in 1984. The 1969 construction date is used for applicability purposes.

III. Stack Criteria

The following devices at the Facility shall have exhaust stacks that discharge vertically, without obstruction, and meet the criteria in Table 2 below:

Table 2 – Stack Criteria				
Stack ID	Emission Unit ID	Emission Unit Description	Minimum Stack Height Above Ground Surface (feet)	Maximum Inside Stack Diameter (feet)
1	EU01 & EU02	Boilers #1 and #3	150	7.0
2	EU03 & EU04	Boilers #5 and #6	130	5.0

IV. Pollution Control Equipment Identification

Air pollution control equipment listed in Table 3 shall be operated with the associated devices in order to meet permit conditions while combusting biomass.

Table 3 – Pollution Control Equipment Identification			
Pollution Control Equipment ID	Description	Purpose	Emission Unit Controlled
PCE01	Multiple cyclone	Primary control of particulate matter	EU03
PCE02	Multiple cyclone	Primary control of particulate matter	EU04
PCE03	Electrostatic precipitator (ESP)	Secondary control of particulate matter	EU03 & EU04
PCE04	Selective Catalytic Reduction (SCR)	Control of NOx emissions	EU03 & EU04
PCE05	Non-Selective Catalytic Reduction (NSCR)	Control of CO emissions	EU03 & EU04

V. Operating and Emission Limitations

The owner or operator shall be subject to the operating and emission limitations ⁴ identified in Table 4.

Table 4 – Operating and Emission Limitations			
Item #	Requirement	Applicable Emission Unit	Regulatory Basis
1.	<u>24-Hour and Annual Ambient Air Limit</u> The emissions of any Regulated Toxic Air Pollutant (RTAP) shall not cause an exceedance of its associated 24-hour or annual Ambient Air Limit (AAL) as set forth in Env-A 1450.01, <i>Table Containing the List Naming All Regulated Toxic Air Pollutants</i> .	Facility wide	Env-A 1400 State only enforceable limit
2.	<u>Revisions of the List of RTAPs</u> In accordance with RSA 125-I:5 IV, if the department revises the list of RTAPs or their respective AALs or classifications under RSA 125-I:4, II and III, and as a result of such revision the owner or operator is required to obtain or modify the permit under the provisions of RSA 125-I or RSA 125-C, the owner or operator shall have 90 days following publication of notice of such final revision in the New Hampshire Rulemaking Register to file a complete application for such permit or permit modification.	Facility wide	Env-A 1404.02 State only enforceable limit
3.	<u>Visible Emission Standards for Fuel Burning Devices Installed Before May 13, 1970</u> The average opacity from fuel burning devices installed before May 13, 1970 shall not exceed 20 percent for any continuous 6-minute period. ⁵	EU01, EU03 & EU04	TV-OP-033

⁴ The Facility will not have the potential to emit particulate matter (PM), SO₂, Volatile Organic Compounds (VOCs), or Hazardous Air Pollutants (HAPs, as defined in Section 112 of the 1990 Clean Air Act Amendments) at levels greater than the major source thresholds for these pollutants after the proposed plant modifications. Therefore, the Facility will become a true minor source for PM, SO₂, VOCs and HAPs. The Facility has taken limitations on emissions of NOx and CO to below the major source thresholds for these pollutants as specified in TV-OP-033. The Facility will remain a synthetic minor source for NOx and CO.

Table 4 – Operating and Emission Limitations

Item #	Requirement	Applicable Emission Unit	Regulatory Basis
4.	<u>Visible Emission Standards for Fuel Burning Devices Installed After May 13, 1970</u> The average opacity from fuel burning devices installed after May 13, 1970 shall not exceed 20 percent for any continuous 6-minute period. ⁵	EU02 & EU05	Env-A 2002.02
5.	<u>Activities Exempt from Visible Emissions Standards</u> The average opacity shall be allowed to be in excess of those standards specified in Env-A 2002 for one period of 6 continuous minutes in any 60-minute period during startup, shutdown and malfunction, soot blowing, grate cleaning or cleaning of fires. ⁶	EU01 – EU05	Env-A 2002.04(c) State-only enforceable limitation
6.	<u>Activities Exempt from Visible Emissions Standards</u> Exceedances of the opacity standard in Env-A 2002, shall not be considered violations if the owner or operator demonstrates to the department that such exceedances: a.) Were the result of the adherence to good boiler operating practices which, in the long term, results in the most efficient or safe operation of the boiler; b.) Occurred during periods of continuous soot blowing of the entire boiler tube sections over regular time intervals as determined by the operator and in conformance with good boiler operating practice; c.) Occurred during periods of cold startup of a boiler over a continuous period of time resulting in efficient heat-up and stabilization of its operation and the expeditious achievement of normal operation of the unit; and d.) Were the result of the occurrence of an unplanned incident in which the opacity exceedances was beyond the control of the operator and that in response to such an incident, the operator took appropriate steps in conformance with good boiler operating practice to eliminate the excess opacity as quickly as possible.	EU01 – EU04	Env-A 2002.04(d), (e), & (f) State-only enforceable limitation
7.	<u>Particulate Emission Standards for Fuel Burning Devices Installed On or Before May 13, 1970</u> Particulate matter emissions from the fuel burning devices (Boilers #1, #5 & #6) shall not exceed the specified value of E calculated as follows: $E = 0.880 \times I^{-0.166}$ Where: E = the maximum allowable particulate matter emission rate, measured as total suspended particulate matter (TSP) in lb/MMBtu; and I = the maximum gross heat input rate in MMBtu/hr	EU01, EU03 & EU04	Env-A 2003.01
8.	<u>Particulate Emission Standards for Fuel Burning Devices Installed After May 13, 1970 but Before January 1, 1985</u> Particulate matter emissions from the fuel burning devices (Boiler #3 & EG) shall not exceed the specified value of E calculated as follows: $E = 1.028 \times I^{-0.234}$ Where: E = the maximum allowable particulate matter emission rate, measured as total suspended particulate matter (TSP) in lb/MMBtu; and I = the maximum gross heat input rate in MMBtu/hr	EU02 & EU05	Env-A 2003.02

⁵ Compliance with the visible emission limitations shall be determined using 40 CFR 60 Appendix A, Method 9 or other department approved method upon request by the department.

⁶ "Cleaning of fires" means the adjusting of a combustion process to improve and optimize operation of the device. This includes the adjustment of the flame using visual and process information. (Env-A 101.45)

Table 4 – Operating and Emission Limitations

Item #	Requirement	Applicable Emission Unit	Regulatory Basis
9.	<u><i>NOx Emission Limitations – Natural Gas Fired Boilers</i></u> a.) When firing only natural gas, the boiler shall be limited to 0.10 lb of NOx/MMBtu heat input based on an hourly average; or b.) The owner or operator shall either: 1.) Install, operate and maintain low NOx burners (LNB) on each boiler; or 2.) Install, operate and maintain air pollution control equipment or an air pollution control process having equivalent or greater NOx removal efficiency as LNB, as approved by the department and USEPA as specified in Env-A 1316 relative to NOx RACT orders.	EU01 – EU04	Env-A 1305.04 & Env-A 1305.08
10.	<u><i>NOx Emission Limitations – Biomass Boilers</i></u> a.) Boilers equipped with a traveling, shaker, or vibrating grate shall be limited to 0.33 lb of NOx/MMBtu heat input based on a 24-hour calendar day average; and b.) Boilers equipped with a stationary grate shall be limited to 0.25 lb of NOx/MMBtu input based on a 24-hour calendar day average.	EU03 & EU04	Env-A 1305.09
11.	<u><i>NOx RACT – Natural Gas Fired Boiler</i></u> Before April 1 st of each year, the owner or operator shall conduct efficiency testing as required in Table 5, Item 7.	EU01	Env-A 1305.02
12.	<u><i>Boiler Maintenance & Operating Limitations</i></u> Clean the grates of the boiler once a day on normal business days, or rake the ash as necessary when the boiler is combusting biomass	EU03 & EU04	RSA 125C:11, III
13.	<u><i>Work Practice Standards – Biomass Boiler</i></u> The owner or operator shall conduct a biennial tune-up of the boiler as specified in Table 5, Item 16.	EU03 & EU04	40 CFR 63.11201(b) subpart JJJJJ
14.	<u><i>Pollution Control Equipment Operations and Maintenance – Multicyclone</i></u> a.) Pressure drop across the multicyclone shall be maintained within the range determined during the most recent performance test required in Table 5, Item 10; and b.) The multicyclone shall be maintained according to the Air Pollution Control Monitoring Plan submitted with permit application 14-0217, and updated according to Table 7, Item 3, and manufacturer's recommendations.	PCE01 & PCE02	Env-A 604.01
15.	<u><i>Pollution Control Equipment Operation and Maintenance – ESP</i></u> a.) Maintain the 30-day rolling average total secondary electric power of the ESP at or above the lowest one-hour average secondary electric power measured according to Table 5, Item 10 during the most recent performance stack test demonstrating compliance with the filterable PM emission limit; b.) The rapping frequency shall be established as per manufacturer's recommendations; and c.) The pollution control equipment shall be maintained according to the Air Pollution Control Monitoring Plan submitted with permit application 14-0217, and updated according to Table 7, Item 3, and manufacturer's recommendations.	PCE03	Env-A 604.01
16.	<u><i>Ammonia Slip Emission Limitation</i></u> Ammonia slip emissions from the Selective Catalytic Reduction system (SCR) (PCE04) associated with the biomass boilers shall be limited to 20 ppmvd at 6% oxygen (O ₂) dry volume.	PCE04	RSA 125C:11, III
17.	<u><i>Pollution Control Equipment Operations and Maintenance – Selective Catalytic Reduction System (SCR)</i></u> The SCR shall be maintained according to the Air Pollution Control Monitoring Plan submitted with permit application 14-0217, and updated according to Table 7, Item 3, and manufacturer's recommendations.	PCE04	Env-A 604.01

Table 4 – Operating and Emission Limitations

Item #	Requirement	Applicable Emission Unit	Regulatory Basis
18.	<u>Pollution Control Equipment Operations and Maintenance – Non-selective Catalytic Reduction System (NSCR)</u> The NSCR shall be maintained according to the Air Pollution Control Monitoring Plan submitted with permit application 14-0217, and updated according to Table 7, Item 3, and manufacturer's recommendations	PCE05	Env-A 604.01
19.	<u>Emergency Engine</u> The emergency engine shall be: a.) Limited to < 25 tons of NOx per consecutive 12-month period; b.) Limited to 500 hours of operation per any consecutive 12-month period; c.) In addition to the operating hours limitation in b.) above, the owner or operator may operate the emergency engine for any combination of the purposes listed below for a maximum of 100 hours per calendar year: 1.) The emergency engine 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; and 2.) The owner or operator may petition the USEPA 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 the emergency engine beyond 100 hours per calendar year.	EU05	Env-A 606.02(c), Env-A 1301.02(j) & 40 CFR 63.6640(f) subpart ZZZZ
20.	<u>Limitations on Operating Scenarios for Emergency Engines</u> The emergency engine shall only operate: a.) As a mechanical or electrical power source only when the primary power source for a facility is not available during an emergency; or b.) During the normal maintenance and testing. No emergency engine shall operate as a load-shaving or peak power production unit.	EU05	Env-A 101.671 & Env-A 610.01(b)
21.	<u>Emergency Engine</u> a.) The engine shall be operated and maintained as per manufacturer's emission related written instructions; or b.) Develop your own site-specific 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.	EU05	40 CFR 63.6625 subpart ZZZZ
22.	<u>Emergency Engine Operating Requirements</u> ⁷ The emergency engine shall be operated as follows: a.) Change oil and filter every 500 hours of operation or annually, whichever comes first, or in accordance with an Oil Analysis Program prepared and implemented as specified in §63.6625(i) and Table 5, Item 17; b.) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first and replace as necessary; c.) Inspect hoses and belts every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;	EU05	40 CFR 63.6603 & 63.6625(i) subpart ZZZZ

⁷ If the 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 4, Item 22, 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 by the federal, state, or local law under which the risk was deemed unacceptable.

Table 4 – Operating and Emission Limitations

Item #	Requirement	Applicable Emission Unit	Regulatory Basis
22. cont.	<p>d.) Operate and maintain the emergency engine 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; and</p> <p>e.) Minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.</p>	EU05	40 CFR 63.6603 & 63.6625(i) subpart ZZZZ
23.	<p><u>NESHAP General Provisions – Biomass Boilers</u></p> <p>At all times the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator 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.</p>	EU03 & EU04	40 CFR 63.11205(a) subpart JJJJJ
24.	<p><u>NESHAP General Provisions – Emergency Engine</u></p> <p>a.) Maintain compliance with the emission limitations and operating limitations in this subpart that apply to the owner/operator at all times;</p> <p>b.) At all times 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;</p> <p>c.) The general duty to minimize emissions does not require the owner/operator to make any further efforts to reduce emissions if levels required by this standard have been achieved; and</p> <p>d.) 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.</p>	EU05	40 CFR 63.6605 subpart ZZZZ

VI. Monitoring and Testing Requirements

The owner or operator is subject to the monitoring and testing requirements as contained in Table 5.

Table 5 – Monitoring and Testing Requirements

Item #	Method of Compliance	Frequency	Applicable Emission Unit	Regulatory Basis
1.	When conditions warrant, the department may require the owner or operator to conduct stack testing in accordance with USEPA or other department approved methods.	Upon request by the department	Facility wide	RSA 125-C:6 XI
2.	<p><u>Sulfur Content of Liquid Fuels</u></p> <p>Conduct testing in accordance with appropriate ASTM methods or retain delivery tickets in accordance with Table 6, Item 2 in order to demonstrate compliance with the sulfur content limitation provisions specified in this permit for liquid fuels.</p>	For each delivery of fuel oil/diesel to the facility but at least annually	EU05	Env-A 806.02 & Env-A 806.05

Table 5 – Monitoring and Testing Requirements

Item #	Method of Compliance	Frequency	Applicable Emission Unit	Regulatory Basis
3.	<u>Operating Hours for the Emergency Engine</u> The emergency engine shall be equipped with a non-resettable hour meter.	Continuous	EU05	Env-A 604.01
4.	<u>Multicyclone</u> a.) Monitor continuously and record daily the pressure drop across the multicyclone;	Continuously	PCE01 & PCE02	RSA 125-C:6, XI
	b.) If the pressure drop is outside of the operating range determined during the most recent performance stack test specified in Table 5, Item 10, inspect the unit and take necessary corrective actions to improve the performance of the unit; and	As noted		
	c.) Inspect the pressure sensing lines and gauge; d.) Conduct a visual external integrity inspection of the multicyclone which shall include: 1.) An evaluation of whether all emissions are being vented through the dedicated stack exit; and 2.) Be conducted by plant personnel familiar with the operation of the multicyclone and associated equipment.	Annually		
5.	<u>Electrostatic Precipitator (ESP)</u> a.) Monitor continuously and record daily the secondary voltage;	Continuously	PCE03	Env-A 604.01 & RSA125-C:6, XI
	b.) If the secondary voltage is outside of the average secondary voltage determined during the most recent performance stack test specified in Table 5, Item 10, then inspect the unit and take corrective actions to improve the performance of the unit;	As needed		
	c.) Conduct a physical external inspection of the ESP, which shall involve visual inspection of the ESP shell, piping and ducts for leaks; d.) Check for abnormal noise, and hot spots, etc.; e.) Verify operation of the ash removal auger; and	Daily		
	f.) Conduct an internal inspection of the ESP which shall be conducted by personnel familiar with the operation of the ESP and boiler and include: 1.) Check insulators and electrodes; 2.) Check for shorting; 3.) Straighten warped plates, rods etc.; 4.) Maintain rappers; and 5.) Calibrate the secondary voltage meter.	During outage (approximately annually)		
6.	<u>Selective Catalytic Reduction System (SCR) and Non-Selective Catalytic Reduction System (NSCR)</u> a.) Operate an ammonia flow monitor for measuring ammonia flow to the SCR when in operation;	Continuously	PCE04	Env-A 604.01 & RSA125-C:6, XI
	b.) Operate a temperature sensor for measuring the inlet flue gas temperature to the catalyst bed;		PCE04 & PCE05	
	c.) Operate a gauge for measuring pressure differential across the catalyst bed;			

Table 5 – Monitoring and Testing Requirements

Item #	Method of Compliance	Frequency	Applicable Emission Unit	Regulatory Basis
6. cont.	d.) The SCR ammonia flow meter shall be installed, inspected, calibrated and maintained in accordance with manufacturer's recommendations;	As specified	PCE04	Env-A 604.01 & RSA125-C:6, XI
	e.) The temperature sensor shall be installed, inspected, calibrated and maintained in accordance with manufacturer's recommendations; and		PCE04 & PCE05	
	f.) Inspect the pressure sensing lines and gauge.	Annually		
7.	<u>Boiler Efficiency Testing – NOx RACT</u> a.) Perform an efficiency test on the boiler using the test procedures specified in chapter 3, <i>Combustion Efficiency Tables</i> , Taplin, Harry R., Fairmont Press, 1991; and b.) Adjust the combustion process of each boiler in accordance with the procedures specified in chapter 5, <i>Combustion Efficiency Tables</i> , Taplin, Harry R., Fairmont Press, 1991.	Before April 1 st of each year	EU01	Env-A 1305.02
8.	<u>Performance Test Plan – Stack Testing</u> Testing shall be planned and carried out in accordance with the following schedule: a.) At least 30 days prior to the commencement of source testing, the owner or operator shall notify the department of the date(s) of any planned compliance stack testing; b.) A pre-test protocol shall be submitted to the department at least 30 days prior to the commencement of testing and shall contain all the information required pursuant to Env-A 802.04; and c.) The owner or operator and any contractor retained by the owner or operator to conduct the test shall meet with a department representative in person or by telephone at least 15 days prior to the test date to finalize the details of the testing pursuant to Env-A 802.05.	At least 30 days prior to the performance test specified in Table 5, Items 9, 10 & 11	EU03 – EU04 & PCE01 – PCE05	Env-A 802
9.	<u>General Stack Testing Requirements</u> a.) Compliance stack testing shall be conducted under one of the following conditions: 1.) Between 90 and 100%, inclusive, of maximum production rate or rated capacity; 2.) A production rate at which maximum emissions occur; or 3.) At such operating conditions agreed upon during a pre-test meeting conducted pursuant to Table 5, Item 8.	Each stack test	EU03 – EU04 & PCE01 – PCE05	Env-A 802.10
10.	<u>Performance Testing Requirements – Pollution Control Equipment</u> The following test methods or department approved alternatives shall be used as applicable: a.) Multicyclone – Collect pressure differential measurements every 15 minutes during the entire period of the performance stack test; b.) Electrostatic precipitator (ESP) – Collect data from the secondary electric monitors every 15 minutes during the entire period of the performance stack test;	Within 180 days of startup ⁸ of wood combustion after the installation of the control devices	EU03, EU04 & PCE01 – PCE05	Env-A 802 & Env-A 803

⁸ "Startup" means the setting in operation of any stationary source, area source or device. (Env-A 101.183)

Table 5 – Monitoring and Testing Requirements

Item #	Method of Compliance	Frequency	Applicable Emission Unit	Regulatory Basis
10. cont.	c.) Selective Catalytic Reduction system (SCR) – collect the following information every 15 minutes during the entire period of the performance stack test: <ol style="list-style-type: none"> 1.) Pressure differential measurements across the catalyst bed; 2.) Inlet flue gas temperature to the catalyst bed; and 3.) Ammonia injection nozzle flow rate measurements; d.) Non-Selective Catalytic Reduction system (NSCR) – collect the following information every 15 minutes during the entire period of the performance stack test: <ol style="list-style-type: none"> 1.) Pressure differential measurements across the catalyst bed; and 2.) Inlet flue gas temperature to the catalyst bed. 	Within 180 days of startup of wood combustion after the installation of the control devices	EU03, EU04 & PCE01 – PCE05	Env-A 802 & Env-A 803
11.	<u>Performance Testing Requirements – Stack Emissions</u> The following test methods consisting of a minimum of three-one hour sampling runs, or department approved alternatives, shall be used: <ol style="list-style-type: none"> a.) Sampling port location and traverse points – Method 1 of 40 CFR Part 60 appendix A; b.) Velocity and volumetric flow-rate – Methods 2, 2C, 2F, 2G or 2H of 40 CFR Part 60 appendix A; c.) Oxygen and carbon dioxide concentration of the stack gas – Method 3 or 3A of 40 CFR Part 60 appendix A; d.) Moisture content – Method 4 of 40 CFR Part 60 appendix A; e.) Particulate matter emissions – Method 5 or 17 of 40 CFR Part 60 appendix A; f.) Stack exhaust opacity – Method 9 of 40 CFR Part 60 appendix A; and g.) Ammonia slip shall be determined using a department-approved method. 	Within 180 days of startup of wood combustion after the installation of the control devices	EU03, EU04 & PCE01 – PCE05	Env-A 803
12.	<u>Continuous Emission Monitoring System (CEMS) Requirements</u> The owner or operator shall: <ol style="list-style-type: none"> a.) Install, calibrate, operate, and maintain the NO_x and CO CEMS according to 40 CFR 60 Appendix B, and the <i>CEMS Monitoring Plan</i> developed in accordance with Table 6 Item 9 and Env-A 808.04; b.) The CEMS shall average and record the data for each calendar hour; c.) The CEMS must include a means to display instantaneous values of gaseous emission concentrations; d.) The CEMS must complete a minimum of one cycle of operation, which shall include measuring, analyzing and data recording for each successive 5-minute period unless a longer time period is approved in accordance with Env-A 809; e.) Conduct a performance evaluation for each CEMS in accordance with the requirements of 40 CFR 60.8 and 40 CFR 60 Appendix B; and f.) Reduce the CEMS data in accordance with 40 CFR 60.8(g)(2) and Env-A 808. 	Continuous	EU01 – EU04	Env-A 808, Env-A 1315.02 40 CFR 60.8 subpart A & 40 CFR 75
13.	<u>CEMS Performance Specification Testing</u> <ol style="list-style-type: none"> a.) The CEM system shall be in operation no later than 30 days after installation of the CEM system; b.) Performance specification testing shall be conducted within 90 days after startup of the CEMS; 	As specified	EU03 & EU04	Env-A 808.05

Table 5 – Monitoring and Testing Requirements

Item #	Method of Compliance	Frequency	Applicable Emission Unit	Regulatory Basis
13. cont.	<p>c.) The CEM systems shall be subject to the applicable performance specification requirements of 40 CFR 60, Appendix B and 40 CFR 75;</p> <p>d.) The owner or operator shall recertify the CEMS whenever the owner or operator:</p> <ol style="list-style-type: none"> 1.) Replaces a part or component of, or makes a modification to the CEM system that could affect the ability of the system to: <ol style="list-style-type: none"> i.) Accurately measure or record parameters being monitored; or ii.) Meet the requirements of 40 CFR 60 Appendix B, or Env-A 800; 2.) Makes a change to the flue gas handling system or the unit operation that could change the flow or concentration profile; or 3.) Changes the location or orientation of the sampling probe or site <p>e.) If any of the changes in d.) above occur, the owner or operator shall conduct an audit pursuant to 40 CFR 60, Appendix F, sections 5.1.2 or 5.1.3 within 5 days of the change and a RATA following 40 CFR 60 Appendix B within 90 days of the change; and</p> <p>f.) The owner or operator shall notify the department of the date or dates of any performance specification testing at least 30 days prior to the scheduled dates.</p>	As specified	EU03 & EU04	Env-A 808.05
14.	<p><u>CEMS Audit Requirements</u></p> <p>The owner or operator shall notify the department:</p> <ol style="list-style-type: none"> a.) At least 30 days prior to the performance of a RATA, and at least two weeks prior to any other planned audit or test procedure; a.) Comply with the CEMS audit requirements specified in Env-A 808.08; and b.) Conduct required quarterly audits anytime during each calendar quarter, provided that successive quarterly audits shall occur no more than 4 months apart. 	Quarterly during each calendar quarter	EU01 – EU04	Env-A 808.07
15.	<p><u>CEMS Data Availability Requirements</u></p> <ol style="list-style-type: none"> a.) The owner or operator shall operate the CEM at all times during operation of the source, except for periods of CEM breakdown, repairs, calibration checks, preventive maintenance, and zero/span adjustments; b.) The percent CEM data availability shall be maintained at a minimum of 90% on a calendar quarter basis for all opacity monitors, gaseous concentration monitors, and stack volumetric flow monitors; 	Continuously	EU01 – EU04	Env-A 808.12

Table 5 – Monitoring and Testing Requirements				
Item #	Method of Compliance	Frequency	Applicable Emission Unit	Regulatory Basis
15. cont.	<p>c.) The percent CEM data availability shall be calculated as follows:</p> $\text{Percent Data Availability} = \frac{(VH + CalDT) \times 100}{(CH - AH)}$ <p>Where:</p> <p>VH = the number of valid hours of CEM data in a given time period for which the data availability is being calculated when the plant is in operation;</p> <p>OH = means the number of facility operating hours during a given time period for which the data availability is being calculated;</p> <p>AH = means the number of hours during facility operation when the performance of quarterly audits as required by those procedures specified in Env A 808.08 through Env-A 808.11, as applicable, require that the CEM be taken out of service in order to conduct the audit;</p> <p>CalDT = means the number of hours, not to exceed one hour per day, during facility operation when the CEM is not operating due to the performance of the daily CEM calibrations as required in 40 CFR 60, Appendix F.</p> <p>d.) If the owner or operator fails to meet the percent data availability requirement in the previous calendar quarter or in the calendar quarter in which it currently is operating, the owner or operator of the source shall, in addition to the permit deviation reporting required in Table 7, Item 12 and Env-A 911 shall:</p> <ol style="list-style-type: none"> 1.) Submit a plan to the department, within 30 days of discovery, specifying in detail, the steps it plans to take in order to meet the availability requirements for future calendar quarters; and 2.) Implement the plan to meet the data availability requirements no later than 30 days after the end of the quarter of failure. 	Continuously	EU01 – EU04	Env-A 808.08
16.	<p><u>NESHAP Biomass Boiler Tune-up Requirements</u></p> <p>The boiler tune-up must be conducted while burning the type of fuel that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up, and shall consist of the following:</p> <ol style="list-style-type: none"> a.) As applicable, inspect the burner, and clean or replace any components of the burner as necessary;⁹ b.) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, and should be consistent with the manufacturer’s specifications if available; c.) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly;⁹ d.) Optimize total emissions of CO, which should be consistent with the manufacturer’s specifications, if available, and with any nitrogen oxide requirement to which the unit is subject; and e.) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after adjustments are made, and may be taken using a portable CO analyzer.¹⁰ 	No later than 25 months after the previous tune-up ¹¹	EU03 & EU04	40 CFR 63.11223(b) subpart JJJJJ

⁹ The inspection may be delayed until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection.

¹⁰ Measurements may be either dry or wet basis, as long as it is the same basis before and after the adjustments are made.

¹¹ If the unit is not in operation on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

Table 5 – Monitoring and Testing Requirements

Item #	Method of Compliance	Frequency	Applicable Emission Unit	Regulatory Basis
17.	<p><u>NESAHP Oil Analysis – Emergency Engine</u></p> <p>The oil analysis program for the emergency engine must at a minimum analyze the following parameters:</p> <p>a.) The total base number, viscosity, and percent water content;</p> <p>b.) The condemning limits for the following parameters in a.) above are:</p> <p>1.) Total base number is less than 30% of the total base number of the oil when new;</p> <p>2.) Viscosity of the oil has changed by more than 20% from the viscosity of the oil when new; and</p> <p>3.) Percent water content (by volume) is greater than 0.5;</p> <p>c.) If all of the condemning limits listed in b.) above are not exceeded, the engine oil is not required to be changed;</p> <p>d.) If any of the condemning limits listed in b.) above are exceeded, the engine oil must be changed within 2 business days of receiving the results of the analysis; and</p> <p>e.) If the engine is not in operation when the results of the analysis are received, the engine oil must be changed within two business days or before commencing operation of the engine, whichever is later.</p>	Annually if choosing to use the oil analysis program in lieu of the annual oil change specified in Table 4, Item 22	EU05	40 CFR 63.6625(i) subpart ZZZZ

VII. Recordkeeping Requirements

The owner or operator shall be subject to the recordkeeping requirements identified in Table 6.

Table 6 – Recordkeeping Requirements

Item #	Requirement	Duration/Frequency	Applicable Emission Unit	Regulatory Basis
1.	<p><u>Record Retention and Availability</u></p> <p>Keep the required records on file. These records shall be available for review by the department upon request.</p>	Retain for a minimum of 5 years	Facility wide	Env-A 902
2.	<p><u>Liquid Fuel Oil Recordkeeping Requirements</u></p> <p>In lieu of sulfur testing pursuant to Table 5, Item 2, the owner or operator may maintain fuel delivery tickets that contain a written statement from the fuel supplier that the sulfur content of the fuel as delivered does not exceed state or federal standards for that fuel.</p>	Whenever there is a change in fuel supplier but at least annually	EU05	Env-A 806.05 & Env-A 903.03
3.	<p><u>Regulated Toxic Air Pollutants</u></p> <p>Maintain records documenting compliance with Env-A 1400. Compliance was demonstrated at the time of permit issuance as described in the Division's Application Review Summary for application # 14-0217. The source must update the compliance demonstration using one of the methods provided in Env-A 1405 if:</p> <p>a.) There is a revision to the list of RTAPs lowering the AAL or De minimis value for any RTAP emitted from the Facility;</p> <p>b.) The amount of any RTAP emitted is greater than the amount that was evaluated in the Application Review Summary;</p> <p>c.) An RTAP that was not evaluated in the Application Review Summary will be emitted; or</p> <p>d.) Stack conditions change.</p>	Update prior to process changes and within 90 days of each revision of Env-A 1400	Facility wide	Env-A 902.01 State only requirement

Table 6 – Recordkeeping Requirements

Item #	Requirement	Duration/ Frequency	Applicable Emission Unit	Regulatory Basis
4.	<p><u>General Recordkeeping Requirements for Combustion Devices</u></p> <p>Maintain the following records of fuel characteristics and utilization for the fuel used in the combustion devices:</p> <ol style="list-style-type: none"> Type (e.g. fuel oil, NG, wood); Amount of the fuel burned in each device; and Hours of operation for each device. 	Monthly	EU01 – EU05	Env-A 903.03
5.	<p><u>General NOx Emissions Recordkeeping Requirements</u></p> <p>If the actual NOx emissions from all permitted devices at the facility are greater than or equal to 10 tpy, then record the following information:</p> <ol style="list-style-type: none"> Identification of each fuel burning device; Operating schedule during the high ozone season (June 1 through August 31) for each fuel-burning device identified in a.) above, including: <ol style="list-style-type: none"> Typical hours of operation per day; Typical days of operation per calendar month; Number of weeks of operation; Type and amount of each fuel burned; Heat input rate in MMBtu/hr; The following NOx emissions data: <ol style="list-style-type: none"> Actual calendar year NOx emissions; Typical high ozone season day NOx emissions, in lb/day; and Emission factors and the origin of the emission factors used to calculate the NOx emissions 	Maintain data for annual report	EU01 – EU05	Env-A 905.02
6.	<p><u>Additional Recordkeeping Requirements: Pollution Control Equipment</u></p> <p>Maintain records of all air pollution control equipment activities required in Tables 4 and 5, including:</p> <ol style="list-style-type: none"> Visible stack emissions checks; Equipment operation and visible leak checks; Daily multiclone pressure differential measurement readings; Daily ESP secondary voltage measurement reading; Daily ash removal from cleaning of the grates if the boiler is not equipped with an ash removal auger; Daily pressure drop readings across the SCR and NSCR catalyst beds; Daily inlet flue gas temperature readings to the SCR and NSCR catalyst beds; Daily SCR ammonia injection nozzle flow rate reading; Daily visual verification that ESP ash removal auger is operational; Air pollution control equipment maintenance activities; Corrective actions; and Method 9 observations 	As specified in Tables 4 & 5	PCE01 – PCE05	Env-A 906
7.	<p><u>Recordkeeping Requirements for Add-On NOx Control Equipment</u></p> <p>The owner or operator shall record and maintain the following information:</p> <ol style="list-style-type: none"> Air pollution control device identification number, type, model number, and manufacturer; Installation date; 	Maintain at the facility at all times	PCE04	Env-A 905.03 & Env-A 906

Table 6 – Recordkeeping Requirements

Item #	Requirement	Duration/ Frequency	Applicable Emission Unit	Regulatory Basis
7. cont.	c.) Unit(s) controlled; d.) Type and location of the capture system, capture efficiency percent, and method of determination; e.) Information as to whether the air pollution control device is always in operation when the fuel-burning device it is serving is in operation; and f.) The destruction or removal efficiency of the add-on air pollution control equipment, including the following information: 1.) Destruction or removal efficiency, in percent; 2.) Date tested; 3.) The emission test results, if tested, including: i.) The inlet NO _x concentration in ppm; ii.) The outlet NO _x concentration in ppm; and iii.) The method of determination of the concentrations in i.) and ii.) above 4.) The method of determining destruction or removal efficiency, if not tested. g.) The following information for the SCR: 1.) Total ammonia usage in gallons; 2.) Average daily ammonia flow in gal/hr; and 3.) Ratio of average daily ammonia flow rate in gal/hr to the average daily NO _x emission rate in lb/hr, for the purpose of evaluating pollution control equipment performance	Maintain at the facility at all times	PCE04	Env-A 905.03 & Env-A 906
8.	<u>NO_x RACT Boiler Tune-up Recordkeeping</u> The owner or operator shall retain the following records for each efficiency test: a.) The date(s) on which: 1.) The efficiency test was conducted; and 2.) The combustion process was last adjusted; b.) The name(s) , title(s), and affiliation(s) of the individual(s) who: 1.) Conducted the efficiency test; and 2.) Made adjustments; c.) The NO _x emissions concentration, in ppm _{dv} , corrected to 15% oxygen, after the adjustments are made; d.) The CO emission concentration, in ppm _{dv} , corrected to 15% oxygen, after the adjustments are made; and e.) The opacity readings.	Maintain on a continuous basis	EU01	Env-A 1305.03
9.	<u>CEMS Monitoring Plan</u> The owner or operator shall submit to the department a monitoring plan describing the system which shall include: a.) A complete description of the emission monitoring system including, but not limited to: 1.) The identity of the CEMS vendor, including company name, address, and telephone number; 2.) The identity of the manufacturer, model number, measurement method employed, and range of each of the major components or analyzers being used; 3.) A description of the sample gas condition system;	90 days prior to the installation of the CEMS	EU01 – EU04	Env-A 808.04

Table 6 – Recordkeeping Requirements

Item #	Requirement	Duration/ Frequency	Applicable Emission Unit	Regulatory Basis
9. cont.	<p>4.) A description and diagram showing the location of the monitoring system, including sampling probes, sample lines, conditions system, analyzers, any equipment required for measurement of the stack volumetric flow or fuel flow rates, and data acquisition system; and</p> <p>5.) A description of the data acquisition system, including frequency, and data averaging method;</p> <p>b.) The mathematical equations used by the data acquisition system, including the value and derivation of any constants, to calculate and report the emissions in terms of the applicable emission standard;</p> <p>c.) A complete example of the data reporting format(s) to be used by the owner or operator to meet the reporting requirements for the quarterly emissions report specified in Env-A 808.14 through Env-A 808.18, including an example of any electronic report submitted to the department in order to meet the quarterly reporting requirements;</p> <p>d.) A description of the analyzer calibration methods, including the frequency of calibration checks and manual calibrations, and path of the calibration gas through the system;</p> <p>e.) The means used by the data acquisition system of determining and reporting periods of excess emissions, monitor downtime, and out-of-control periods;</p> <p>f.) A description of the means used to provide for emissions data storage;</p> <p>g.) If the Facility is subject to Env-A 808.13(a), a description of the method(s) used to determine substitute emissions data as required by Env-A 808.13 during those periods when the permitted device is generating emissions, but the CEM system is not operating or the data from the CEM system is not valid; and</p> <p>h.) If the source is subject to Env-A 808.13(h):</p> <ol style="list-style-type: none"> 1.) A description of the calculations used to determine its annual emission using USEPA’s Compilation of Air Pollutant Emission Factors, AP-42, as revised or other emission factor determined in accordance with Env-A 616; 2.) An explanation of why an emission factor, as specified in 1.) above, is being used instead of emission data collected by the gaseous CEM system; and 3.) A comparison of the accuracy of the emissions data determined by both methods. 	90 days prior to the installation of the CEMS	EU01 – EU04	Env-A 808.04
10.	<p><u>Quality Assurance/Quality Control Plan for the CEMS</u></p> <p>The owner or operator shall prepare, submit, and maintain a quality assurance/quality control (QA/QC) plan which shall:</p> <ol style="list-style-type: none"> a.) Contain written procedures for implementation of a QA/QC program that meets the criteria specified in 40 CFR 60, Appendix F, Procedure 1; b.) Review the QA/QC plan and all data generated by its implementation at least once per year; 	As specified	EU01 – EU04	Env-A 808.06

Table 6 – Recordkeeping Requirements

Item #	Requirement	Duration/ Frequency	Applicable Emission Unit	Regulatory Basis
10. cont.	<p>c.) Revise or update the QA/QC plan, as necessary, based on the results of the annual review, by:</p> <p>4.) Documenting the replacement of any damaged or malfunctioning CEM system components in order to maintain the collection of valid CEM data and to maximize data availability;</p> <p>5.) Documenting any changes made to the CEM system, other than those in 1.) above, or changes to any information provided in the monitoring plan submitted in accordance with Env-A 808.04;</p> <p>6.) Including a schedule of, and describing all maintenance activities that are required by the CEM manufacturer or that might have an effect on the operation of the system, including a summary of the results of any performance specification testing that was performed in accordance with Env-A 808.05(e) or (f);</p> <p>7.) Describing how the audits and testing required by Env-A 808.06 will be performed; and</p> <p>8.) Including examples of the reports that will be used to document the audits and tests required by Env-A 808.06;</p> <p>9.) Make the revised QA/QC plan available for on-site review by the department at any time.</p>	As specified	EU01 – EU04	Env-A 808.06
11.	<p><u>NESHAP Boiler Tune-up Recordkeeping</u> Maintain on-site a report containing the information in Table 5, Item 16 including:</p> <p>a.) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler;</p> <p>b.) A description of any corrective actions taken as part of the tune-up of the boiler; and</p> <p>c.) 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.</p>	Maintain on a continuous basis	EU03 & EU04	40 CFR 63.11223(b)(6) subpart JJJJJ
12.	<p><u>NESHAP Recordkeeping Requirements</u> Maintain the following records:</p> <p>a.) A copy of each notification and report submitted pursuant to 40 CFR 63 subpart JJJJJ, and all documentation supporting any <i>Initial Notification</i> or <i>Notification of Compliance Status</i>;</p> <p>b.) Records to document conformance with the work practices, emission reduction measures, and management practices as follows:</p> <p>1.) The identification of each boiler;</p> <p>2.) The date of tune-up;</p> <p>3.) The procedures followed for tune-up;</p> <p>4.) The manufacturer’s specifications to which the boiler was tuned;</p> <p>5.) A copy of the energy assessment required for each;</p>	Maintain on a continuous basis	EU03 & EU04	40 CFR 63.11225(c) subpart JJJJJ & 40 CFR 63.10 subpart A

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Table 6 – Recordkeeping Requirements				
Item #	Requirement	Duration/Frequency	Applicable Emission Unit	Regulatory Basis
12. cont.	6.) The occurrence and duration of each malfunction of the boiler, or the associated air pollution control and monitoring equipment; 7.) Actions taken during periods of malfunction to minimize emissions in accordance with Table 4, Item 23, including corrective actions taken to restore the malfunctioning boiler, air pollution control or monitoring equipment to its normal or usual manner of operation.	Maintain on a continuous basis	EU03 & EU04	40 CFR 63.11225(c) subpart JJJJJ & 40 CFR 63.10 subpart A
13.	<u>Emergency Engine Recordkeeping Requirements</u> The owner or operator shall maintain the following records: a.) The manufacturer’s emission-related written instructions (O&M manual) or develop its 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 practices for minimizing emissions b.) The maintenance conducted on the engine in order to demonstrate that the device was operated and maintained according to the O&M manual or the owner/operator developed maintenance plan; c.) The operation of the engine in emergency (i.e. loss of power) and non-emergency situations (i.e. maintenance and testing or for the operating scenarios described in Table 4, Item 20 that are recorded through the non-resettable hour meter. The owner or operator must record the time of operation of the engine and the reason the engine was in operation during that time; and d.) Documentation of the federal, state, or local standard(s) that require the owner or operator to conduct maintenance and testing for more than 100 hours per calendar year if the owner or operator is exercising the option listed in Table 4, Item 19.	Maintain up-to-date data	EU05	Env-A 906, 40 CFR 63.6625 & 63.6655 subpart ZZZZ

VIII. Reporting Requirements

- A. Pursuant to Env-C 203.02(b), *Date of Issuance of Filing*, written documents shall be deemed to have been filed with or received by the department on the actual date of receipt by the department, as evidenced by a date stamp placed on the document by the department in the normal course of business.
- B. All emissions data submitted to the department shall be available to the public. Claims of confidentiality for any other information required to be submitted to the department pursuant to this permit shall be made at the time of submission in accordance with Env-A 103, *Claims of Confidentiality*.
- C. The owner or operator shall be subject to the reporting requirements identified in Table 7 below.

Table 7 – Reporting Requirements				
Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
1.	<u>Annual Emissions Report</u> Submit an annual emissions report which shall include the following information: a.) For the fuel burning devices – Actual calendar year emissions of NOx, CO, SO ₂ , TSP, and VOCs;	Annually (received by DES no later than April 15 th of the following year)	EU01 – EU05	Env-A 907.01

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Table 7 – Reporting Requirements

Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
1. cont.	<p>b.) For the SCR (PCE04) – Actual calendar year emissions of RTAPs (speciated by individual RTAP);</p> <p>c.) The methods used in calculating such emissions in accordance with Env-A 705.02, <i>Determination of Actual Emissions for Use in Calculating Emission-Based Fees</i>; and</p> <p>d.) All information recorded in accordance with Table 6, Items 2 and 4.</p>	Annually (received by DES no later than April 15 th of the following year)	EU01 – EU05	Env-A 907.01
2.	<p><u><i>NOx Emissions Statements Reporting Requirements</i></u></p> <p>If the actual annual NOx emission from permitted devices at the facility are greater than or equal to 10 tpy, then include the following information with the annual emissions report:</p> <p>a.) A breakdown of NOx emissions reported pursuant to Table 7, Item 1 by month; and</p> <p>b.) All data recorded in accordance with Table 6, Item 5.</p>	Annually (received by DES no later than April 15 th of the following year)	EU01 – EU05	Env-A 909
3.	<p><u><i>Air Pollution Control Equipment Monitoring Plan</i></u></p> <p>The owner or operator shall submit an air pollution control equipment monitoring plan for each piece of air pollution control equipment which shall include:</p> <p>a.) The type of control device;</p> <p>b.) The manufacturer;</p> <p>c.) The model and serial number (if known);</p> <p>d.) The pollutant(s) controlled;</p> <p>e.) A description of the control device and how it operates in the process;</p> <p>f.) The capture efficiency of the device and its method of determination;</p> <p>g.) The control efficiency of the device and its method of determination;</p> <p>h.) The operational parameters of the devices that are or will be monitored, such as temperature, pressure, differential pressure, pH, and flowrate;</p> <p>i.) The normal range for each parameter monitored, and the range of each parameter during startup or shutdown conditions if different;</p> <p>j.) A description of any data recording or recordkeeping, parameter setpoints and alarms, and corresponding operator responses to malfunctions of the device to prevent uncontrolled emission of air pollution;</p> <p>k.) The manufacturer’s recommended procedures for operation of the device;</p> <p>l.) The manufacturer’s recommended schedule for service, maintenance, and calibration of the device; and</p> <p>m.) Any other operational parameters that affect the ability of the device to control air pollution.</p>	Received by DES within 30 days of any change to the plan	PCE01 – PCE05	Env-A 810.01 State-only requirement
4.	<p><u><i>CEMS QA/QC Plan</i></u></p> <p>a.) Submit the QA/QC plan with the department no later than 45 days after conducting the performance specification test system in accordance with Table 5, Items 13 & 14; and</p>	As specified	EU01 – EU04	Env-A 808.06

Table 7 – Reporting Requirements

Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
4. cont.	b.) No later than April 15 of each year, either: <ol style="list-style-type: none"> 1.) Submit to the department the revised QA/QC plan and the reasons for each change, and certifying in writing that the owner or operator is implementing the revised QA/QC plan; or 2.) Certify in writing that no changes have been made to the plan and that the owner or operator will continue to implement the existing QA/QC plan. c.) The department shall request the owner or operator revise the QA/QC plan if the results of emission report reviews, inspections, audits, review of the QA/QC plan, or any other information available to the department shows that the plan does not meet the criteria specified in 40 CFR 60, Appendix F, Procedure 1, section 3; d.) If the department requests a revision to the QA/QC plan, the owner or operator shall submit the revised plan within 45 days of the date of the request.	As specified	EU01 – EU04	Env-A 808.06
5.	<u>CEM Monitoring Plan</u> Submit a monitoring plan to the department, which contains the information in Table 6, Item 9.	At least 90 days prior to the installation of the CEM	EU01 – EU04	Env-A 808.04
6.	<u>General Audit Requirements for All Gaseous and Opacity CEMS</u> The owner or operator shall audit each CEMS in accordance with the following: <ol style="list-style-type: none"> a.) Required quarterly audits anytime during each calendar quarter, provided that successive quarterly audits shall occur no more than 4 months apart. b.) Subject to (d), below, within 30 calendar days following the end of each quarter, the owner or operator shall submit to the department a written summary report of the results of all audits required by (a), above, that were performed during that quarter, in accordance with the following: <ol style="list-style-type: none"> 1.) For gaseous CEM audits, the report format shall conform to that presented in 40 CFR 60, Appendix F, Procedure 1; and 2.) For COMS audits, the report format shall conform to that presented in EPA-600/8-87-025, April 1992, “Technical Assistance Document: Performance Audit Procedures for Opacity Monitors”. c.) The owner or operator shall notify the department: <ol style="list-style-type: none"> 1.) At least 30 days prior to the performance of a RATA; and 2.) At least 2 weeks prior to any other planned audit or test procedure required under Env-A 808. d.) The owner or operator shall file with the department a written summary of the results of the RATA testing required by Env-A 808.08 by the earlier of 45 calendar days following the completion of the RATA test or the date established in the section of 40 CFR 60 that requires performance of the RATA. 	As specified	EU01 – EU04	Env-A 808.07

Table 7 – Reporting Requirements				
Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
7.	<p><u>Quarterly Excess Emissions Reporting</u></p> <p>Submit to the department emission reports containing the following information:</p> <ul style="list-style-type: none"> a.) Excess emission data recorded by the CEM system, including: <ul style="list-style-type: none"> 1.) The date and time of the beginning and ending of each period of excess emissions; 2.) The actual emissions measured by the CEM system during the excess emission; 3.) The total amount of emissions above the emissions limit, or percent above the emission limit, during the period of excess emission; 4.) The specific cause of the excess emission; and 5.) The corrective action taken; b.) If no excess emissions have occurred, a statement to that effect; c.) For gaseous measuring CEM systems, the daily averages of the measurements made and emission rates calculated; d.) A statement as to whether the CEM system was inoperative, repaired, or adjusted during the reporting period; e.) If the CEM system was inoperative, repaired or adjusted during the reporting period, the following information: <ul style="list-style-type: none"> 1.) The date and time of the beginning and ending of each period when the CEM was inoperative; 2.) The reason why the CEM was inoperative; and 3.) The corrective action taken; f.) For all “out of control periods” the following information: <ul style="list-style-type: none"> 1.) Beginning and ending times of the out of control period; 2.) The reason for the out of control period; and 3.) The corrective action taken. g.) The date and time of the beginning and ending of each period when the source of emission which the CEM system is monitoring was not operating; h.) The span value, as defined in Env-A 101.178, and units of measurement for each analyzer in the CEM system; i.) When calibration gas is used, the following information: <ul style="list-style-type: none"> 1.) The calibration gas concentration; 2.) If a gas bottle was changed during the quarter: <ul style="list-style-type: none"> i.) The date of the calibration gas bottle change; ii.) The gas bottle concentration before change; iii.) The gas bottle concentration after change; and 3.) The expiration date of all calibration gas bottles used. j.) The percent data availability calculated in accordance with Table 5, Item 15 for each gaseous, opacity, and flow rate monitor in the CEM system; k.) Even if sufficient valid hours have been measured by the CEM system necessary for calculation of a valid averaging period as defined in Env-A 808.17, the owner or operator shall still report for any invalid hours that occurred during the emissions standard period that substitute data, as approved in accordance with Env-A 808.13, that will be used to determine the source’s total emissions; 	<p>Quarterly (received by DES no later than 30 days following the end of each quarterly reporting period)</p>	<p>EU01 – EU04</p>	<p>Env-A 808.14, Env-A 808.16 & Env-A 808.18</p>

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Table 7 – Reporting Requirements

Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
7. cont.	1.) All information required above shall be clearly indicated, labeled, and formatted such that compliance with all emissions standards to which the source is subject, can be determined and any periods of excess emissions, substitution of mission or invalid CEM data, CEM calibration, CEM maintenance, or startup, shutdown, or malfunction can be easily identified.	Quarterly (received by DES no later than 30 days following the end of each quarterly reporting period)	EU01 – EU04	Env-A 808.14, Env-A 808.16 & Env-A 808.18
8.	<u>SCR System Quarterly Report</u> The owner or operator shall report the following information quarterly with the CEM Excess Emissions Report: a.) Daily ammonia usage in gallons; b.) Average daily ammonia flow in lb/hr; and c.) Daily calculated ration of average daily ammonia flow (lb/hr) to average daily NOx flow (lb/hr).	Quarterly with the CEM Excess Emissions Report	EU01 – EU04	Env-A 910
9.	<u>Deviations Caused by Failure to Comply with Data Availability Requirements</u> If the owner or operator discovers that it has failed to meet the percent data availability requirement in the previous calendar quarter of in the calendar quarter in which it currently is operating, the owner or operator shall, in addition to permit deviation reporting required in Section IX: a.) Notify the department by telephone, fax, or email (pdeviations@des.nh.gov) within 10 days of discovery of the permit deviation; b.) Submit a plan to the department, within 30 days of discovery, specifying in detail, the steps it plans to take in order to meet the availability requirements for future calendar quarters; and c.) Implement the plan to meet the data availability requirements no later than 30 days after the end of the quarter of failure.	As required	EU01 – EU04	Env-A 808.12 & Env-A 911.04
10.	<u>NESHAP Reporting Requirements – Annual Compliance Certification for Biomass Boilers</u> Prepare by March 1 st of each year, and submit to USEPA and the department upon request, an annual compliance certification report for the previous calendar year containing the following information: a.) Company name and address; b.) Statement by the 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 the subpart (40 CFR 63 subpart JJJJJ). The notification must include the following certification(s) of compliance, as applicable, and signed by the responsible official: 1.) “This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, for each biomass boiler;” 2.) 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”;	Prepare 1 st report by March 1 of the calendar year immediately following startup of the boiler; and Annually by March 1 thereafter	EU03 & EU04	40 CFR 63.11225(b) & 63.11222(a) subpart JJJJJ

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Table 7 – Reporting Requirements

Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
10. cont.	<p>3.) “This facility complies with the requirements in §63.11214(d), 63.11223(g) and Table 4, Item 23 to minimize the boiler’s time during startup and shutdowns according to the manufacturer’s recommended procedures or procedures specified for a boiler of similar design specified for a boiler of similar design if manufacturer’s recommended procedures are not available”; and</p> <p>c.) The information recorded pursuant to Table 6, Item 4 on a monthly basis; and</p> <p>d.) Submit the following information by March 15th to USEPA and the department if the source experiences any deviations from the applicable requirements during the reporting period, include:</p> <ol style="list-style-type: none"> 1.) A description of deviations; 2.) The time periods during which the deviations occurred; and 3.) The corrective actions taken. <p>e.) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through USEPA’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 <i>Notification of Compliance Status</i> must be submitted to the USEPA Administrator and the department at the following addresses:</p> <p style="text-align: center;">USEPA New England Attn: Air Compliance Clerk 5 Post Office Square Suite 100 (OES04-2) Boston, MA 02109-3912</p> <p style="text-align: center;">and</p> <p style="text-align: center;">New Hampshire Department of Environmental Services Air Resources Division Attn: Section Supervisor, Compliance Bureau 29 Hazen Drive PO Box 95 Concord, NH 03302-0095</p>	Prepare 1 st report by March 1 of the calendar year immediately following startup of the boiler; and Annually by March 1 thereafter	EU03 & EU04	40 CFR 63.11225(b) & 63.11222(a) subpart JJJJJ
11.	<p><u>Update to Air Pollution Dispersion Modeling Impact Analysis</u></p> <p>If an update to the Facility’s air pollution dispersion modeling impact analysis is required pursuant to Env-A 606.02, submit the information required pursuant to Env-A 606.04:</p> <ol style="list-style-type: none"> a.) With the permit application submitted for the change which triggered the analysis; or b.) Within 15 days of completion of the change which triggered the analysis if a permit application is not required. 	As specified	Facility wide	Env-A 910.01
12.	<p><u>Permit Deviation Reporting Requirements</u></p> <p>Report permit deviations resulting in excess emissions in accordance with Condition IX.B.</p>	Within 24 hours of discovery of excess emissions	EU01– EU05	Env-A 911.04(b)
13.	<p><u>Emission Based Fees</u></p> <p>Pay emission-based fees in accordance with Condition XII.</p>	Annually (received by DES no later than April 15 th of the following year)	EU01– EU05	Env-A 700

IX. Permit Deviation Reporting Requirements

A. Env-A 101, Definitions:

1. A *permit deviation* is any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in either a Title V permit, state permit to operate, temporary permit or general state permit issued by the department.
2. An *excess emission* is an air emission rate that exceeds any applicable emission limitation.

B. Env-A 911.04(b)(1), *Reporting Requirements*: In the event of a permit deviation that causes excess emissions, notify the department of the permit deviation and excess emissions by telephone (603-270-1370), fax (603-271-7053) or email (pdeviations@des.nh.gov) , within 24-hours of discovery of the permit deviation, unless it is a Saturday, Sunday, or state or federal legal holiday, in which event, the department shall be notified on the next day which is not a Saturday, Sunday, or state or federal legal holiday.**X. Permit Amendments**A. Env-A 612.01, *Administrative Permit Amendments*:

1. An administrative permit amendment includes the following:
 - a. Corrects typographical errors;
 - b. Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
 - c. Requires more frequent monitoring or reporting; or
 - d. Allows for a change in ownership or operational control of a source provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the department.
2. The owner or operator may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

B. Env-A 612.03, *Minor Permit Amendments: Temporary Permits and State Permits to Operate*:

1. The owner or operator shall submit to the department a request for a minor permit amendment for any proposed change to any of the conditions contained in this permit which does not qualify as either an administrative or significant amendment.
2. The request for a minor permit amendment shall be in the form of a letter to the department and shall include the following:
 - a. A description of the proposed change; and
 - b. A description of any new applicable requirements that will apply if the change occurs.
3. The owner or operator may implement the proposed change immediately upon filling a request for the minor permit amendment, but shall be subject to enforcement if the department later determines that the change violated any applicable state or federal requirement.

- C. Env-A 612.04, *Significant Permit Amendments: Temporary Permits and State Permits to Operate*:
1. The owner or operator shall submit a written request for a permit amendment to the department prior to the implementation of any proposed change which meets one of the following:
 - a. Any proposed change that results in the following:
 - i. Any increase in allowable hourly or annual emissions of NO_x, SO₂, VOCs, HAPs, or PM₁₀; or
 - ii. Any increase in potential emission equal to or greater than 5 lb/hr of CO; or
 - b. Any proposed change to operating or emission limitations;
 - c. Any proposed change in the type of pollution control equipment; or
 - d. Any proposed change that results in an increase in previously-allowed loading of existing pollution control equipment by greater than 50%.
 2. A request for a significant permit amendment shall include the following:
 - a. A complete application form, as described in Env-A 1703 through Env-A 1708, as applicable;
 - b. A description of:
 - i. The proposed change;
 - ii. The emissions resulting from the change;
 - iii. Any new applicable requirements that will apply if the change occurs; and
 - c. Where air pollution dispersion modeling is required for a device pursuant to Env-A 606.02, the information required pursuant to Env-A 606.04.
 - d. An air pollution control equipment monitoring plan or catalyst management plan pursuant to Env-A 810.01.
 3. The owner or operator shall not implement the proposed change until the department issues the amended permit.

XI. Inspection and Entry

DES personnel shall be granted access to the facility covered by this Permit, in accordance with RSA 125-C:6, VII for the purposes of: inspecting the proposed or permitted site; investigating a complaint; and assuring compliance with any applicable requirement found in the New Hampshire Rules Governing the Control of Air Pollution and/or conditions of any permit issued pursuant to Chapter Env-A 600.

XII. Emission-Based Fee Requirements

- A. Env-A 705.01, *Emission-based Fees*: The owner or operator shall pay to the department each year an emission-based fee for emissions from the emission units listed in Condition II.
- B. Env-A 705.02, *Determination of Actual Emissions for use in Calculating of Emission-based Fees*: The owner or operator shall determine the total actual annual emissions from the emission units listed in Condition II for each calendar year in accordance with the methods specified in Env-A 705.02. If the emissions are determined to be less than one ton, the emission-based fee shall be calculated using an emission-based multiplier of one ton.

- C. Env-A 705.03, *Calculation of Emission-based Fees*: The owner or operator shall calculate the annual emission-based fee for each calendar year in accordance with the procedures specified in Env-A 705.03 and the following equation:

$$FEE = E * DPT$$

Where:

- FEE = The annual emission-based fee for each calendar year as specified in Env-A 705;
E = Total actual emissions as determined pursuant to Condition XII.B; and
DPT = The annual fee, in dollars per ton of emissions, which the department has calculated in accordance with Env-A 705.03¹².

- D. Env-A 705.04, *Payment of Emission-based Fee*: The owner or operator shall submit to the department, payment of the emission-based fee so that the department receives it on or before April 15th for emissions during the previous calendar year. For example, the fees for calendar year 2015 shall be received on or before April 15, 2016.

¹² For additional information on emission-based fees, visit the DES website at <http://des.nh.gov/organization/divisions/air/pehb/apps/fees.htm>