



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

PIEDMONT REGIONAL OFFICE

4949-A Cox Road, Glen Allen, Virginia 23060

(804) 527-5020 Fax (804) 527-5106

[www.deq.virginia.gov](http://www.deq.virginia.gov)

Douglas W. Domenech  
Secretary of Natural Resources

David K. Paylor  
Director

Michael P. Murphy  
Regional Director

May 23, 2012

Mr. Robert McKinley  
Vice President, General Construction  
Virginia Electric and Power Company  
5000 Dominion Boulevard  
Glen Allen, Virginia 23060

Location: Hopewell Power Station  
Location: City of Hopewell  
Registration No.: 51019  
County-Plant ID No.: 670-0063

Dear Mr. McKinley,

This letter is in regard to the permit to construct and operate an electric generating facility in accordance with the provisions of the Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. This permit will supersede your permit dated January 30, 2012 in accordance with condition no. 3 in this permit.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all permit conditions carefully.

In the course of evaluating the application and arriving at a final decision to approve the project, the Department of Environmental Quality (DEQ) deemed the application complete on March 12, 2012, and solicited written public comments by placing a newspaper advertisement in the Richmond Times-Dispatch on March 16, 2012. A public hearing was held on April 16, 2012. The required comment period, provided by 9 VAC 5-80-1870, expired on May 1, 2012.

This permit approval to construct and operate shall not relieve the Virginia Electric and Power Company of the responsibility to comply with all other local, state, and federal permit regulations.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provides that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this case decision notice was mailed or delivered to you. 9 VAC 5-170-200 provides that you may request direct consideration of the decision by the Board if the Director of the DEQ made the decision. Please consult the relevant regulations for additional requirements for such requests.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

David K. Paylor, Director  
Department of Environmental Quality  
P. O. Box 1105  
Richmond, VA 23218

If this permit was delivered to you by mail, three days are added to the thirty-day period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit, please call the regional office at (804) 527-5020.

Sincerely,



James E. Kyle, P.E.  
Air Permits Manager

JEK/ROS/510190512.amd

Attachments: Permit

cc: Director, OPATS (electronic file submission)  
Director, Data Analysis (electronic file submission)  
Chief, Air Enforcement Branch (3AP13), US EPA Region III



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**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT  
STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE  
This permit includes designated equipment subject to  
New Source Performance Standards (NSPS) and the federal Acid Rain Program.**

This permit supersedes this source's previous permit dated January 30, 2012, in accordance with condition no. 3 in this permit.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Virginia Electric and Power Company  
Hopewell Power Station  
5000 Dominion Boulevard  
Glen Allen, Virginia 23060  
Registration No.: 51019  
County-Plant ID No.: 670-0063

is authorized to modify and operate

an electric generating facility

located at

107 Terminal Street  
Hopewell, Virginia

in accordance with the Condition of this permit.

Approved on May 23, 2012.

  
Regional Director, Piedmont Regional Office

Permit consists of 21 pages.  
Permit Conditions 1 to 81.  
Document List.

**INTRODUCTION**

1. This permit approval is based on the permit application dated May 4, 1988, including amendment information dated May 20, 1993; June 21, 1993; August 6, 1993; March 30, 1994; November 18, 1994; April 16, 1996; June 12, 1996; October 27, 2000; February 8, 2001; March 26, 2001 and referenced in Appendix A and May 25, 2011. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action. In addition, this facility may be subject to additional applicable requirements not listed in this permit.

Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-10 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses ( ) after each condition.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, § 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

**PROCESS REQUIREMENTS**

2. **Equipment List** - Equipment at this facility consists of:

<b>Equipment to be modified: Fuel Burning Equipment</b>			
<b>Reference No.</b>	<b>Equipment Description</b>	<b>Rated Capacity</b>	<b>Delegated Federal Requirements</b>
001	One (1) B & W single drum, single pass stoker boiler that includes an overfire air (OFA) system to generate steam for process use and electricity generation (combusts biomass; startup – natural gas)	394 mmBTU/hr (maximum) 379 mmBTU/hr (nominal)	NSPS Subpart Db MACT Subpart DDDDD
002	One (1) B & W single drum, single pass stoker boiler that includes an overfire air (OFA) system to generate steam for process use and electricity generation (combusts biomass; startup – natural gas)	394 mmBTU/hr (maximum) 379 mmBTU/hr (nominal)	NSPS Subpart Db MACT Subpart DDDDD

<b>Equipment to be installed: Biomass Handling System</b>			
<b>Reference No.</b>	<b>Equipment Description</b>	<b>Rated Capacity</b>	<b>Delegated Federal Requirements</b>
101 A	One (1) biomass truck tipper to one (1) receiving hopper	269 tons	
101 B	One (1) biomass truck tipper to one (1) receiving hopper	269 tons	
101C	One (1) emergency reclaimers	90 tons	
102	One (1) biomass storage pile	3 mm cubic feet	
104-1	Truck Tipper Reclaim # 1 to Conveyor A Transfer Point	269 tons/hr	
104-2	Truck Tipper Reclaim # 2 to Conveyor A Transfer Point	269 tons/hr	
104-3	Conveyor B to Diverter Gate #2 Transfer Point	269 tons/hr	
104-4	Conveyor C to Stacker Transfer Point	269 tons/hr	
104-5	Reclaimer to Conveyor D Transfer Point	90 tons/hr	
104-6	Emergency Reclaimer to Conveyor D Transfer Point	90 tons/hr	
104-8	Conveyor D to Conveyor E Transfer Point	90 tons/hr	
104-9	Conveyor E to Conveyor F Transfer Point	90 tons/hr	
104-10	Conveyor F to Fuel Bunker Drag Chain Transfer Point	90 tons/hr	
106	Biomass Screening and Hogging System	269 tons/yr	
107	Ash Collection System (includes furnace bottom ash drag, boiler ash collection drag and mechanical collector ash collection drag)		

<b>Equipment permitted prior to the date of this permit: Fuel Burning Equipment</b>			
<b>Reference No.</b>	<b>Equipment Description</b>	<b>Rated Capacity</b>	<b>Delegated Federal Requirements</b>
003	One (1) auxiliary boiler A to generate steam for process use (combusts natural gas)	73.43 mmBTU/hr	NSPS Subpart Dc
005	One (1) auxiliary boiler B to generate steam for process use (combusts natural gas)	90 mmBTU/hr	NSPS Subpart Dc
007	One (1) emergency diesel feed water pump (combusts diesel fuel)	1.2 mmBtu/hr	
009	One (1) fire water diesel pump (combusts diesel fuel)	0.68 mmBtu/hr	

<b>Equipment permitted prior to the date of this permit: Bed and Flyash Handling System and Lime Handling System Storage</b>			
<b>Reference No.</b>	<b>Equipment Description</b>	<b>Rated Capacity</b>	<b>Delegated Federal Requirements</b>
010	One (1) boiler ash conveyor blower system A	28 tons/hr	
012	One (1) boiler ash conveyor blower system B	28 tons/hr	
013	One (1) boiler ash conveyor blower system C	28 tons/hr	
014	One (1) ash unloading feeder	80 tons/hr	
015	One (1) recycle ash bin	NA	
016	One (1) ash storage silo	530 tons	
017	One (1) lime storage silo	180 tons	

Equipment permitted prior to the date of this permit: Miscellaneous Equipment			
Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
018	One (1) biomass storage silo (former coal silo)	180 tons	
105	One (1) cooling tower	NA	

Equipment to be deactivated: Coal Handling Equipment			
Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
	Coal Handling Equipment	NA	

(9 VAC 5-80-1180, 9 VAC 5-80-1605 A and 9 VAC 5-80-1985 E)

3. **Activation of Permit** – This permit will supersede the permit issued on January 30, 2012 upon startup of the biomass handling system as described in the permit application. Upon the startup of the biomass handling system as described in the permit application, the permittee shall deactivate all coal handling equipment.  
 (9 VAC 5-170-160)
  
4. **Emission Controls** – Particulate emissions from the B & W primary biomass boilers (Ref. Nos. 001, 002) shall be controlled by an in-line multiple cyclone, a lime water injection spray dryer (dry flue gas desulfurization), and a fabric filter rated at 99.9 percent control efficiency. The control systems shall be provided with adequate access for inspection and shall be in operation when the B & W primary biomass boilers (Ref. Nos. 001, 002) are operating. The fabric filter may be bypassed during non-biomass fuel boiler start-ups and operations to alleviate potential moisture damage to the baghouse at low start-up temperatures. Bypass of the fabric filters shall not exceed 12 hours per start-up. Each fabric filter compartment shall be equipped with a device to continuously measure pressure drop.  
 (9 VAC 5-50-260, 9 VAC 5-50-280, 9 VAC 5-80-1180, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
  
5. **Emission Controls** – Particulate emissions from the 73.43 mmBTU/hr auxiliary boiler A (Ref. No. 003) and the 90 mmBTU/hr auxiliary boiler B (Ref. No. 005) shall be controlled by good combustion practices.  
 (9 VAC 5-50-260, 9 VAC 5-50-280, 9 VAC 5-80-1180, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
  
6. **Emission Controls** – Particulate emissions from the biomass storage silo (Ref. No. 018), the lime storage silo (Ref. No. 017), the recycle ash bin (Ref. No. 015), the discharge storage silo, and the ash handling system shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection.  
 (9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
  
7. **Emission Controls** – Fugitive dust emissions from biomass unloading, feeding, and conveying shall be controlled by enclosure and wet suppression with surfactant as necessary.  
 (9 VAC 5-80-1180, 9 VAC 5-50-90 and 9 VAC 5-80-1985 E)

8. **Emission Controls** – Fugitive dust emissions from the furnace bottom ash drag shall be controlled by quenching ash with water. Fugitive dust emissions from the boiler ash collection drag and mechanical collector ash collection drag shall be saturated by water spray nozzles.  
(9 VAC 5-80-1180, 9 VAC 5-50-90 and 9 VAC 5-80-1985 E)
9. **Emission Controls** – Particulate emissions from the biomass screening and hogging system shall be controlled by total enclosure.  
(9 VAC 5-80-1180, 9 VAC 5-50-90 and 9 VAC 5-80-1985 E)
10. **Emission Controls** – Lime slaker emissions shall be controlled by a dust suppression aspirator and water jet spray system (venturi scrubber). The aspirator vapor discharge shall be piped to the slurry tank for complete enclosure of all dust particles produced during the slaking process. The control system shall be provided with adequate access for inspection and shall have a device for continuous measurement of temperature.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
11. **Emission Controls** – All conveyor belt returns shall be equipped with a belt scraper system. Scrapings shall be returned in an enclosed manner to the main flow of material.  
(9 VAC 5-80-1180, 9 VAC 5-50-90, 9 VAC 5-50-260, 9 VAC 5-50-280 and 9 VAC 5-80-1985 E)
12. **Emission Controls** – Fugitive dust emissions from the biomass storage silo (Ref. No. 018) to the B & W primary biomass boilers (Ref. Nos. 001, 002) feed hopper shall be controlled by an enclosed transfer system.  
(9 VAC 5-80-1180, 9 VAC 5-50-90, 9 VAC 5-50-260, 9 VAC 5-50-280 and 9 VAC 5-80-1985 E)
13. **Emission Controls** – Fugitive dust emissions from the ash and flue gas desulfurization product storage silo shall be controlled by mixing the discharge with water.  
(9 VAC 5-80-1180, 9 VAC 5-50-90, 9 VAC 5-50-260, 9 VAC 5-50-280 and 9 VAC 5-80-1985 E)
14. **Emission Controls** – The biomass storage pile (Ref. No. 102) shall be moist or treated (wet suppression and surfactant).  
(9 VAC 5-80-1180, 9 VAC 5-50-90, 9 VAC 5-50-260, 9 VAC 5-50-280 and 9 VAC 5-80-1985 E)
15. **Emission Controls** – Fugitive dust and fugitive emission controls shall include the following, or equivalent, as approved by DEQ:
  - a. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; paving of roadways, and maintenance of roadways in a clean condition.
  - b. Open equipment for conveying or transporting materials likely to create objectionable air pollution when airborne shall be covered, or treated in an equally effective manner at all times when in motion.
  - c. Prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.
  - d. Dust from material handling, and load-outs, shall be controlled by wet suppression or equivalent. The wet suppression spray systems shall be operated at optimum design.

- e. Reasonable precautions shall be taken to prevent deposition of dirt on public roads and subsequent dust emissions. These measures shall include paving the entrance/access road to the facility. Dirt, product, or raw material spilled or tracked onto paved surfaces shall be promptly removed to prevent particulate matter from becoming airborne.  
(9 VAC 5-80-1180, 9 VAC 5-50-90, 9 VAC 5-50-260, 9 VAC 5-50-280 and 9 VAC 5-80-1985 E)
16. **Emission Controls** – Sulfur dioxide emissions from the B & W primary biomass boilers (Ref. Nos. 001, 002) shall be controlled by a lime-water injection spray dryer (a dry FGD system). The control system shall be provided with adequate access for inspection.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
17. **Emission Controls** – Nitrogen oxide emissions from the B & W primary biomass boilers (Ref. Nos. 001, 002) shall be controlled by a continuous biomass feed system, staged combustion low excess air, and selective non-catalytic reduction.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
18. **Emission Controls** – Nitrogen oxide emissions from the 90 mmBTU/hr auxiliary boiler B (Ref. No. 005) shall be controlled by the use of a low nitrogen dioxide burner and flue gas recirculation.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

#### **OPERATING/EMISSION LIMITATIONS**

19. **Operating Hours** – Each B & W primary biomass boiler (Ref. Nos. 001, 002) shall not operate more than 8,400 hours per year, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)
20. **Throughput** – The maximum firing rate of each primary boiler shall not exceed 394 mmBTU per hour. The total heat input to the primary boilers combined shall not exceed 6,109,480 mmBTU/yr, calculated as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)
21. **Throughput** – The 90 mmBTU/hr auxiliary boiler B (Ref. No. 005) shall consume no more than  $917.2 \times 10^6$  cubic feet of natural gas per year, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)
22. **Throughput** – The 1.2 mmBTU/hr emergency diesel feed water pump (Ref. No. 007) shall consume no more than 1044 gallons of distillate oil per year, calculated as the sum of each consecutive 12 month period.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)
23. **Throughput** – The 0.68 mmBTU/hr fire water diesel pump (Ref. No. 009) shall consume no more than 580 gallons of distillate oil per year, calculated as the sum of each consecutive 12 month period.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)

24. **Operating Hours** – The auxiliary boilers (Ref. Nos. 003, 005) and the primary biomass boilers (Ref. Nos. 001, 002) shall not be operated concurrently except during start up and shutdown, and then for no more than 11 hours over any consecutive 24 hour period, unless both primary biomass boilers (Ref. Nos. 003, 005) are operating at 50 percent capacity or less.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)
25. **Throughput** – The biomass material handling system (Ref. Nos. 101A, 101B) shall not process more than 784,480 tons per year of material, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)
26. **Fuel** - The approved fuels for the B & W primary biomass boilers (Ref. Nos. 001, 002) are biomass and natural gas. Natural gas shall be fired during boiler startup and to provide supplemental steam for the host facility. A change in the fuel may require a permit to modify and operate.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705, 9 VAC 5-80-1715 and 9 VAC 5-80-1985 E)
27. **Fuel** – The biomass shall meet the following specifications: biomass means those residuals that are akin to traditional cellulosic biomass including forest-derived biomass (e.g., green wood, forest thinning, clean and unadulterated bark, sawdust, trim, and tree harvesting residuals from logging and sawmill materials), wood collected from forest fire clearance activities, trees and clean wood found in disaster debris, and clean biomass from land clearing operations, each as specified in the definition of Clean Cellulosic Biomass in 40 CFR 241.2, excluding any wood which contains chemical treatments or has affixed thereto paint and/or finishing materials or paper or plastic laminates. Approved biomass is biomass that does not contain contaminants at concentrations not normally associated with virgin biomass materials.
28. **Fuel** – The approved fuel for the 90 mmBTU/hr auxiliary boiler B (Ref. No. 005) is natural gas. A change in the fuel may require a permit to modify and operate.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705, 9 VAC 5-80-1715 and 9 VAC 5-80-1985 E)
29. **Fuel** – The approved fuels for the 73.43 mmBTU/hr auxiliary boiler A (Ref. No. 003) are natural gas and distillate fuel oil. A change in the fuels may require a permit to modify and operate.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705, 9 VAC 5-80-1715 and 9 VAC 5-80-1985 E)
30. **Fuel** – The approved fuel for the 1.2 mmBTU/hr emergency diesel feed water pump (Ref. No. 007) and the 0.68 mmBTU/hr fire water diesel pump (Ref. No. 009) is distillate oil. A change in the fuels may require a permit to modify and operate.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705, 9 VAC 5-80-1715 and 9 VAC 5-80-1985 E)
31. **Fuel** – The maximum sulfur content of the distillate fuel oil to be burned in the 73.43 mmBTU/hr auxiliary boiler A (Ref. No. 003), the 1.2 mmBTU/hr emergency diesel feed water pump (Ref. No. 007) and the 0.68 mmBTU/hr fire water diesel pump (Ref. No. 009) shall not exceed 0.3 percent by weight per shipment. The permittee shall maintain records of all fuel oil shipments purchased indicating the sulfur content per shipment. These records shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current three year period.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705, 9 VAC 5-80-1715 and 9 VAC 5-80-1985 E)

32. **Fuel** – The average sulfur content of the distillate fuel oil to be burned in the 73.43 mmBTU/hr auxiliary boiler A (Ref. No. 003) shall not exceed 0.2 percent by weight. The permittee shall maintain records of all fuel oil shipments purchased and the annual average sulfur content determined monthly. These records shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current three year period.  
 (9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705, 9 VAC 5-80-1715 and 9 VAC 5-80-1985 E)
33. **Fuel** – The maximum sulfur content of the distillate fuel oil to be burned in the 73.43 mmBTU/hr auxiliary boiler A (Ref. No. 003) during start-up and shutdown of the primary biomass boilers shall not exceed 0.2 percent by weight. The permittee shall maintain records of the fuel oil sulfur content used during periods of primary biomass boiler start-up and shutdown and these records shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current three year period.  
 (9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705, 9 VAC 5-80-1715 and 9 VAC 5-80-1985 E)
34. **Fuel Certification** – Sampling shall be conducted or fuel oil purchase records shall be maintained to verify the maximum percent sulfur by weight in the fuel oil used during periods of primary biomass boilers start-up and shutdown. All sampling analyses exceeding 0.2 percent by weight shall be submitted to the DEQ (Director, Piedmont Regional Office).  
 (9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)
35. **Emission Limits** – Emissions from the operation of each B & W biomass boiler (Ref. Nos. 001, 002) shall not exceed the limitations specified as follows:

<u>Pollutants</u>	<u>lbs/10<sup>6</sup> btu</u>	<u>lbs/hr</u>	<u>tons/yr</u>
Particulate Matter (PM)			
Total PM	---	12.16	51.08
Filterable PM	0.019	7.5	---
PM <sub>10</sub>			
Total PM <sub>10</sub>	---	11.08	46.55
Filterable PM <sub>10</sub>	0.017	6.7	---
PM <sub>2.5</sub>			
Total PM <sub>2.5</sub>	---	10.55	44.31
Sulfur Dioxide	0.0125 ^^	4.9	19.1
Nitrogen Oxides*	0.135 ^^	53.2	206.4
Carbon Monoxide**	0.30 ^^	118.2	458.2
Volatile Organic Compounds**	0.030	5.21	21.89
Fluorides, as HF	---	0.3	1.1
Sulfuric Acid Mist	---	0.90	3.78

\*Lower limits may be imposed by the DEQ after review of in-stack testing and optimizing the SNCR system at various loads.

\*\*Lower limits may be imposed by the DEQ after in-stack testing.

^^Compliance is determined on a 30-day rolling average

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

36. **Emission Limits** – Emissions from the operation of each B & W biomass boilers (Ref. Nos. 001, 002) natural gas startup burner shall not exceed the limitations specified as follows:

<u>Pollutants</u>	<u>lbs/10<sup>6</sup> btu</u>	<u>lbs/hr</u>
Particulate Matter (PM)	0.013	0.80
PM <sub>10</sub>	0.013	0.80
Sulfur Dioxide	0.009	0.50
Nitrogen Oxides	0.140	8.33
Carbon Monoxide	0.040	2.40
Volatile Organic Compounds	0.009	0.50

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

37. **Emission Limits** – Emissions from the operation of the 73.43 mmBTU/hr auxiliary boiler A (Ref. No. 003) shall not exceed the limitations specified below. Annual emissions are included in Condition 39.

**Natural Gas:**

<u>Pollutants</u>	<u>lbs/10<sup>6</sup> btu</u>	<u>lbs/hr</u>
Nitrogen Oxides*	0.065*	4.8*
Carbon Monoxide	0.082	6.0
Volatile Organic Compounds	0.041	3.0

**Distillate Fuel Oil**

<u>Pollutants</u>	<u>lbs/10<sup>6</sup> btu</u>	<u>lbs/hr</u>
Particulate Matter (PM)	0.04	2.9
PM <sub>10</sub>	0.03	2.2
Sulfur Dioxide	0.31	22.8
Nitrogen Oxides*	0.10*	7.3*
Carbon Monoxide	0.082	6.0
Volatile Organic Compounds	0.041	3.0

\*Based on high heat release rate.

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

38. **Emission Limitations** – Emissions from the operation of the 90 mmBTU/hr auxiliary boiler B (Ref. No. 005) shall not exceed the limitations specified below. Annual emissions are included in Condition 39.

<u>Pollutants</u>	<u>lbs/10<sup>6</sup> btu</u>	<u>lbs/hr</u>
Particulate Matter (PM)	0.0053	0.5
PM <sub>10</sub>	0.0053	0.5
Nitrogen Oxides	0.05	4.5
Carbon Monoxide	0.082*	7.4
Volatile Organic Compounds	0.0082	0.8

\*(@ 15% excess air)

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

39. **Emission Limitations** - Combined emissions from the operation of the two B & W biomass boilers (Ref. Nox. 001, 002) and the two auxiliary boilers (Ref. Nos. 003, 005) shall not exceed the limitations specified below:

<u>Pollutants</u>	<u>tons/yr</u>
Particulate Matter (PM)	102.7
PM <sub>10</sub>	93.5
Sulfur Dioxide	42.3
Nitrogen Oxides*	413.7
Carbon Monoxide**	917.8
Volatile Organic Compounds**	44.3

These limitation are based on the primary biomass boilers operating at 8,400 hours per year and the auxiliary boilers combined operating at 360 hour per year.

\*Lower limits may be imposed by the DEQ after review of in-stack testing and optimizing the SNCR system at various loads.

\*\*Lower limits may be imposed by the DEQ after in-stack testing.

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

40. **Emission Limitations** – NO<sub>x</sub> emissions from the operation of the 1.2 x 10<sup>6</sup> btu/hr emergency boiler feed water pump shall not exceed 5.4 lbs/hr nor 0.5 tons/yr.  
 (9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

41. **Emission Limitations** – Fugitive dust emissions from the operation of the lime storage and handling systems shall not exceed the limitations specified below:

<u>Pollutants</u>	<u>lbs/hr</u>	<u>tons/yr</u>
Particulate Matter (PM)	0.3	1.2
PM <sub>10</sub>	0.3	1.2

These emissions are derived from the estimated overall emission contribution and are included for emission inventory purposes. Compliance shall be determined as stated in Conditions 6, 7, 10, 11, 12, 13, 14, 15, and 54.

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

42. **Emission Limitations** – Fugitive dust emissions from the operation of the biomass handling system shall not exceed the limitations specified below:

<u>Pollutants</u>	<u>lbs/hr</u>	<u>tons/yr</u>
Particulate Matter (PM)	0.4	1.5
PM <sub>10</sub>	0.2	0.6
PM <sub>2.5</sub>	0.1	0.1

These emissions are derived from the estimated overall emission contribution and are included for emission inventory purposes. Compliance shall be determined as stated in Condition 25.

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

43. **Emission Limitations** – Emissions from the two (2) ash silo fabric filters shall not exceed the limitations specified below:

<u>Pollutants</u>	<u>lbs/hr</u>	<u>tons/yr</u>
Particulate Matter (PM)	0.6	2.6
PM <sub>10</sub>	0.6	2.6

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

44. **Emission Limitations** – Emissions from the recycle fly ash silo fabric filter shall not exceed the limitations specified below:

<u>Pollutants</u>	<u>lbs/hr</u>	<u>tons/yr</u>
Particulate Matter (PM)	0.2	1.0
PM <sub>10</sub>	0.2	1.0

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

45. **NAAQS** – In order to protect the short-term National Ambient Air Quality Standard for SO<sub>2</sub>, the maximum SO<sub>2</sub> emissions from each of the primary biomass boilers for any 180 minute period shall not exceed 0.162 lbs/10<sup>6</sup> btu.  
 (9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)

46. **NAAQS** – The 90.0 x 10<sup>6</sup> btu/hr boiler and the 73.43 x 10<sup>6</sup> btu/hr boiler stack(s) shall be constructed to a height of 200 feet or greater above ground level.  
 (9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)

47. **NAAQS** – A physical barrier shall be installed at the facility property line to prevent public access.  
 (9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)

48. **Visible Emission Limit** - Visible emissions from common stack of the two primary biomass boilers and the 73.43 x 10<sup>6</sup> btu/hr auxiliary boiler stack shall not exceed ten (10) percent opacity except during one six (6) minute period per hour which shall not exceed twenty (20) percent opacity.  
 (9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

49. **Visible Emission Limit** – Visible emissions from the 90.0 x 10<sup>6</sup> btu/hr auxiliary boiler stack shall not exceed ten (10) percent opacity except during one six (6) minute period in any one hour in which visible emissions shall not exceed twenty (20) percent opacity. This condition applies at all times except during startup, shutdown, and malfunction. Visible emission evaluations shall be conducted on the boiler stack. The details of the test shall be arranged with the Director, Piedmont Regional office. The permittee shall submit a test protocol at least thirty (30) days prior to testing.  
 (9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

50. **Visible Emission Limit** – Visible emissions from all fabric filters (except those on the primary biomass boilers) shall not exceed five (5) percent opacity.  
 (9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

51. **Visible Emission Limit** – Visible emissions from the operation of the emergency boiler feed water diesel pump, and fire water diesel pump shall not exceed ten (10) percent opacity, except

during one six (6) minute period per hour which shall not exceed twenty (20) percent opacity. This condition applies at all times except during startup, shutdown, and malfunction.

(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

52. **Visible Emission Limit** – Visible emissions from the ash unloading/truck loading system shall not exceed ten (10) percent opacity.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

53. **Visible Emission Limit** – Visible emission from the biomass handling system shall not exceed ten (10) percent opacity.  
(9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-280 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

### CEMS/COMS

54. **CEMS/COMS** – Continuous emission monitors shall be installed to measure and record opacity and the concentration of SO<sub>2</sub>, NO<sub>x</sub> (at each boiler outlet) and CO<sub>2</sub> or O<sub>2</sub> emitted from the primary biomass boilers. Also, a device shall be installed to continuously measure and record the exhaust gas flow rate. They shall be maintained, located, and calibrated in accordance with approved procedures (reference to 40 CFR 60.13). A 30 day notification prior to the demonstration of the continuous monitoring system performance and subsequent notifications are to be submitted to DEQ (Director, Piedmont Regional Office).  
(9 VAC 5-80-1180, 9 VAC 5-50-40, 9 VAC 5050-410, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
55. **COMS** – A continuous emission monitor shall be installed to measure and record the opacity from the 73.43 x 10<sup>6</sup> btu/hr auxiliary boiler when #2 fuel oil is burned. It shall be maintained and calibrated in accordance with approved procedures (reference to 40 CFR 60.13). A 30 day notification prior to the demonstration of the continuous monitoring system performance and subsequent notifications are to be submitted to DEQ (Director, Piedmont Regional Office).  
(9 VAC 5-80-1180, 9 VAC 5-50-40, 9 VAC 5050-410, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
56. **CEMS** – A NO<sub>x</sub> continuous emission monitoring system shall be installed on each primary biomass boiler. The continuous monitoring data generated by the NO<sub>x</sub> CEMS shall be used to determine continuous compliance with the 30 day average NO<sub>x</sub> emission standards in Conditions 35 and 36. A separate 30 day NO<sub>x</sub> rolling average shall be determined for the primary biomass boilers when firing natural gas and a separate 30 day NO<sub>x</sub> rolling average shall be determined for the primary biomass boilers when firing biomass. Data from the NO<sub>x</sub> CEMS shall be used to determine compliance with the emission standard on a 30 day rolling average. All of the CEM calculation, data reduction, record keeping, and reporting requirements of NSPS Subpart Db shall apply.  
(9 VAC 5-80-1180, 9 VAC 5-50-40, 9 VAC 5050-410, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
57. **CEMS** – A SO<sub>2</sub> continuous emission monitoring system shall be installed on each primary biomass boiler to measure SO<sub>2</sub> at the outlet of each SO<sub>2</sub> control device for the purpose of measuring SO<sub>2</sub> emissions from the combustion of biomass. The continuous monitoring data generated by the SO<sub>2</sub> CEMS shall be used to determine compliance with the SO<sub>2</sub> 3-hour rolling average emission standard in Condition 45 and the SO<sub>2</sub> emission limits of Condition 35. Each SO<sub>2</sub> CEMS shall meet the data capture requirements of NSPS Subpart Db and the quality assurance requirements of 40 CFR 60, Appendix F. All of the CEM calculation, data reduction, record keeping, and reporting requirements of NSPS Subpart Db shall apply except for the purposes of 40 CFR 60.49a(b)(2) and (b)(3), all 3-hour SO<sub>2</sub> rolling averages and all 30 day rolling average values of SO<sub>2</sub> percentage reduction shall be reported when the primary biomass boilers

are burning biomass. In addition, the quarterly reporting shall include SO<sub>2</sub> emissions expressed in lbs/hr.  
(9 VAC 5-80-1180, 9 VAC 5-50-40, 9 VAC 5050-410, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

58. **COMS** – For the opacity monitors required by this permit, the continuous monitoring and quality assurance data may, at the discretion of the Board, be used as evidence of violation of the emission standards. All continuous monitors required by this permit are subject to such data capture requirements and/or quality assurance requirements as may be deemed appropriate by the Board (refer to 40 CFR 60.13 and Appendix B). For each required opacity monitor, quarterly reports of excess emissions and monitor downtime shall be submitted to DEQ (Director Piedmont Regional Office), in accordance with approved procedures (refer to 40 CFR 60.7 (c)).  
(9 VAC 5-80-1180, 9 VAC 5-50-40, 9 VAC 5050-410, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
59. **COMS/CEMS** – All continuous monitoring systems and monitoring devices, as may be applicable for your source type, shall be installed and operational prior to conducting performance tests under 9 VAC 5-50-30 and 9 VAC 5-60-30. Performance evaluations of the continuous monitoring system shall take place during the performance tests under 9 VAC 5-50-30 and 9 VAC 5-60-30 or within 30 days thereafter. DEQ (Director, Piedmont Regional Office) shall be furnished with two copies of the report of the performance evaluations within 60 days of the evaluation.  
(9 VAC 5-80-1180, 9 VAC 5-50-40, 9 VAC 5050-410, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
60. **CEMS** – Continuous Emission Monitoring Systems (CEMS), meeting the design specifications of 40 CFR Part 60, Appendix B Performance Specification 4A, shall be installed to measure and record the emissions of CO from each primary biomass boiler as lbs/mmBTU and lbs/hr. The CEMs shall be installed, calibrated, maintained, audited and operated in accordance with DEQ approved procedures which are equivalent to the requirements of 40 CFR 60.13 and Appendices B and F. Data shall be reduced to 30 day rolling averages per the procedures for NO<sub>x</sub> contained in 40 CFR 60 Subpart Db. The monitor shall be used to demonstrate compliance with the 30-day rolling average CO emission standard (lb/mmBTU basis) as noted in Condition 35.  
(9 VAC 5-80-1180, 9 VAC 5-50-40, 9 VAC 5050-410, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
61. A flowmeter shall be used to measure the stack gas airflow from the common stack with the flow apportioned by steam flow rate for each primary biomass boiler utilizing the procedures for Part 75 apportionment. The stack gas flowmeter shall be installed, operated, and maintained in accordance with the provisions of 40 CFR 75 Appendices A and B, with the exception that the relative accuracy test audit (RATA) be performed at least once every four (4) consecutive calendar quarters. The permittee shall submit stack gas flowmeter reports as required by 40 CFR 75 Appendices A and B. The CO emissions (lb/hr basis) shall be calculated from data obtained from the CO continuous emissions monitoring system and stack gas flowmeter in accordance to the provisions of 40 CFR 75 Appendix F. These data shall be used to demonstrate compliance with the CO emission standard (lb/hr basis) as noted in Condition 35.  
(9 VAC 5-80-1180, 9 VAC 5-50-40, 9 VAC 5050-410, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)
62. Performance evaluation of the CO continuous monitoring systems shall be conducted in accordance with 40 CFR 60, Appendix B, and shall take place within 180 days after the initial effective date of the CO 30-day rolling average limit. Two copies of the performance evaluations report shall be submitted to the Piedmont Regional Office within 45 days of the evaluation. The continuous monitoring systems shall be installed and operational prior to conducting initial performance evaluation. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation and calibration of the device. A 30 day notification, prior to the demonstration of

continuous monitoring system's performance, and subsequent notifications shall be submitted to the Piedmont Regional Office.

(9 VAC 5-80-1180, 9 VAC 5-50-40, 9 VAC 5050-410, 9 VAC 5-80-1705 and 9 VAC 5-80-1985 E)

## **RECORDS**

63. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Piedmont Regional Office. These records shall include, but are not limited to:
- a. Continuous monitoring system calibrations and calibration checks, percent operating time, and excess emissions.
  - b. Results of all stack tests, visible emission evaluations and performance evaluations.
  - c. Monthly estimates of the mass of material processed by the ash unloading/truck loading system. The estimate shall be based upon the amount of biomass burned and/or the amount of lime sorbent used and/or a measurement of the amount of material unloaded. The assumptions and records used to estimate the emissions shall be documented and available on site for inspection by DEQ personnel. Annual estimates of material processed shall be calculated monthly as the sum of the material process for each consecutive 12 month period.
  - d. Any host steam agreement, excluding financial terms, shall be made available on site for review by the DEQ upon request.
  - e. The total annual heat input to the primary biomass boilers. The annual total shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly total for the preceding 11 months.
  - f. Records of the maximum firing rate of each primary biomass boiler.
  - g. Throughput of biomass for the biomass handling system in tons/yr to the facility, calculated monthly as the sum of each consecutive 12 month period.
  - h. Throughput of natural gas to each boiler, calculated monthly as the sum of each consecutive 12 month period.
  - i. Throughput of distillate oil to each piece of equipment, calculated monthly as the sum of each consecutive 12 month period.
  - j. Fuel oil certifications identifying the sulfur content of the distillate oil.
  - k. Annual hours of operation for each primary biomass boiler, calculated monthly as the sum of each consecutive 12 month period.
  - l. Operational records showing compliance with Condition 24.
  - m. All records required by 40 CFR 60 Subpart Db.
  - n. All fuel quality analyses in accordance with Condition 67.

These records shall be available for inspection by the DEQ and shall be current for the most recent three years.  
(9 VAC 5-50-50)

**INITIAL COMPLIANCE DETERMINATION**

64. **Stack Test** - Initial performance tests shall be conducted for sulfur dioxide, oxides of nitrogen, volatile organic compounds, carbon monoxide sulfuric acid mist and fluorides, as HF from the two primary biomass boilers. All testing shall be conducted when firing maximum biomass. The tests shall be performed, and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and 9 VAC 5-60-30, and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410 and 9 VAC 5-60-70. The details of the tests are to be arranged with the Director, Piedmont Region. Two copies of the test results shall be submitted to the Director, Piedmont Region within 45 days after test completion and shall conform to the test report format enclosed with this permit. At the same time, opacity tests, in accordance with 40 CFR 60 Appendix A Method 9 shall also be conducted on the primary biomass boiler exhaust gases. The details of the visible emissions test shall be arranged with the Director, Piedmont Regional Office.  
(9 VAC 5-50-30, 9 VAC 5-50-410)
65. **Stack Test** - For each primary boiler, four performance tests shall be conducted for each of the following pollutants: Filterable PM, Total PM, Filterable PM10, Total PM10, Total PM2.5. Concurrently with each performance test the fuel analyses in accordance with Condition 67 shall be obtained. The performance tests shall be conducted to determine compliance with the emission limits contained in Condition 35. The initial performances tests shall be performed, reported, and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event more than 180 days after start start-up of the permitted facility. Subsequent performance tests shall be performed, at least 75 but not more than 105 days after the directly preceding test. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410 or 40CFR51, Appendix M as applicable. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to the initial performance test. The protocol shall cover all performance tests for the respective pollutant. One copy of the initial performance test results shall be submitted to the Piedmont Regional Office within 180 days of startup or 45 days after completion of the test, whichever is earlier, and shall conform to the test report format enclosed with this permit. One copy of the test results shall be submitted to the Piedmont Regional Office within 45 days after completion of each subsequent performance test and shall conform to the test report format enclosed with this permit.  
(9 VAC 5-50-30, 9 VAC 5-50-410 and 9 VAC 5-80-1675)
66. **Fuel Quality Data** – The permittee shall obtain the following fuel quality data:
- a. An analysis of the biomass heat content as fired at least once per calendar week
  - b. An ultimate analysis of the biomass as fired at least once per calendar quarter, and
  - c. An analysis of the biomass fluoride content as fired at least once per calendar quarter
  - d. The permittee shall submit a fuel shipment certification plan at least 60 days prior to facility startup for approval by the Piedmont Regional Office. Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by

DEQ may be used to determine compliance with the fuel specifications stipulated in this permit.

Details of the sampling procedures shall be arranged with the Piedmont Regional Office. Records of fuel quality data shall be available on site for inspection by Department personnel and shall be kept current for the most recent five year period.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1985 E)

67. **Concurrent VEE** – Concurrently with the initial performance tests required by Condition 65, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall also be conducted on the primary biomass boilers. Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. The evaluation shall be performed, reported and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Should conditions prevent concurrent opacity observations, the Piedmont Regional Office shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests. One copy of the test result shall be submitted to the Piedmont Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.  
(9 VAC 5-50-30, 9 VAC 5-50-410)
68. **VEE Alternative** – A continuous opacity monitoring system may be used to satisfy the visible emission evaluation requirement in lieu of 40 CFR, Part 60, Appendix A, Method 9. The reported test data shall include average of all six minute continuous periods within the test period and within the duration of any mass emission performance tests being conducted. It is the responsibility of the permittee to demonstrate that the monitoring system has met the requirements of the applicable performance evaluation, that the monitoring system has been properly maintained and operated, and that the resulting data has not been altered in any way. If monitoring system data indicates compliance for a period during which Method 9 data indicates non-compliance, the Method 9 data shall be used to determine compliance with the visible emission limit.  
(9 VAC 5-50-30, 9 VAC 5-50-410)
69. **Testing/Monitoring Ports** - The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F)

#### **NOTIFICATIONS**

70. **Initial Notifications** - The permittee shall furnish written notification to DEQ (Director, Piedmont Regional Office):
- a. The actual date on which construction of the biomass material handling equipment commenced within 30 days after such date.

- b. The actual date on which the modification of the B & W primary boilers (Ref. Nos. 1, 2) from coal to biomass commenced within 30 days after such date.
- c. The anticipated start-up date of the primary biomass and auxiliary boilers postmarked not more than 60 days nor less than 30 days prior to such date.
- d. The actual start-up date of each boiler within 15 days after such date.
- e. The anticipated date of performance tests of the primary biomass boilers postmarked at least 30 days prior to such date.

Copies of the written notifications referenced in items a through c above shall be sent to:

Associate Director  
Office of Enforcement and Compliance Assistance (3AP10)  
U.S. Environmental Protection Agency  
Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029]  
(9 VAC 5-50-50, 9 VAC 5-50-410)

#### **GENERAL CONDITIONS**

- 71. **Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, the NSPS equipment as described in Condition 2 shall be operated in compliance with the requirements of 40 CFR 60, Subpart Db and 40 CFR 60, Subpart Dc.  
(9 VAC 5-50-400 and 9 VAC 5-50-410)
- 72. **Permit Invalidation** - This permit to construct the biomass boilers shall become invalid, unless an extension is granted by the DEQ, if:
  - a. A program of continuous construction is not commenced before the latest of the following:
    - i. 18 months from the date of this permit;
    - ii. Nine months from the date that the last permit or other authorization was issued from any other governmental agency;
    - iii. Nine months from the date of the last resolution of any litigation concerning any such permits or authorization; or
  - b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.  
(9 VAC 5-80-1210 and 9 VAC 5-80-1985)
- 73. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:
  - a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

- b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;
- c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
- d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.  
(9 VAC 5-170-130)

74. **Notification for Control Equipment Maintenance** - The permittee shall furnish notification to the Director, Piedmont Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:
- a. Identification of the air pollution control equipment to be taken out of service, as well as its location, and registration number;
  - b. The expected length of time that the air pollution control equipment will be out of service;
  - c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;
  - d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.
- (9 VAC 5-20-180 B)
75. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Director, Piedmont Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but not later than four daytime business hours of the malfunction. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 14 days of the occurrence. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Director, Piedmont Regional Office in writing.  
(9 VAC 5-20-180 C)
76. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.  
(9 VAC 5-20-180 I)

77. **Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions:
- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
  - b. Maintain an inventory of spare parts.
  - c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
  - d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-50-20 E)

78. **Permit Suspension/Revocation** - This permit may be suspended or revoked if the permittee:
- a. Knowingly makes material misstatements in the application for this permit or any amendments to it;
  - b. Fails to comply with the conditions of this permit;
  - c. Fails to comply with any emission standards applicable to the equipment listed in Condition 2;
  - d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;
  - e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect on the date that the application for this permit is submitted;
  - f. Fails to construct or operate this facility in accordance with the application for this permit or any amendments to it; or
  - g. Allows the permit to become invalid.
- (9 VAC 5-80-1210)

79. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Director, Piedmont Regional Office of the change of ownership within 30 days of the transfer.  
(9 VAC 5-80-1240)

80. **Registration/Update** - Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact. The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information

Act, §§ 2.1-340 through 2.1-348 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

(9 VAC 5-80-1240 and 9 VAC 5-80-1975)

81. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.

(9 VAC 5-80-1180 and 9 VAC 5-80-1985)

**DOCUMENT LIST**

1. Virginia Electric and Power Company (Dominion) permit application for the Hopewell Power Station (HPS), dated May 25, 2011 and signed by Robert McKinley.
2. Department of Environmental Quality (DEQ) Initial Letter of Determination (ILOD) signed by Richard Stone on June 29, 2011
3. Dominion's response to DEQ's ILOD signed by Robert M. Bisha on September 29, 2011
4. DEQ's request to Dominion for more information about Dominion's calculation of the baseline emissions data signed by James Kyle on December 2, 2011
5. DEQ's request to the Environmental Protection Agency (EPA) for a clarification of the status of NSPS Da versus Db for the biomass boilers signed by James Kyle on December 5, 2011.
6. Dominion's response to DEQ about the re-calculation of the baseline actual emissions using 24 contiguous months within a five year period signed by Robert M. Bisha on January 17, 2012.
7. Dominion's response to DEQ about to re-calculation of the baseline emissions to use revised values of 0.019 lb/mmBTU for PM and 0.017 lb/mmBTU for PM10 signed by Robert M. Bisha on January 31, 2012.
8. Dominion's request to DEQ to withdraw the BACT analysis for greenhouse gases because of the deferral of the applicability of the CO2 portion of the greenhouse gas rule to power generation facilities that burn biomass signed by Robert M. Bisha on February 9, 2012.
9. Dominion's letter to DEQ stating that the company will make modifications to the boiler to combust only biomass for power and steam production signed by Robert M. Bisha on February 16, 2012.
10. Environmental Protection Agency (EPA), Region III letter to DEQ that NSPS Subpart Da will no longer apply to the operation as wood (biomass) is not a fossil fuel, but that Subpart Db will apply to the affected emission sources signed by Diana Esher on February 21, 2012.
11. Dominion's letter to DEQ concerning the proposal to replace lb/mmBTU limits with lb/hr limits signed by Robert M. Bisha on March 12, 2012.

## SOURCE TESTING REPORT FORMAT

### Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Tester; name, address and report date

### Certification

1. Signed by team leader / certified observer (include certification date)
- \* 2. Signed by reviewer

### Introduction

1. Test purpose
2. Test location, type of process
3. Test dates
- \* 4. Pollutants tested
5. Test methods used
6. Observers' names (industry and agency)
7. Any other important background information

### Summary of Results

1. Pollutant emission results / visible emissions summary
2. Input during test vs. rated capacity
3. Allowable emissions
- \* 4. Description of collected samples, to include audits when applicable
5. Discussion of errors, both real and apparent

### Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Process and control equipment data

### \* Sampling and Analysis Procedures

1. Sampling port location and dimensioned cross section
2. Sampling point description
3. Sampling train description
4. Brief description of sampling procedures with discussion of deviations from standard methods
5. Brief description of analytical procedures with discussion of deviation from standard methods

### Appendix

- \* 1. Process data and emission results example calculations
2. Raw field data
- \* 3. Laboratory reports
4. Raw production data
- \* 5. Calibration procedures and results
6. Project participants and titles
7. Related correspondence
8. Standard procedures

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\* Not applicable to visible emission evaluations.