

**COMMONWEALTH OF VIRGINIA  
Department of Environmental Quality  
Blue Ridge Regional Office**

**STATEMENT OF LEGAL AND FACTUAL BASIS**

Virginia Electric and Power Company's  
Pittsylvania Power Station  
Hurt, Virginia  
Permit No. BRRO-30871

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Virginia Electric and Power Company has applied for a renewal of the Title V Operating Permit for its Dominion – Pittsylvania Power Station facility in Hurt, VA. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

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Date: April 29, 2014

Air Permit Manager: \_\_\_\_\_  
*David J. Brown*

Date: April 29, 2014

Regional Director: \_\_\_\_\_  
*Robert J. Weld*

Date: April 30, 2014

## **FACILITY INFORMATION**

### Permittee/Owner

Virginia Electric and Power Company<sup>1</sup>  
5000 Dominion Boulevard  
Glen Allen, Virginia 23060

### Facility

Pittsylvania Power Station  
821 Grit Road  
Hurt, Virginia 24563

County-Plant Identification Number: 51-143-0123

## **SOURCE DESCRIPTION**

NAICS Code: 221119 – Electric power generation

Virginia Electric and Power Company is authorized to operate an electric power production facility (i.e., Pittsylvania Power Station) located in Hurt, Virginia. The plant uses three identically sized wood-fired spreader stoker boilers, each having a maximum rated capacity of 373.3 MMBtu/hr (heat input) to generate steam. The steam from the three boilers is directed to two turbine-driven electric generators, each with a rated maximum generating capacity of 45 megawatts (MW) of electrical power. The facility also contains one auxiliary diesel IC-powered electric generator and associated fuel storage tanks, wood storage, and handling equipment and ash handling and storage.

The facility is a Title V major source of NO<sub>x</sub>, VOC, CO and GHG. The facility is a major source for HAPs. This source is located in an attainment area for all pollutants, and is a PSD major source. The facility was previously permitted under a PSD Permit issued on April 8, 1991, which was amended on February 21, 1992, January 19, 1993, June 7, 1994, September 28, 1995, November 6, 1996, April 9, 1997, March 24, 1999, December 9, 1999, June 16, 2008 (effective July 1, 2008) and November 12, 2013<sup>2</sup>. This permit is identified in the new Title V permit as “11/12/13 Permit Document” and in this SOB as the “11/12/13 Permit”.

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<sup>1</sup>A Form 805 administrative amendment application dated September 18, 2013 to the amended August 6, 2008 Title V permit requested the permittee name be changed from “Dominion Resources, Inc.” to “Virginia Electric and Power Company”. This request is being addressed in this Title V permit renewal. The CEDS “facility” entry remains “Dominion – Pittsylvania Power Station”.

<sup>2</sup>The 11/12/13 amendment changed the permittee’s name on the 7/1/08 permit to “Virginia Electric and Power Company” as requested by the facility’s Form 7 administrative amendment application dated September 18, 2013.

**COMPLIANCE STATUS**

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. A NOV was issued 6/28/13 for failure to conduct the 2013 first quarter NOx/O2 monitor audit for each of the three boilers; and has been resolved by a consent order. There are no applicable Title V requirements in the consent order and a compliance plan is not required.

**EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION**

The emissions units at this facility consist of the following: See Title V Permit Emission Units Table.

**EMISSIONS INVENTORY**

The 2012 annual emission update is summarized below in the Criteria and Hazardous Air Pollutant tables.

2012 Actual Emissions

Emission Unit	2012 Criteria Pollutant Emission in Tons/Year				
	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	NO <sub>x</sub>
Boilers	23.32	880.18	9.90	56.02	209.75
Auxiliary Generator	0.00	0.01	0.00	0.00	0.04
Total	23.32	880.19	9.90	56.02	209.79

2012 Facility Hazardous Air Pollutant Emissions

Pollutant	2012 Hazardous Air Pollutant Emission in Tons/Yr
Acetaldehyde	2.22
Acrolein	10.70
Benzene	11.23
Chlorine	2.11
Dichloromethane	0.78
Formaldehyde	1.34
HCL	33.94
Manganese	4.28
Styrene	5.08
Toluene	2.46

**EMISSION UNIT APPLICABLE REQUIREMENTS**

The Title V renewal application dated June 12, 2012 identified applicable requirements on page 14 of Form 805, and included requirements from the June 16, 2008 (effective July 1, 2008) Permit (i.e., “7/1/08 Permit”); and the current Title V permit effective date January 1, 2008, and amended August 6, 2008<sup>3</sup>. The “citation” listed in the 2012 application is from the current Title V permit (i.e., Title V regulatory authority and the permit condition number from the 7/1/08 Permit<sup>4</sup>). However, the “description” in the application may be a summary and not reflect the exact requirement from either the current Title V permit or the 7/1/08 Permit. Therefore, the citations instead of the descriptions have been used to identify applicable requirements and develop the permit conditions for the new Title V permit. Changes to the current Title V permit conditions (e.g., regulatory changes) are identified in the SOB’s discussion of the new Title V permit condition<sup>5</sup>.

<sup>3</sup>This was a minor Title V permit amendment to address the amendment to the 12/9/99 NSR permit (i.e., 6/16/08, effective Permit) to change how “wood” is defined in *Condition 20*.

<sup>4</sup>The 11/12/13 amendment to the 7/1/08 Permit addressed the requested change to the permittee name. In addition, the name of the DEQ regional office and the “title” of Attachment A Document List were corrected. There were no changes to the requirements in permit conditions or condition numbers. Therefore, the reference to the 7/1/08 Permit in the Title V renewal application (i.e., “Condition ‘x’ of NSR permit effective July 1, 2008”) is in effect replaced by “Condition ‘x’ of NSR November 12, 2013”; and an updated Title V permit renewal application was not submitted. The SOB addresses the conditions of the November 12, 2013 permit (i.e., 11/12/13 Permit).

<sup>5</sup>The condition’s discussion identifies the change to the current Title V permit condition by the use of “[Note:]”. Example: For **Condition 7** the following is stated: [Note: “(9VAC5-50-260)” is not included as part of the pollutant emission limit description.]

Title V applicable requirements for the emissions unit and the facility are discussed below. The regulatory authority for each condition is listed in parentheses () below each condition in the permit.

General changes to the Title V permit from the current Title V permit include:

- New condition numbering format
- The regional office name is updated to the current title (i.e., Blue Ridge Regional Office)

### **Fuel Burning Equipment Requirements - (Boilers Units 101, 102, and 103)**

All three boilers are permitted and are NSPS Subpart Db affected facilities SNCR is used to control the nitrogen oxides, and multiclones in series with electrostatic precipitators (ESPs) are used to control particulate emissions from the three boilers. The facility has continuous emissions monitors (CEMS) for NO<sub>x</sub> and either CO<sub>2</sub> or O<sub>2</sub> monitors for each of the three boilers. There is a continuous opacity monitor (COMS) located in the common stack. Applicable Subpart Db's regulatory citations are included in the regulatory citation of the appropriate Title V condition<sup>6</sup>.

All three boilers are subject to the Boiler MACT (40 CFR Part 63 Subpart DDDDD) for major sources and are “existing” per §63.7490(d). Specific requirements of the rule are not included in the Title V permit at this time because the compliance date is 1/31/16<sup>7</sup> and EPA's 8/5/13 granting petitions for reconsideration of specific sections of the rule<sup>8</sup>. However, **Condition 11** of the Title V permit identifies the boilers as being subject to Subpart DDDDD.

The boilers are subject to Compliance Assurance Monitoring (CAM) for PM-10 as discussed in the CAM applicability section. These monitoring requirements are addressed below in the Monitoring section, and the corresponding recordkeeping requirements are addressed below in the Reporting section.

### **CAM Applicability**

Generally, the requirements of 40 CFR 64, CAM, apply to each emissions unit meeting all three of the following criteria at a major source required to obtain a Title V permit:

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<sup>6</sup>An example of this is **Condition 4** of the Title V permit, which defines “wood” per the 11/12/13 Permit and the Subpart Db.

<sup>7</sup>The compliance date for existing Subpart DDDDD source is established by §63.7495(b); and per §63.7510(e) initial compliance demonstration deadline is 180 days after the compliance date of 1/31/16. There are 29 days in February 2016.

<sup>8</sup>On 8/5/13 EPA granted petitions for reconsideration on the following issues with Subpart DDDDD:

- Definitions of startup and shutdown periods and the work practices that apply during such periods;
- Revised carbon monoxide (CO) limits based on a minimum CO level of 130 ppm; and
- The use of continuous parameter monitoring systems (CPMS), including the consequences of exceeding the operating parameter.

EPA's 8/5/13 letter also states EPA will continue to evaluate other issues raised in the petitions and intends to make clarifying changes and corrections to the final rule.

- The unit emits or has the potential to emit (in the absence of add-on control devices) quantities of one or more regulated air pollutants that exceed major source thresholds,
- The unit is subject to one or more emission limitations for the regulated air pollutants for which it is major before control, and
- The unit uses a control device to achieve compliance with one or more of these emission limitations.

Only NO<sub>x</sub> and particulate emissions from the boilers meet all three of the above criteria<sup>9</sup>. The VOC and CO potential emissions exceed major source thresholds; however, there is no control device for these pollutants. SO<sub>2</sub> potential emissions do not exceed major source threshold and there no control device. Therefore, CAM applicability for NO<sub>x</sub> and particulate emissions as summarized below:

#### NO<sub>x</sub>

Each of the three boilers (Units 101, 102, and 103) is potentially subject to CAM for emissions of nitrogen oxides (NO<sub>x</sub>). The units each have the potential to emit more than 100 tons per year of each of this pollutant for which emissions limits apply and use control devices to comply with the limit.

Emissions of NO<sub>x</sub> from the three boilers are controlled by selective non-catalytic reduction (SNCR). Each boiler is subject to the same emission limitation of 0.10 pounds of NO<sub>x</sub> per million Btu (heat input) on a 30-day rolling average basis and each has uncontrolled potential to emit more than 100 tons per year of NO<sub>x</sub>. Emissions of NO<sub>x</sub> are required to be continuously monitored using a continuous emissions monitoring system (CEMS). Each boiler is equipped with its own CEMS for NO<sub>x</sub> which is installed in the ductwork prior to entering the common stack. These meet the CAM program definition of “continuous compliance determination method” found in Section 64.1. Because Condition 24 of the 11/12/13 Permit (**Condition 12** of the Title V permit) requires the use of the CEMS to demonstrate continuous compliance with the NO<sub>x</sub> emission limits, the exemption from CAM in Section 64.2(b)(vi) applies.

#### Particulate Matter (PM and PM<sub>10</sub>)

The facility has separate limits for total particulate matter and PM-10. Emissions of both pollutants are controlled by the same type control devices (a combination of multiclones and ESPs). Each boiler has the uncontrolled potential to emit more than 100 tons per year of PM and PM-10. “PM” is not a “regulated air pollutant” and therefore is not subject to CAM. There are no CEMS or other methods of determining continuous compliance for particulates at the facility. Therefore, all three units are subject to CAM for PM-10; and CAM requirements are addressed

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<sup>9</sup>The flyash silo has a particulate emissions limit and is equipped with a control device. However, the particulate uncontrolled emissions, based on a permitted 99.9% efficiency and at 8760 hours, are 12.7 tons per year; and therefore, not subject to CAM.

below in the Monitoring sections.

Applicable general requirements for the boilers (e.g., malfunction of process equipment, air pollution control equipment or monitoring equipment) are also applicable to other emissions units or to the facility; and therefore, are addressed in the **Facility Wide** Section.

### **Limitations**

The following **Title V conditions** (Note: See bold numbers listed below – e.g., “**1**”<sup>10</sup> contain limitations from the 11/12/13 Permit conditions and/or addresses NSPS Subpart Db limitations as delineated below (Note: The corresponding permit condition number from the 11/12/13 Permit appears in italic font – e.g., *Condition 3*.):

1. *Condition 3*: Particulate emissions controlled by multicyclone/electrostatic precipitator combination rated at 99.7% control efficiency; and operated in accordance with the facility’s startup/shutdown plan.
2. *Condition 7*: Nitrogen oxide emissions controlled by the use of a selective noncatalytic reduction/urea injection system designed to achieve a minimum removal of 50 % on a thirty day rolling average basis; operated at all times that fuel is fed to the main boilers, except for specific time periods during startup and shutdown in accordance with the facility’s startup/shutdown plan.
3. *Condition 11*: Tons of wood per year consumed by all three boilers, calculated on a rolling 12-month basis.
4. *Condition 20* and §60.41(b): Approved fuel is wood as defined by this condition<sup>11</sup>. NSPS Subpart Db includes “sanderdust” in its definition of “wood”, which is not explicitly included in *Condition 20*. *Condition 4* of the 11/12/13 Permit addresses fugitive dust emission controls which includes that the feedstock contains no sander dust. . Therefore, Subpart Db’s wood definition is streamlined from the Title V permit; and Subpart Db is included in regulatory citation [Note: This is a change from the current Title V permit condition.].
5. *Condition 21*: Wood analyses as follows: Heat content at least once per week; sulfur content at least once per quarter; at the request of the DEQ verify the content of the wood to show compliance with *Condition 20* of t11/12/13 Permit, but no more than once per week.
6. *Condition 13* and §60.43b(c): Short term emissions limits (lbs/hr and lbs/day) for each

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<sup>10</sup>This numbering system is used in the SOB to reference the conditions addressing the following requirements for the three boilers and to reference the permit conditions addressing the requirements for other fuel burning equipment, ancillary equipment and facility wide: “monitoring”, “recordkeeping”, “testing” and reporting.

<sup>11</sup>For the “approved fuel is wood” the submitted Form 805 page 14 stated “Condition 20 of NSR permit effective July 1, 2008” in the regulatory citation. However, the description of the applicable requirement is from *Condition 20* of the 12/9/99 permit, as stated in the January 2008 Title V permit, and not from *Condition 20* of the 7/1/08 Permit, as stated in the August 2008 Title V permit.

boiler. The only emission limit from Subpart Db applicable to the boilers is PM<sup>12</sup>. However, the NSR permitted PM emissions limits are more stringent. Therefore, Subpart Db's PM emissions standard is streamlined out of the Title V permit and Subpart Db is included in the regulatory citation. [Note: This is a change from the current Title V permit condition. Also, "(9VAC5-50-260)" and "as NO<sub>2</sub>" are not included in the new Title V condition.]

7. *Condition 14*: Short term emission limits for SO<sub>2</sub> (a 3-hour rolling average) and sulfuric acid mist, combined for the 3 boilers. [Note: "(9VAC5-50-260)" is not included as part of the pollutant emission limit description.]
8. *Condition 15*: Permitted annual emissions limits, combined from all three boilers. [Note: "(9VAC5-50-260)" is not included as part of the pollutant emission limit description.]
9. *Condition 18* and NSPS Subpart Db at 60.43b(f) and (g): Both limit the visible emissions from the boilers' stack. However, Subpart Db's opacity limit is streamlined out of the Title V permit because the 11/12/13 Permit limit is more restrictive<sup>13</sup>. [Note: Subpart Db is cited in regulatory citation. Reference to the Title V visible emissions monitoring condition added.]
10. The three boilers are subject to NSPS Subparts Db and A. Applicable requirements are identified as shown in the applicable Title V permit conditions (i.e., NSPS regulatory citation stated in the condition's regulatory citation). [NOTE: Correction to the Subpart Db's regulatory citation.]
11. The three boilers are subject to the Boiler MACT Subpart DDDDD for major sources of HAPs, as previously discussed in this SOB.

## Monitoring

Additional periodic monitoring is not required for the boilers, since they are equipped and are required to have CEMS for NO<sub>x</sub> and either CO<sub>2</sub> or O<sub>2</sub> and COMS, and CAM is required for particulate emissions.

The following Title V conditions contain monitoring requirements from the 11/12/13 Permit and/or addresses NSPS Subpart Db monitoring requirements as delineated below:

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<sup>12</sup>Subpart Db's emissions standards (SO<sub>2</sub>, PM and NO<sub>x</sub>) are applicable according to the type of fuel combusted. For boilers burning 100% wood, the only applicable emission standard is PM, which also includes opacity limit, as stated below. The PM standard does not apply during startup shutdown and malfunction (SSM) per §60.43b(g).

- PM - 0.43 ng/J (0.10 lb/MMBtu) heat input per §60.43b(c)
- Opacity - 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity per §60.43b(f)

<sup>13</sup>*Condition 18* limits the opacity to ten (10) percent opacity except during one six-minute period per hour which shall not exceed twenty (20) percent opacity. The NSPS limit is 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity (see §60.43b(f)); and the opacity limit applies at all times, except during SSM.

12. *Condition 24* and §60.48b(a): Requires the facility to install, maintain, and operate continuous emissions monitors for opacity, nitrogen oxide, and carbon dioxide or oxygen. The record retention time<sup>14</sup> for service and maintenance of the NOx, CO2/O2 and opacity monitors changed from the current Title V permit requirement, and as stated in *Condition 24* of the 11/12/13 Permit, from two to five years to agree with Title V recordkeeping requirements [Note: This is a change to the current Title V permit.] §60.48b(a) is cited for the continuous opacity monitoring requirement of Subpart Db<sup>12</sup>. [Note: This is a change to the current Title V permit.]; however, the permitted opacity limit is more stringent than Db. Therefore, Db's opacity limit is streamlined out of the Title V permit.
13. *Condition 25* and §60.48b(a): Specifies the data capture, quality assurance, and reporting requirements for the continuous monitors; and identifies those that are required by Subpart Db.
14. *Condition 26*: Addresses the use of continuous emission monitoring data as evidence of violation of emission standards.
- 15 **through 24**<sup>15</sup> address CAM for particulate emissions and the approved CAM Plan; and are from the current Title V permit. The associated recordkeeping and reporting requirements addressed in Title V **Conditions 26** and **31**, as discussed below. There has been no change to the DEQ approved CAM Plan<sup>16</sup>. This Plan is considered adequate and is included in the Title V permit as Attachment A.

The monitoring requirements and recordkeeping requirements (see **Recordkeeping** below), along with the required testing (see **Testing** below), are considered to provide sufficient monitoring for the applicable requirements for the boilers at Pittsylvania Power Stations.

## **Recordkeeping**

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<sup>14</sup>Subpart Db §60.49b(o) states “All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.” Also, 40 CFR Subpart A §60.7(f) states in part “The file [measurements of CMS, etc] shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows...” These requirements apply to only the opacity monitor because only this monitor is required by Subpart Db. The NOx and CO2/O2 monitors are not subject to Subpart Db. However, the 11/12/13 Permit requires the following for these monitors:

- *Condition 24* - The monitors to be maintained, located and calibrated as specified in 40 CFR 60 Appendix B and Appendix F.
- *Condition 25* - The data capture, quality assurance provisions, and reporting requirements of Subpart Db apply.

<sup>15</sup>The permittee requested in the Title V renewal application that the requirements stated in **Condition 16** (Condition III.B.5 from the current Title V permit) *not* be included in the Title V permit because the requirements of the condition have been fulfilled by the approved CAM Plan. However, this condition lists the minimum contents that the CAM Plan or the revised plan must contain. Therefore, it is included in the Title V permit.

<sup>16</sup>In the permittee's request for not including the CAM requirements as stated in **Condition 16** in the new Title V permit, the permittee referenced the CAM table (i.e., CAM Plan) as being located in the current Title V permit (see Form 805 page 14, Sheet 5 of 33); and Liz Willoughby with Dominion stated that there has been no change to the CAM Plan. The Plan is attached to the Title V permit as Attachment A.

The following Title V conditions contain recordkeeping requirements for the boilers as delineated below:

- 25.** This condition addresses recordkeeping requirements of the 11/12/13 Permit and NSPS Subpart Db as delineated below; and identified records are listed in the Title V permit:
- a.** *Condition 27.a and Condition 31: Condition 27.a requires maintenance records. Condition 31<sup>17</sup> requires maintenance records and records of service of air pollution control equipment.*
  - b.** *Condition 30* requires process throughputs. Therefore, annual throughput of wood is required by this Title V condition. *Condition 30* also requires records of emission data and operating parameters. These records are addressed by other Title V conditions as noted in the condition discussions and the condition's regulatory citation.
  - c.** **through e** require records of the items stated in Title V **Conditions 4 through 8.** [Note: Paragraph d is a new record.]
  - f.** NSPS Subpart Db's records and reports.
  - g.** 40 CFR Subpart A: Startup, shutdown and malfunction of the affected facility, malfunction of air pollution control equipment, periods when the continuous monitoring system or monitoring device is inoperative. [Note: This is a new record.]
  - h.** 40 CFR Subpart A: Information concerning the CMS and the monitoring device. [Note: This is a new record.]
  - i.** The records stated in Title V **Condition 12.**
- 26.** Addresses CAM recordkeeping requirements.

### Testing

The following Title V conditions addresses testing requirements as delineated below:

- 27.** Requires stack test as follows:
- a.** A stack test for each boiler for PM, PM-10 and CO once every five years. [Note: For simplification and clarity the following has been removed from the Title V condition: "Once each permit term" and "The initial test shall be performed within 180 days after the effective date of this permit." Also, testing "upon request by the DEQ" is included].
  - b.** Addresses NSPS Subpart Db §60.46b(d) subsequent performance testing for PM emissions limits and opacity limits, if required by the Administrator. [Note: This is a new requirement.]
- 28.** Addresses stack testing methods to be used.

### Reporting

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<sup>17</sup>*Condition 31* also requires written operating procedures and maintenance schedule for *all* air pollution control equipment, which is addressed by Title V **Condition 54.**

The following Title V conditions addresses reporting requirements as delineated below:

29. Excess emission and monitoring system performance reports for the NSPS Subpart Db required opacity monitor. Subpart Db does not specify when the reports are to be submitted. However, 40 CFR Subpart A 60.7(c) requires these reports to be submitted semiannually and is added to this condition. [Note: Additional reporting requirements identified and regulations referenced and cited.]
30. Addresses excess emission and monitoring system performance reports for the NO<sub>x</sub> and CO<sub>2</sub>/O<sub>2</sub> monitors shall follow the requirements for these monitors stated in Subpart Db. [Note: This is a new requirement – specifically identifying §60.49b(g). **Condition 13** references reporting requirements of 40 CFR 60 Subpart Db.]
31. CAM reporting requirements.

### **Streamlined Requirements**

In addition to the streamline requirements discussed above in Title V **Conditions 4** and **9**, the status of the remaining conditions from the 11/12/13 Permit is delineated as follows:

- *Condition 31*<sup>18</sup> addresses operating procedures and maintenance scheduling for air pollution control equipment; and is included in the Title V permit as facility wide **Condition 54.c**.
- *Condition 32* addresses permit deviation reporting, which is addressed by a general Title V permit deviation reporting **Condition 72**.
- *Conditions 33 through 39* from the 11/12/13 Permit are not included in the Title V permit because they are applicable to the 11/12/13 Permit itself and not related to a Title V underlying requirement.<sup>19</sup>
- *Condition 40* addresses entry to the facility, which is addressed by a general Title V inspection and entry permit **Condition 88**.

### **Fuel Burning Equipment Requirements - (Auxiliary Emergency Generator - 110 and Fire Water Pump – 111)**

The auxiliary emergency generator (generator) is used to provide power during power failure. The 11/12/13 Permit contains requirements for the generator, which are included in the Title V permit as delineated below. The No. 2 fuel oil fired generator and fire water pump (pump) are

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<sup>18</sup>The Title V renewal application Form 805 list *Condition 30* of the 11/12/13 permit as the citation for the following requirements, which is the same citation stated in Condition III.C.2 of the current Title V permit: records of required training; written operating procedures and maintenance schedule for the boilers. However, it appears that *Condition 31* is the appropriate citation as stated in the Form 805 and the current Title V permit Condition IV.B.2 for the auxiliary generator.

<sup>19</sup>**Conditions 33** through **39** address: permit revocation, must construct as represented in application, ownership change, severability of permit conditions, air permit approval does not alter permit requirements for other jurisdictions, general duty to submit requested information, and copy of permit kept on site.

not subject to NSPS Subpart IIII<sup>20</sup>. The generator and pump are subject to MACT Subpart ZZZZ<sup>21</sup>. However, the generator has no applicable requirements per §63.6590(b)(3)(iii)<sup>22</sup>. The applicable requirements of Subpart ZZZZ for the pump are included in the Title V permit in one permit condition.

Because of the applicable requirements of Subpart ZZZZ the pump is not insignificant for the purpose of Title V; and therefore, is included in the Emission Unit table (See **Condition 2**) and not in the insignificant emission unit table.

### Limitations, Monitoring, Recordkeeping and Reporting

**32. Condition 8:** Emissions from the generator controlled by operating restrictions and work practices.

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<sup>20</sup>Both engines, based on engine information confirmed or provided by below and provided by Liz Willoughby of Dominion, do not meet the applicability requirements of NSPS Subpart IIII §60.4200:

- §60.4200(a)(1)(i) – Stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is 2007 or later, for engines that are not fire pump engines. *Note: The generator engine is a 1990 or earlier model.*
- §60.4200(a)(1)(ii) – Stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year for fire pump engines listed in Table 3 to this subpart or later model year. *Note: The fire pump engine at Bear Garden is 340 HP; and from Table 3 for engines  $175 \leq \text{HP} \leq 750$  the starting model year is 2009.*
- §60.4200(a)(2) – Stationary CI ICE that commence construction after July 11, 2005, [see (i) and (ii)]. *Note: The engines were constructed in 1984 (the fire water pump) and in 1990 (generator).*
- §60.4200(a)(3) – Stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005. *Note: The engines have not been modified or reconstructed.*

<sup>21</sup>The Title V renewal application stated that except wither the permit [i.e., 7/1/08 permit] is more restrictive than the applicable requirement the generator and pump shall be operated in compliance with the applicable requirements of Subpart ZZZZ. The 2096 HP generator and the 340 HP fire water pump are existing for the purpose of Subpart ZZZZ as delineated below; and therefore, the compliance date is 5/3/13 per §63.6595:

- §63.6590(a)(1)(i) - For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.
- §63.6590(a)(1)(ii) - For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.
- The engines are not reconstructed per §63.6590(a)(3): *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002. (ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after June 12, 2006.

<sup>22</sup>§63.6590(b)(3)(iii): The 2096 HP generator does not have to meet the requirements of Subpart ZZZZ and 40 CFR 63 Subpart A, including initial notification requirements if the engine is an “emergency” engine as defined by Subpart ZZZZ: §63.6590(b)(3)(iii): “Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii).”

33. *Condition 22*: Approved fuel for the generator is No. 2 fuel oil.
34. *Condition 23*: Limits the maximum sulfur content of the No. 2 fuel oil.
35. *Condition 12*: Limits the generator's No. 2 annual fuel oil consumption.
36. *Condition 16*: Emission limits (short term and annual) for the generator. [Note: (9VAC5-50-260)" not included in the new Title V condition.]
37. Requires a non-resettable hour meter on the auxiliary emergency generator. The generator is not required to meet the requirements of Subpart ZZZZ and therefore, does not have to install the meter per Subpart ZZZZ. However, this meter along with recordkeeping requirements demonstrates that this engine is an "emergency engine" and therefore, not subject to the subpart's requirements. [Note: New requirement.]
38. *Condition 30*: Addresses recordkeeping requirements for the generator.
39. Requires records to demonstrate that the generator is an "emergency stationary RICE" as stated in Subpart ZZZZ. [Note: New requirement.]
40. *Condition 19*: Opacity limits for generator and pump. These engines are "other emissions points", one of three emission points groups listed in Condition 19 [Note: A new requirement specifically identifying the opacity limits for the generator and pump. The current Title V permit includes *Condition 19* as a facility wide condition.]. Monitoring and recordkeeping requirements associated with these limits are addressed by Facility Wide **Conditions No. 53** and **54**. Because these engines are fired only for emergency events and readiness testing, **Condition No. 53** requires the engine stacks to be observed for visible emissions during all readiness testing events; and if visible emissions are observed timely corrective action must be taken such that the equipment resumes operation with no visible emissions or a VEE must be performed to assure compliance with the opacity limit.
41. Addresses MACT Subpart ZZZZ requirements (limitations, monitoring, reporting and recordkeeping) for the fire water pump engine. [Note: New requirement.]

The visible emission monitoring of the generator and pump engines and the associated recordkeeping requirements are sufficient to demonstrate compliance with the visible emission standard. Also, the visible emission monitoring, the emission data records and fuel records are sufficient to demonstrate compliance with the generator's permitted emissions limits. The recordkeeping requirements of Subpart ZZZZ are sufficient monitoring for the requirements of Subpart ZZZZ.

### **Stack Testing**

Stack Testing is not required for the generator or pump. However, the VADEQ may require stack testing upon request.

### **Reports**

There are no specific reporting requirements for the generator or pump, except for the Subpart ZZZZ's reporting requirements for the pump, as addressed in **Condition No. 41**.

### **Ancillary Equipment Requirements - (Wood Handling Operation, Ash Handling Operation and Fuel Oil Storage Tanks)**

The 11/12/13 Permit contains federal enforceable requirements for the ancillary equipment (e.g., opacity limits). Therefore, the ancillary equipment is included in the Title V Emission Units table and not included in **Condition 57** the insignificant table.

### **Limitations**

42. *Condition 4*: Addresses controlling of fugitive dust emissions from the wood handling system.
43. *Condition 19*: Establishes the opacity limits for wood and ash handling operations. These limits are 15, 5 or 10 percent depending on the emissions point group listed in *Condition 19* (i.e., transfer point, fabric filter, or all other points). As previously stated for the emergency engines (Units 110 and 111) visible emissions monitoring is addressed by **Condition No. 53**; however, for the wood and ash handling operations visual observations are performed on a weekly basis – see discussion below in **Monitoring**.
44. *Condition 6*: Addresses controlling emissions from wood stockpiles.
45. *Condition 17*: Hourly particulate emissions from ash handling operations.
46. *Condition 5*: Requires a fabric filter of at least 99.9% control efficiency to control particulate emissions from ash storage silo. Also, water is required to be mixed with the ash being transfer to trucks to control fugitive emissions.
47. *Condition 10*: Requires submerged or bottom fill loading and conservation vents to control VOC from fuel oil storage tanks. *Condition 10* of the 11/12/13 Permit addresses Tanks 121 and 122.<sup>23</sup>

### **Monitoring**

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<sup>23</sup>*Condition 2* of the 11/12/13 Permit list previously installed equipment, including two (2) fixed roof fuel oil storage tanks (Tanks 121 and 122), with a nominal capacity of 10,000 gallons each. Tanks 121 and 122 are subject to the controls stated in *Condition 10* of the 11/12/13 Permit. An 8/20/13 email from Liz Willoughby with Dominion confirmed these tanks are equipped with VOC controls; and the capacity of Tank 121 is identified as 5,000 gallons instead of 10,000 gallons as stated in the 11/12/13 Permit and the Title V renewal application. The email also provided the capacities of the following two other tanks at the facility (Note: These tanks are not listed in the 11/12/13 Permit. Therefore, they are not subject to *Condition 10*):

- Tank 123 - 200 gallons. This tank is in the Title V renewal application and is included in the Title V Permit **Condition 57** Insignificant Emission Table.
- Tank 124 - 550 gallons. This tank is in the air compliance inspection report. It is not in the Title V renewal application; and therefore, is not listed in **Condition 57**.

Weekly visual observations from the wood and ash handling operations are required by Facility Wide **Condition 53**. The emission points for the wood and ash handling operations and the associated particulate emissions controls consist of the following:

- Transfer points for wood handling – covered conveyors, enclosed points and wet mist system
- Wood reclaim pit vent fans – no add-on controls because of the size and type of the wood and the moisture content of the wood; also, the wet mist system could potentially provide controls.
- Transfer points for flyash – enclosed
- Flyash silo – fabric filter (i.e., bin vent filter)

The covered conveyors and enclosed points will perform their function so long as they are present, which is confirmed by the inspections performed by facility per their inspection and maintenance plan. The wet mist system also controls particulate emissions from wood handling throughout the facility, but is required to be used only if necessary. This system is also part of the facility’s inspection and maintenance plan. The silo and the associated bin vent filter are addressed by the facility’s inspection and maintenance plan; and the filter is addressed by the facility’s general duty to “maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions” as stated in **Condition 52**. The facility’s historical visual observation records have shown that these emissions points have not been a source of visible emissions. Also, the “weekly” frequency addresses the facility’s non-daily operation and their concern with start-up occurring during non-daylight hours (i.e., performing “daily” observations).

The monitoring requirements and recordkeeping requirements (see **Recordkeeping** below), are considered to provide sufficient monitoring for the ancillary equipment applicable requirements.

### **Recordkeeping**

- 48. Condition 30:** Requires recordkeeping of all necessary emission data and operating parameters. No specific records are listed in the 11/12/13 Permit. For the purpose of Title V the following records are required: documentation of compliance of the storage tanks and observation log records.

### **Stack Testing**

Stack Testing is not required for the Wood Handling Operation, Ash Handling Operation and Fuel Oil Storage Tanks.

### **Reports**

There are no specific reporting requirements for the Wood Handling Operation, Ash Handling Operation and Fuel Oil Storage Tanks.

## Facility Wide Conditions

### Limitations

49. *Condition 19*: States the opacity limit for the “all other emissions points” at the facility (i.e., emissions points other than boilers, wood and ash handling operations and engines for the emergency generator and fire water pump) as 10%.
50. *Condition 9*: Requires fugitive dust emissions controls for external access and facility roads.
51. *Condition 28*: Requires physical barrier to restrict public access to the property.
52. Addresses the regulatory general duty requirements [Note: This is new.] and the 11/12/13 Permit *Conditions 27<sup>24</sup> and 31* addressing minimize excess emissions as delineated below:
  - a. *Condition 27.a*: Develop a maintenance schedule
  - b. *Condition 27.b*: Maintain a spare parts inventory list
  - c. *Condition 31*: Written operating procedures for air pollution control equipment

### Monitoring

53. Requires weekly observation of the emission points and stacks as identified in this Title V Permit condition to demonstrate compliance with allowable visible emissions limits]. If visible emissions are observed, action must be taken and records maintained as stated in the Title V Permit Condition. Note: Boilers 101, 102 and 103 are equipped with COMs; and therefore observations for visible emission are not required. All emissions points have been identified and addressed in the Title V permit. There are no “other” emissions points in *Condition 19* of the 11/12/13 permit to identify.

The monitoring requirements and recordkeeping requirements (see **Recordkeeping** below), are considered to provide sufficient monitoring for the facility wide applicable requirements.

### Recordkeeping

54. This condition addresses recordkeeping requirements of the 11/12/13 Permit and NSPS Subpart Db as delineated below:
  - a. *Condition 30*: Emission data, operating parameters and process throughputs.
  - b. *Condition 27.a*: Maintenance records of the following equipment: process, pollution control and monitoring.
  - c. Visible emissions observation log that is required by Title V **Condition 53** [Note: This record is not stated in the current Title V permit].

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<sup>24</sup>Only “a” and “b” of Condition 27 are considered permit requirements; and therefore the only text from the condition included in the Title V permit.

### Stack Testing

- 55. Condition 29:** Combined with the general regulatory testing requirement. The word “designed” from *Condition 29* has been included in the Title V general permit condition.
- 56.** Requires the use of appropriate methods if testing is performed.

### INSIGNIFICANT EMISSION UNITS

The insignificant emission units identified in Title V **Condition No. 57**<sup>25</sup> are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

### PERMIT SHIELD AND INAPPLICABLE REQUIREMENTS

There are no inapplicable requirements stated in the Title V **Condition No. 58**.

### GENERAL CONDITIONS

The permit contains general conditions (**Conditions No. 59 through No. 101**) required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources<sup>26</sup>. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions. Comments on specific general conditions are provided as delineated below:

#### **Permit Expiration - No. 60 through 65**

These conditions refer to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement No. 2-09”.

#### **Failure/Malfunction Reporting - No. 71 through 74**

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title

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<sup>25</sup>The Title V renewal application identified several insignificant emission units/activities: However, only the solvent-based parts washer 501 and fuel oil tanks 123 and 124 are listed in the Title V insignificant emission units table. The other emission units are listed in the Title V Emission Unit table as previously discussed in this SOB.

<sup>26</sup>The general condition addressing Subpart M, National Emission Standards for Asbestos is not included in the Title V permit because of the age of the facility.

V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction. The facility is subject to 9 VAC 5-50-50 C for new source.

**Permit Modification - No. 78**

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits

9 VAC 5-80-260. Enforcement

9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9 VAC 5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

**Malfunction as an Affirmative Defense - No. 92 through 95**

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Conditions – Malfunction as an Affirmative Defense (Title V Conditions **No. 92 through 95**) and General Condition – Failure/Malfunction Reporting (Title V Conditions **No. 71 through 74**). For further explanation see the comments on General Conditions – Failure/Malfunction Reporting. Also, MACT Subpart DDDDD §63.7501 contains specific requirements for an affirmative defense to a claim for civil penalties for violations of standards that are caused by malfunction.

**GREENHOUSE GAS (GHG) EMISSIONS**

Facility total:

Total CO<sub>2</sub>e – 501,624.81 metric tpy

Total CO<sub>2</sub>e mass equivalent – 505,220.22 metric tpy

GHG permitting requirements have not been identified for the emissions units at this facility.

**STATE ONLY APPLICABLE REQUIREMENTS**

There are no state only requirements in the Title V permit.

**FUTURE APPLICABLE REQUIREMENTS**

No future applicable requirements identified.

**COMPLIANCE PLAN**

None

**CONFIDENTIAL INFORMATION**

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

**PUBLIC PARTICIPATION**

The proposed permit will be placed on public notice in the Altavista Journal from March 12, 2014 to April 11, 2014.