

# Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and  
Title V of the Clean Air Act

Permit Number: **R30-02300014-2010**  
Application Received: **September 8, 2009**  
Plant Identification Number: **02300014**  
Permittee: **Virginia Electric and Power Company**  
Facility Name: **North Branch Power Station**  
Mailing Address: **5000 Dominion Boulevard, Glen Allen, VA 23060**

*Revised N/A*

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Physical Location: Bayard, Grant County, West Virginia  
UTM Coordinates: 643.92 km Easting • 4346.99 km Northing • Zone 17  
Directions: Traveling north on WV State Route 90 from Bayard, turn right onto Bayard Cemetery Road, turn south off Bayard Cemetery Road at approximately 1.5 miles and proceed south for .9 miles to plant entrance.

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## Facility Description

The North Branch Power Station is a coal refuse-fired electric generation facility and operates under Standard Industrial Classification (SIC) code 4911. The facility consists of two (2) coal refuse-fired circulating fluidized bed boilers each with a rated design capacity of 597 mmBtu/hr, and various supporting operations such as coal refuse handling, ash handling, limestone handling, and various tanks with insignificant emissions. The facility has the potential to operate seven (7) days per week, twenty-four (24) hours per day and fifty-two (52) weeks per year.

## Emissions Summary

<b>Plantwide Emissions Summary [Tons per Year]</b>		
<b>Regulated Pollutants</b>	<b>Potential Emissions</b>	<b>2008 Actual Emissions</b>
Carbon Monoxide (CO)	899	120.31
Nitrogen Oxides (NO <sub>x</sub> )	2100	1436.25
Particulate Matter (PM <sub>10</sub> )	336.13	49.08
Total Particulate Matter (TSP)	336.13	49.08
Sulfur Dioxide (SO <sub>2</sub> )	3548	995.80
Volatile Organic Compounds (VOC)	26.4	6.10

*PM<sub>10</sub> is a component of TSP.*

<b>Hazardous Air Pollutants</b>	<b>Potential Emissions</b>	<b>2008 Actual Emissions</b>
Hydrogen Chloride (HCl)	39.22	11.19
Total of Miscellaneous non-major HAPs	3.1107	1.67

*Some of the above HAPs may be counted as PM or VOCs.*

### Title V Program Applicability Basis

This facility has the potential to emit 3,548 tons per year of SO<sub>2</sub>, 2,100 tons per year NO<sub>x</sub>, 899 tons per year CO, and 336.13 tons per year PM<sub>10</sub>, 39.22 tons per year of a single HAP, and 42.33 tons per year of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of a criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, Virginia Electric and Power Company's North Branch Power Station is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

### Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

#### Federal and State:

45CSR2	To Prevent And Control Particulate Air Pollution From Combustion Of Fuel In Indirect Heat Exchangers
45CSR6	Control Of Air Pollution From Combustion Of Refuse
45CSR11	Prevention Of Air Pollution Emergency Episodes
45CSR13	Permits For Construction, Modification, Relocation And Operation Of Stationary Sources Of Air Pollutants,

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	Notification Requirements, Administrative Updates, Temporary Permits, General Permits, And Procedures For Evaluation
45CSR14	Permits for Construction and Major Modification, of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration
45CSR16	Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60
45CSR30	Requirements For Operating Permits
45CSR33	Acid Rain Provisions And Permits
45CSR34	Emission Standards For Hazardous Air Pollutants
45CSR38	Provisions For Determination Of Compliance With Air Quality Management Rules
45CSR39	Control Of Annual Nitrogen Oxides Emissions
45CSR40	Control Of Ozone Season Nitrogen Oxides Emissions
45CSR41	Control Of Annual Sulfur Dioxide Emissions
40 C.F.R 60, Subpart Da	Standards of Performance for Electric Utility Steam Generating Units
40 C.F.R 60, Subpart Y	Standards of Performance for Coal Preparation Plants
40 C.F.R. 60, Subpart OOO	Standards of Performance for Nonmetallic Mineral Processing Plants
40 C.F.R. Part 61, Subpart M	National Emission Standard For Asbestos
40 C.F.R. Part 72	Permits Regulation
40 C.F.R. Part 73	Sulfur Dioxide Allowance System
40 C.F.R. Part 74	Sulfur Dioxide Opt-ins
40 C.F.R. Part 75	Continuous Emissions Monitoring
40 C.F.R. Part 76	Acid Rain Nitrogen Oxides Emission Reduction Program
40 C.F.R. Part 77	Excess Emissions
40 C.F.R. Part 78	Appeals Procedure (for Acid Rain Program)
40 C.F.R. Part 82, Subpart F	Ozone depleting substances
WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.

State Only:

45CSR4	To Prevent And Control The Discharge Of Air Pollutants Into The Open Air Which Causes Or Contributes To An Objectionable Odor Or Odors
45CSR42	Greenhouse Gas Emissions Inventory Program

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

### Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-1020B/R14-04B	June 9, 1993	Original permit issued November 9, 1988, Superseded and Replaced October 14, 1992 and June 9, 1993. R13-2075C is applicable in conjunction with this permit.
R13-2075C	May 9, 2002	Original permit issued May 3, 1999, Superseded and Replaced December 5, 2000, February 8, 2001 and May, 9, 2002. (Supersedes SPECIFIC REQUIREMENTS A.7 and A.8 within R14-04B and is applicable in conjunction with R14-04B)
Acid Rain Permit	December 18, 2007	Effective January 1, 2008
CAIR PERMIT	June 18, 2007	
WVDAQ Consent Order: No. CO-R2-E-2002-17 (State-Enforceable Only)	May 24, 2002	Requires the development of a "Monitoring Plan" and "Inspection and Maintenance Plan" For the boiler particulate matter removal system. It also requires that these plans be incorporated into the Title V permit
Consent Decree: No. 03-CV-517A (US vs. VEPCO)	October 3, 2003	Effective October 10, 2003 (date entered by the courts)

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

### Determinations and Justifications

This is a renewal of the Title V permit which was issued on February 20, 2004 and modified on October 17, 2007. Changes to the original (and modified) Title V Permit consist of the following:

1. *45CSR26 - NO<sub>x</sub> Budget Trading Program as A Means of Control and Reduction of Nitrogen Oxides from Electric Generating Units*
  - This Rule has been repealed. Therefore the requirements of this rule have been removed. The NO<sub>x</sub> Budget Permit Application included in Appendix A has also been removed. The facility is now subject to 45CSR40 (*Control Of Ozone Season Nitrogen Oxides Emissions*) and the Clean Air Interstate Rule (CAIR) NO<sub>x</sub> Ozone Season Trading Program.
2. *45CSR37 - Mercury Budget Trading Program To Reduce Mercury Emissions*
  - This Rule has been repealed. Therefore the CAMR Mercury Budget Trading Program requirements have been removed from the permit.
3. *45CSR42 - Greenhouse Gas Emissions Inventory Program*
  - This rule is applicable only when the facility becomes an "affected source" by emitting any greenhouse gas on an annual basis greater than the de minimis amounts listed in section 3.1 of the rule i.e.:

Greenhouse Gas Compound	tons/year
carbon dioxide	10,000
methane	476
nitrous oxide	32.6
hydrofluorocarbons	0.855
perfluorocarbons	1.09
sulfur hexafluoride	0.42

If the applicability threshold is triggered, then in accordance with a reporting cycle provided by the Secretary, affected sources shall report to the Secretary the quantity of all greenhouse gases emitted above *de minimis* amounts in the years specified by the Secretary under Section 4. of 45CSR42.

Permit Section 1.1.

- At the request of the company, the following tanks are considered insignificant sources and have been removed from the “Emission Units” table: *T-MH-4, T-MH-1, T-DS-2, T-PT-3, T-EG-1, T-MH-3, T-MH-5, T-PT-1, T-PT-2, T-LO-3, and T-LO-1.*

Permit Condition 3.4.4.

- The facility requested that the weekly inspections of fugitive dust control systems be removed. Discussions with enforcement personnel confirmed that there have not been any issues with fugitive dust emissions and that requiring monthly inspection throughout the year would be sufficient to ensure compliance with the minimization of fugitive emissions requirement. Therefore condition 3.4.4. of the permit has been modified to remove the weekly inspections from May 1 through September 30 and to require that monthly inspections be performed throughout the year.
- The following Table shows the changes in permit condition numbering for Section 4 of the Renewal Permit:

Initial (Old) Permit Condition Number		Renewal (New) Permit Condition Number
4.1.2.	These two conditions have been combined in the renewal permit	4.2.2.
4.1.4.		4.2.2.
4.1.3.		4.1.2.
4.1.5.		4.2.3.
4.1.6.		4.4.3.
4.1.7.		4.5.2.
4.1.8.		4.1.3.
4.1.9.		4.1.4.
4.1.10.	Moved to table footnote (2) of 4.1.6.	4.1.6.
4.1.11.		4.1.5.
4.1.12.		4.1.6
4.1.13.		4.1.7. Streamlined NSPS Language has been Added
4.1.14.		4.1.8

		A new 4.3.2. requirement has been added.
4.3.10	Moved to	4.3.3.
4.3.2. - 4.3.9	Shifted down by two	4.3.4 - 4.3.11.

Permit Condition 4.1.1.

- The Permit No. R13-1020/R14-4 and 45CSR§2-3.1. opacity limit of ten (10) percent is more stringent than the Subpart Da twenty (20) percent opacity limit. Therefore 40 CFR §42Da(b) has been streamlined with the ten (10) percent limit.

Permit Condition 4.1.3.

- The requirement of this condition is also an NSPS requirement. The NSPS citation, *40 CFR §60.48Da(c)* was not cited in the initial permit and therefore has been added in the renewal permit. The corresponding State Rule, *45CSR16* has also been added.

Permit Condition 4.1.6.

- Footnote (2) has been added to indicate that compliance with the Permit No. R13-1020/R14-4 PM limit of 0.030 lb/mmBtu constitutes compliance with the 0.030 lb/mmBtu limit under 40 CFR §60.42Da(a)(1) and also with the 99 percent PM reduction requirement under 40 CFR §60.42Da(a)(2). In accordance with 40 CFR §60.48Da(a), compliance with the PM emission limitation under 40 CFR §60.42Da(a)(2) constitutes compliance with the reduction requirement.

Permit Condition 4.1.7.

- The Permit No. R13-1020/R14-4 ninety-five (95) percent reduction requirement is more stringent than the ninety (90) percent reduction of Subpart Da. Therefore 40 CFR§60.43Da(a)(1) has been streamlined with the R13-1020/R14-4 requirement.

Permit Condition 4.3.3.

- The PM testing frequency requirement of 45CSR§2-8.1. and 45CSR§2A-5.2. has been moved from 4.3.10. in the initial permit to 4.3.3 in the renewal permit. In order to demonstrate compliance with the PM limits of Permit No. R13-1020/R14-4, language requiring that the results of the testing be reported in (*lb/mmBtu*), (*lb/hr*) and (*gr/dscf @ 3.5% O<sub>2</sub>*) has been added.

Permit Condition 4.3.7.

- The “every five (5) years” language has been further defined to be “every five (5) calendar years.” The language “*A compliance test shall be conducted no later than eighteen (18) months of the issuance date of this permit*” has been removed. This testing requirement was fulfilled following the issuance of the Initial Title V permit.

Permit Condition 5.3.1.a.

- The facility requested the language pertaining to the initial visible emission (VE) evaluation requirements be removed since North Branch has already satisfied all of these initial VE requirements. Therefore the initial VE evaluation language has been removed. Additionally, the facility requested that the VE evaluation be conducted at least once every four (4) successive operating quarters instead of once every consecutive 12-month period since the North Branch Station runs infrequently. Discussions with enforcement personnel confirmed that there have not been any issues with visible dust emissions and that this change is satisfactory for compliance demonstration. Therefore “once every consecutive 12-month period” has been replaced with “once every four (4) successive operating quarters.”

Permit Condition 5.3.1.b.

- The facility requested that the weekly visible emissions observations of the “affected facility” (i.e., *equipment listed in permit condition 5.1.2.*) be changed from each calendar week to once per month. Discussions with enforcement personnel confirmed that there have not been any issues with visible dust emissions. The pieces of equipment to be observed are located in full enclosures except for the truck dump hopper and conveyor belts which are partially enclosed and that requiring monthly inspection throughout the year would be sufficient to ensure compliance with the visible emissions requirement. Therefore condition 5.3.1.b. of the permit has been modified to remove the weekly visible emissions observations and to require that monthly visible emissions be performed throughout the year.

Permit No. R13-1020B/R14-04B

- 40 CFR 60 Subpart Da was revised in 2007. The applicable requirement citations contained in this permit have been updated to the correct citations of the revised Subpart Da.

VEPCO Federal Consent Decree

- The following language has been incorporated into the permit as Condition 4.1.9.:

The Consent Decree entered by the United States District Court for the Eastern District of Virginia, Civil Action Nos. 03-CV-517-A and 03-CV-603-A, on October 10, 2003 between Virginia Electric and Power Company (VEPCO) and the United States of America, et al.(the “Consent Decree”), as such Consent Decree might be amended or modified from time to time in accordance with its terms, is incorporated in its entirety into this permit by reference. The permittee’s obligation under this permit shall be to comply with the terms and conditions of the Consent Decree that relate to the operation of North Branch Power Station exclusively, and such compliance shall be determined exclusively by reference to the terms and conditions of the Consent Decree.

Where possible, streamlining has been utilized in the permit so that the more stringent requirement is written into the permit and the less stringent requirement is streamlined with it.

**Paragraph 78**

- This paragraph of the consent decree has requirements for the operation of the baghouses (condition 4.1.10. of the permit).

**Paragraph 79**

- This paragraph of the consent decree in part required the permittee to conduct Baghouse Optimization Studies by April 21, 2009. This requirement has been satisfied and the study was submitted to the EPA on April 14, 2009. Therefore this part of the requirement has not been included in the Title V Permit. The requirement to operate and maintain the baghouses in accordance with the approved Optimization Studies has been included in the permit.

**Paragraph 95**

- This paragraph of the consent decree requires that a stack test for PM emissions be conducted at least once every four (4) successive QA Operating Quarter” (as defined in 40 CFR §72.2). The results of such testing shall be submitted to the Plaintiffs [of the Consent Decree] as part of the periodic reporting of paragraph 137 (see below). (condition 4.3.2. of the permit)

**Paragraph 137**

- This paragraph of the Consent Decree requires that a periodic report, in accordance with Appendix B Section III.C.a. of the Consent Decree, be submitted. (condition 4.5.6. of the permit)

**40 C.F.R. Part 64 – Compliance Assurance Monitoring (CAM)**

- The existing Title V permit contains monitoring that meets the definition of “continuous compliance demonstration method” for Boiler 1A and 1B baghouses. Included in the permit is a “Parametric Monitoring Plan for Particulate Emissions.” The indicator for the monitoring plan is “Baghouse Cleaning Frequency” which is measured as “minutes between baghouse cleaning cycles including the actual fixed cleaning time.” The cleaning cycle is initiated when the differential pressure across the baghouse increases to 6 inches water column. The differential pressure is continuously monitored. The range of the cleaning cycles may vary from 30 minutes or less to 90 minutes and greater. Built into the monitoring plan are three primary “Action Levels” which trigger plant personal to specific response procedures based on the range of the “Baghouse Cleaning Frequency.” The “Parametric Monitoring Plan for Particulate Emissions” is contained in Appendix B of the permit.

Furthermore, the existing Title V permit also contains an Inspection and Maintenance (I&M) Plan for the baghouses. An explanation and summary of the I&M Plan is contained in Appendix C of the Permit

Therefore in accordance with 40 CFR §64.2(b)(vi), this facility is exempt from the requirements of 40 CFR Part 64 for Particulate Matter.

- For the other pollutants for which the potential emissions trigger the “Major” threshold levels, there are no add on control devices for these pollutants. Therefore they are exempt from the CAM requirements.

**Non-Applicability Determinations**

The following requirements have been determined not to be applicable to the subject facility due to the following:

45CSR5	Pursuant to 45CSR5, if 45CSR2 is applicable to the facility, then the facility is exempt from 45CSR5. 45CSR2 is applicable to the facility.
45CSR10	The facility is located in a Priority I region as defined in Rule 10. However, it is not listed in section 3.1. of the rule nor is there a listing for type “a” fuel burning units for the Priority I region.
45CSR17	Pursuant to 45CSR17, if 45CSR2 is applicable to the facility, then the facility is exempt from 45CSR17. 45CSR2 is applicable to the facility.
40 CFR 60 Subpart D 40 CFR 60 Subpart Db 40 CFR 60 Subpart Dc	40 CFR 60 Subpart Da Applies to this facility.
40 CFR 60 Subpart K	The facility does not include storage vessels that are used to store petroleum liquids (as defined in 40 CFR 60.111(b)) which construction, reconstruction, or modification commenced prior to May 19, 1978.

40 CFR 60 Subpart Ka	The facility does not include storage vessels that are used to store petroleum liquids (as defined in 40 CFR 60.111a(b)) which construction, reconstruction, or modification commenced prior to July 23, 1984.
40 CFR 60 Subpart Kb	Storage vessels potentially affected by this subpart (except for the propane storage vessels) have a storage capacity of less than 75 cubic meters and therefore are not subject to this subpart. The propane storage vessels ( <i>T-PR-1</i> , <i>-2</i> , <i>-3</i> , <i>-4</i> , <i>-5</i> , <i>-6</i> ) are designed to operate in excess of 204.9 kPa without emissions to the atmosphere and therefore are not subject to this subpart.
40 CFR 60 Subpart GG	The facility does not have any stationary gas turbines.
40 CFR 63 Subpart ZZZZ	Emergency generators <i>Onan GenSet 1</i> , <i>Onan GenSet 2</i> , the diesel emergency generator ( <i>EGI</i> ) and the diesel fire pump ( <i>P-FP-2</i> ) are less than 500 brake horsepower and therefore are not affected sources as defined in this subpart. They are also defined as “emergency stationary RICE” units which exempts them from this subpart. The diesel air compressor ( <i>ME-CA-1</i> ) is less than 500 brake horsepower and therefore not affected sources as defined in this subpart.
40 CFR 63 Subpart DDDDD	The propane vaporizer ( <i>PK-PR-1</i> ) is considered an existing small process heater and not subject to this subpart per 40 CFR §63.7506(c)
40 CFR 64	The existing Title V permit contains monitoring that meets the definition of “continuous compliance demonstration method” for Boiler 1A and 1B baghouses. Therefore in accordance with 40 CFR §64.2(b)(vi), this facility is exempt from the this Rule.
40 CFR 68	The facility does not have materials subject to this requirement.
40 CFR 82 Subpart B	The facility does not conduct motor vehicle maintenance involving CFCs on site.

### **Request for Variances or Alternatives**

None.

### **Insignificant Activities**

Insignificant emission unit(s) and activities are identified in the Title V application.

### **Comment Period**

Beginning Date: July 13, 2010  
Ending Date: August 12, 2010

All written comments should be addressed to the following individual and office:

Frederick Tipane  
Title V Permit Writer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

### **Procedure for Requesting Public Hearing**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

### **Point of Contact**

Frederick Tipane  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1215 • Fax: 304/926-0478

### **Response to Comments (Statement of Basis)**

The following editorial changes have been made to the Draft/Proposed Permit in response to comments received from Dominion Resources Services, Inc.:

- 1) **In the “Emission Units” table on page 5 of 180 for Emission Unit ID: BN-AH-3** – the control device description was changed from “BH-6Cr” to “BH-6C”.
- 2) **In condition 4.1.6.** – “lbm/hr and lbm/mmBtu” was changed to “lb/hr and lb/mmBtu”