



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

TIDEWATER REGIONAL OFFICE

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STATEMENT OF LEGAL AND FACTUAL BASIS

Virginia Electric and Power Company
Dominion Generation – Chesapeake Energy Center
2701 Veeco Street, Chesapeake, Virginia
Permit No. TRO-60163

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. Title IV required that affected sources (subject to acid rain regulations) receive a Title IV permit. As required by 40 CFR Part 70, Part 72 and 9VAC5 Chapter 80, Virginia Electric and Power Company has applied for a federal Acid Rain Title V Operating Permit for its Dominion Generation – Chesapeake Energy Center facility. The Department has reviewed the application and has prepared an Acid Rain Title V Operating Permit.

Permit Writer/Contact:

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Date: March 22, 2016

Regional Air Permits
Manager:

Maria R. Nold

Date: March 22, 2016

Regional Director:

Maria R. Nold

Date: March 22, 2016

I. Facility Information

Permittee

Virginia Electric and Power Company
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Responsible Official

Kenneth J. Lazzaro
Station Director, Dominion - Chesapeake Energy Center

Acid Rain Designated Representative

David Craymer
Vice President - Power Generation
USEPA ATS-AAR ID Number 607952

Facility

Dominion - Chesapeake Energy Center
2701 Veeco Street
Chesapeake, Virginia 23323

Facility Contact Person

Scott Lawton
Director, Electric Environmental Business Support
(804) 273-2600

ORIS Code: 3803

NATS Facility Identification Number: 003803000001

Facility Description (provided for informational purposes only): NAICS Code 221112 – Electrical Power Generation - Fossil fuel. The facility produces electrical power using four single cycle combustion turbines each of which is capable of burning either natural gas or distillate fuel oil. There is a gasoline dispensing facility onsite that is for fueling company vehicles. There are two emergency generators (one propane and one diesel) which have been replaced with 2014 and 2015 models.

The facility shut down four coal-fired boilers and the associated coal and ash handling operations along with the carbon burn out unit on December 23, 2014.

The facility is currently operating under a consent decree from EPA entered on October 3, 2003, however the units cited in the consent decree have been retired and have been dismantled (2015). EPA Region III permitting was contacted to find out if the consent decree should still be part of the permit. They contacted their legal department and we were informed that as long as the units are shutdown, the consent decree is no longer applicable to this facility. Therefore, the EPA consent decree is no longer an attachment to this permit.

The facility is now a Title V major source for NO_x, CO, and SO₂ and is a PSD size source. Due the facility retiring the coal fired boilers, the facility is now an area source of HAP. Although the coal fired boilers have been retired under the Acid Rain program, the facility is still subject to 40 CFR 72.7, 72.8 and Part 73, Subpart B, and 40 CFR 97.405, 505 and 605, so this permit is a Federal Operating Permit being written under 9VAC5 Chapter 80, Article 3.

This source is located in an attainment area for all pollutants. The facility is currently permitted by a State Operating Permit dated 9/3/96.

II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was conducted July 17, 2014. The facility was found out of compliance and was issued a Notice of Violation on October 9, 2014. VEPCO-CEC entered into a consent order with DEQ that became effective on January 30, 2015 and was terminated on March 12, 2015. In addition, VEPCO-CEC resubmitted their third quarter excess emission report for Unit 4 SO₂ CEMS monitoring on March 27, 2015 which showed the monitoring to be out of compliance with their Title V permit. A Notice of Violation was issued on June 26, 2015 and a consent order became effective on September 21, 2015. The consent order was terminated on October 21, 2015.

III. EMISSIONS INVENTORY

2014 Emissions are summarized in the following tables.

2014 Criteria Pollutant Emissions

	Pollutant Emission in Tons/Year						2015 Status of Unit
	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	VOC	
Coal Boiler-1	1568	567	23.2	74.1	3.0	3.0	Shutdown
Coal Boiler 2	1435	554	21.4	73.0	5.3	2.6	Shutdown
Coal Boiler 3	3321	91	59.2	188	8.0	6.7	Shutdown
Coal Boiler 4	3893	204	60.7	179	4.8	7.1	Shutdown
ES-5 (CT-1)	0.63	2.73	0.01	0.04	0.03	0.001	Operating
ES-6 (CT-2)	0.14	0.59	0.00	0.01	0.01	0.0003	Operating
ES-7 (CT-4)	0.23	1.01	0.00	0.01	0.01	0.0005	Operating
ES-8 (CT-6)	0.19	0.84	0.00	0.01	0.01	0.0004	Operating
Coal Handling	-	-	-	2.0	0.2	-	Shutdown
Carbon Burn out Unit	-	-	21.4	0.17	0.17	0.34	Shutdown
Total	10,218	1421	186	497	19.4	19.7	-

2014 Hazardous Air Pollutant Emissions

Pollutant Emission in Tons/Year					
	HCl	HF	Cyanide Compounds	Benzene	Selenium Compounds
Total	375	46.9	0.8	0.4	0.4

IV. EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Turbines							
ES-5	EP-5	Unit 1 - Pratt & Whitney combustion turbine constructed in 1967. Fires diesel fuel / distillate oil or natural gas.	281 x 10 ⁶ BTU/hr (nominal)	-	-	-	9/3/96
ES-6	EP-6	Unit 2 - Westinghouse 191 combustion turbine constructed in 1969. Fires diesel fuel / distillate oil or natural gas.	263 x 10 ⁶ BTU/hr (nominal)	-	-	-	9/3/96
ES-7	EP-7	Unit 4 - Westinghouse 191 combustion turbine constructed in 1969. Fires diesel fuel / distillate oil or natural gas.	263 x 10 ⁶ BTU/hr (nominal)	-	-	-	9/3/96
ES-8	EP-8	Unit 6 - Westinghouse 191 combustion turbine constructed in 1969. Fires diesel fuel / distillate oil or natural gas.	263 x 10 ⁶ BTU/hr (nominal)	-	-	-	9/3/96
Internal Combustion Engines							
ES-15	-	Allis Chalmers Model 25000 black-start engine for ES-6 (CT Unit 2) (1969) 40 CFR 63, Subpart ZZZZ - Fires diesel fuel / distillate oil	450 HP	-	-	-	-
ES-16	-	Cummins NTA 855C black-start engine for ES-7 (CT unit 4) (1990) 40 CFR 63, Subpart ZZZZ - Fires diesel fuel / distillate oil	360 HP	-	-	-	-
ES-17	-	Cummins NTA 855C black-start engine for ES-8 (CT unit 6) (1992) 40 CFR 63, Subpart ZZZZ - Fires diesel fuel / distillate oil	360 HP	-	-	-	-
ES-18	-	Caterpillar 3304 Serial # 4B10168 Fire Pump (1975) 40 CFR 63 ZZZZ Fires diesel fuel / distillate oil	155 HP	-	-	-	-
ES-22	-	Cummins C25 N6 propane emergency generator engine at microwave tower (2014), NSPS JJJJ and MACT ZZZZ	0.32 mmBtu/hr 25 kW, 82 HP	-	-	-	-
ES-23	-	CAT C9 emergency generator engine, (2015) NSPS IIII and MACT ZZZZ - Fires diesel fuel / distillate oil	3.2 mmBtu/hr ≤ 300 kW, 375 HP	-	-	-	-
Gas Fueling Station							
ES-24	-	Gasoline Fueling Station and Above Ground Storage Tank, MACT CCCCCC	3,000 gallons	-	-	-	-

V. Turbine Requirements – Units ES- 5, 6, 7 and 8

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9VAC5 Chapter 40, Article 8: Emission Standards for Fuel Burning Equipment

The facility has 4 simple cycle combustion turbines. The turbines were all installed in either 1967 or 1969, so they are all existing units. 9VAC5 Chapter 40, Article 8 is the only regulation applicable to the turbines. It has a particulate standard, a sulfur dioxide standard and an opacity standard. NSPS GG and NSPS KKKK are not applicable because the turbines pre-date the regulations. The facility is not a major source of HAP, so MACT YYYY is not applicable.

A. Limitations

Conditions 1-4 list the conditions limiting the turbines. These include the approved fuels, the opacity standard, the particulate standard and the sulfur dioxide standard.

B. Monitoring

Condition 5 lists the monitoring required for the turbines, which is opacity monitoring. Fuel monitoring is also required but it is included in the facility wide section of the permit.

C. Recordkeeping

Condition 7 is the recordkeeping required for the turbines. There is no throughput limit for any fuel for the turbines, so an annual throughput is required on a calendar year basis for the reporting of emissions.

VI. Internal Combustion Engine Requirements - Units 15-18, 22 and 23

The following Federal Requirements are applicable to this source:

- 40 CFR Part 60, Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR Part 60, Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
- 40 CFR Part 63, Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

- 9VAC5 Chapter 50, Article 5 EPA New Source Performance Standards (Sections 400 to 420)
- 9VAC5 Chapter 60, Article 2 EPA Maximum Achievable Control Technology Standards (Sections 90 to 110)

There are 5 emergency engines onsite. Three of them are the black start engines for the turbines, one of which was installed in 1969, another installed in 1990 and the third one installed in 1992. These engines precede the applicability date of NSPS IIII. The black start generators and the fire pump engine are applicable to MACT ZZZZ. The other two are emergency generator engines that were installed in 2014 and 2015, so although they are applicable to MACT ZZZZ, they show compliance by complying with NSPS IIII or JJJJ. Neither of the engines were permitted through the minor NSR program, so all requirements come from NSPS IIII or JJJJ.

A. Limitations

Conditions 7-13 limit the operations of the various engines. These include listing the approved fuels for the engines, opacity limitations on the black start engines and the fire pump engine and the specific requirements from the NSPS or MACT as applicable, which may also include monitoring.

B. Monitoring

Condition 14 lists the monitoring requirements of the black start engines and the fire pump engine from MACT *ZZZZ*.

For the emergency generator 22, NSPS Subpart JJJJ, 60.4237 requires installation of a non-resettable hour meter for monitoring which is already listed in Condition 12. For emergency generator 23, NSPS Subpart IIII, 60.4209 requires installation of a non-resettable hour meter for monitoring which is already listed in Condition 13. Fuel monitoring for emergency generator 23 is also required and this is listed in Condition 26 in the facility wide section of the permit.

Condition 15 lists the opacity monitoring requirements.

C. Recordkeeping and Reporting

Condition 16 and 17 list the recordkeeping requirements from the NSPS or MACT as applicable to each engine. Some specific requirements are included in Conditions 12 and 13.

VII. Gasoline Dispensing Facility (GDF) Requirements

The following Federal Requirements are applicable to this source:

40 CFR Part 63, Subpart CCCCCC National Emission Standards for Hazardous Air Pollutants for
Source Category: Gasoline Dispensing Facilities

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9VAC5 Chapter 60, Article 2 EPA Maximum Achievable Control Technology Standards
(Sections 90 to 110)

The facility has said that it will keep the throughput less than 10,000 gallons permit month, so the appropriate requirements from the MACT have been incorporated into the permit.

A. Limitations

Conditions 18-20 list the limitations required by the MACT for a small GDF at an area source of HAP. This is comprised mostly of good operating practices to minimize spills and emissions.

B. Monitoring

Condition 21 lists the monitoring requirements that are from the MACT which require monitoring of the gasoline throughput.

C. Recordkeeping and Reporting

Conditions 22 and 23 explain the recordkeeping and reporting requirements of the MACT. There are no reporting requirements but recordkeeping of the throughputs of gasoline is required.

VIII. Facility Wide Conditions

The following Federal Requirements are applicable to this source:

40 CFR 61 Subpart M National Emission Standard for Asbestos.

40 CFR 60, Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

40 CFR 60, Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

40 CFR 63, Subpart CCCCCC National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

40 CFR 68 - Chemical Accident Prevention Provisions.

40 CFR 70 - Operating Permits Regulation.

40 CFR 72 - Acid Rain Permits Regulation.

40 CFR 73 - Sulfur Dioxide Allowance System.

40 CFR 82 - Stratospheric Ozone Protection.

40 CFR 97 – Cross State Air Pollution Rule.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9VAC5 Chapter 50 New and Modified Stationary Sources

9VAC5 Chapter 60 Article 2: EPA Maximum Achievable Control Technology Standards

9VAC5 Chapter 80 Article 1: Federal Operating Permits for Stationary Sources

9VAC5 Chapter 80 Article 2: Permit Program Fees for Stationary Sources

9VAC5 Chapter 80 Article 4: Insignificant Activities

9VAC5 Chapter 80 Article 5: State Operating Permits

9VAC5 Chapter 80 Article 6: Permits for New and Modified Stationary Sources

9VAC5 Chapter 80 Article 10: Permit Application Fees for Stationary Sources

9VAC5 Chapter 80 Article 11: Annual Permit Maintenance Fees for Stationary Sources

The company has one underlying State Operating permit that was issued in 1996 (prior to the NOx SIP Call regulation) to limit NOx emissions from two emission sources: the Chesapeake Plant and the Yorktown plant.

A. Limitations

Condition 24 lists the combined facility NOx limit for each year from June 1 to August 31. This limit is from the underlying state operating permit dated 9/3/96.

B. Monitoring

Conditions 25 and 26 list the monitoring requirements facility wide. Condition 25 requires the facility to determine their actual NOx emissions from June 1 - August 31 of each year to show compliance with their limit in Condition 24. Condition 26 requires the facility to obtain shipment manifests for each shipment as defined in the condition and to verify the type of distillate oil received and the volume received.

C. Recordkeeping and Reporting

Conditions 27 and 28 are the recordkeeping that is associated with facility wide conditions. They include the emission calculations of NOx generated during ozone season and the fuel supplier certifications.

D. Testing

Condition 29 is the facility wide testing condition requiring the facility to be built in a fashion that testing can be done at any time at the DEQ's request and that approved methods must be used when testing.

IX. INSIGNIFICANT EMISSION UNITS

Condition 30 - The insignificant emission units 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 9VAC5-80-490.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation ¹	Pollutants Emitted (9VAC5-80-720 B)	Rated Capacity (9VAC5-80-720 C)
IS-8	Combustion Turbine Diesel Fuel Handling Systems	9VAC5-80-720 B	VOC	40 to 75 gallons
IS-9	Combustion Turbine Lube Oil Systems	9VAC5-80-720 B	VOC	151 to 2,000 gallons
IS-21	Station No. 2 Fuel Oil Tank No. 2	9VAC5-80-720 B	VOC	434,921 gallons

¹The citation criteria for insignificant activities are as follows:

9VAC5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9VAC5-80-720 B - Insignificant due to emission levels

9VAC5-80-720 C - Insignificant due to size or production rate

X. INAPPLICABLE REQUIREMENTS

Condition 31 - The following table includes the applicant's listed inapplicable requirements:

Citation	Title of Citation	Description of Applicability
40 CFR Part 60, Subparts D, Da, Db and Dc	Standards of Performance for boilers, electrical utility steam generating units and industrial-commercial-institutional steam generating units.	There are no longer any units on site that are applicable to these regulations.
40 CFR Part 60, Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.	No emissions sources at this facility are subject to this regulation.
40 CFR Part 60 Subparts GG and KKKK	Standards of Performance for Stationary Gas Turbines and Standards of Performance for Stationary Combustion Turbines.	The turbines were constructed prior to October 3, 1977, the applicability date of GG and February 18, 2005, the applicability date of KKKK.
40 CFR Part 60, Subpart Y	Standards of Performance for Coal Preparation and Processing Plants.	This facility no longer has equipment that meets the applicability of this Subpart.
40 CFR Part 63, Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units.	Source is no longer a major source of HAP and has retired the coal fired units. Combustion turbines are exempt under 63.9983(a).
40 CFR Part 63, Subpart YYYYY	National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines.	Source is no longer a major source of HAP.

The startup, shut down, and malfunction opacity exclusion listed in 9VAC5-40-20 A 4 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9VAC5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

XI. GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9VAC5-80-490 that apply to all Federal operating permitted sources. 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. The general conditions include condition numbers 32-72.

A. Comments on General Conditions

1. Conditions 33-38. Permit Expiration

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 applications 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".

2. Condition 44. Failure/Malfunction Reporting

Section 9VAC5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9VAC5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9VAC5-20-180 is from the general regulations. All affected facilities are subject to section 9VAC5-20-180 including Title V facilities. Section 9VAC5-80-250 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 9VAC5-20-180 and 9VAC5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

3. Condition 48. Permit Modification

This general condition cites the sections that follow:

9VAC5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9VAC5-80-190. Changes to Permits

9VAC5-80-260. Enforcement

9VAC5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9VAC5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

9VAC5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

4. Condition 62-65. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9VAC5-80-250 and 9VAC5-20-180. The malfunction requirements are listed in General Conditions 62-65 and General Condition 44. For further explanation see the comments on general condition 44.

5. Condition 69. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

XII. TITLE IV (PHASE II ACID RAIN) PERMIT ALLOWANCES AND REQUIREMENTS (Retired Units 1-4)

Conditions 73 and 74 - This facility shut down/retired 4 coal fired boilers on December 23, 2014. These units were subject to the Acid Rain program and on January 26, 2015 we received the retired unit notifications that these units had been retired. In accordance with 40 CFR 72.8, these units will retain their allowances, so although the units are not listed in the significant emissions unit list of the Title V permit, this section of the permit is included to show that there are still allocations associated with these units.

XIII. CROSS-STATE AIR POLLUTION RULE (CSAPR) (Retired Units 1-4)

Condition 75 - The facility is applicable to the CSAPR requirements listed in 40 CFR Part 97, Subparts AAAAA-CCCCC. The retired unit regulations for each of the programs: the TR NO_x Annual Trading Program; the TR NO_x Ozone Season Trading Program; and the TR SO₂ Group I Trading Program are listed in 40 CFR 97.405, 97.505 and 97.605. Each regulation specifies how long the allocations remain available to the facility once the units are retired.

XIV. STATE ONLY APPLICABLE REQUIREMENTS

Condition 76 - The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

Odor (9VAC5 Chapter 40, Article 2 and 9VAC5 Chapter 50, Article 2)

State toxics rule (9VAC5 Chapter 60, Articles 4 & 5)

XV. PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Virginian-Pilot from **Friday, February 5, 2016** to **Monday, March 7, 2016**. EPA's comment period expires on **Monday, March 21, 2016**.