



11-338-NRO

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

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COMMONWEALTH OF VIRGINIA Department of Environmental Quality Northern Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

City of Manassas/Virginia Municipal Electric Association

9898 Godwin Drive – Manassas, Prince William County, Virginia
Permit No. NRO71977

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, City of Manassas/Virginia Municipal Electric Association (VMEA) has applied for a Title V Operating Permit for its 9898 Godwin Drive, Manassas, Virginia facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:

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Date:

12/15/11

Air Permit Manager:

Terry H. Darton

Date:

09/30/11

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Date:

12/21/11

I. FACILITY INFORMATION

Permittee

City of Manassas/Virginia Municipal Electric Association (VMEA)
8500 Public Works Drive
P.O. Box 560
Manassas, Virginia 20110

Facility

City of Manassas/VMEA Plant (Godwin Plant)
9898 Godwin Drive (Route 662, 0.5 miles southwest of Route 28)
Manassas, Virginia 20110

County-Plant Identification Number: 51-153-00090

SOURCE DESCRIPTION

NAICS 221112 – Electric Services – Establishments engaged in the generation, transmission and/or distribution of electric energy for sale.

The City of Manassas/Virginia Municipal Electric Association (VMEA) operates a peaking electric power generation plant at 9898 Godwin Drive in Manassas, Virginia. There are fifteen Caterpillar 3516 DITA diesel-driven electric generators at the site, each rated at 2307 brake horsepower (bhp) or 1600 kilowatts (KW) electricity output and one Caterpillar 3516B Prime Mover diesel-driven electric generator, rated at 2593 bhp or 1825 kW electricity output. The City of Manassas is a member of the VMEA and operates 12 of the engines under the association contract with Virginia Power. The other four engines belong to the City of Manassas and are operated for their own peaking power needs. The facility is currently subject to a plant-wide NSR air permit dated May 19, 2011. The permit limits the fifteen Caterpillar 3516 DITA engine-generator sets to generate no more than 6,510,000 electric kilowatt-hours per year, which is about 280 hours of operation per engine and the one Caterpillar 3516 B Prime Mover engine-generator set to no more than 51,100 electric kilowatt-hours per year. The permit requires that each of the fifteen Caterpillar 3516 DITA engines be set for 3 degrees fuel injection timing retard to reduce nitrogen oxides (as NO₂) emissions. Other emissions, such as carbon monoxide, volatile organic compounds and particulate matter are slightly increased as a result of the NO₂ reduction measure. However, the NO₂ reduction is considered more significant in the moderate ozone non-attainment area.

The facility is a Title V major source of Nitrogen Oxides (NO_x). This source is located in a non-attainment area for ozone, and attainment areas for all other pollutants. The facility is currently permitted under a Minor NSR Permit issued on May 19, 2011.

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. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

II. EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment:							
V1-V8, and V10-V12	S1-S8, and S10-S12	Caterpillar 3516 DITA diesel	1600 KW/ 2307 bhp	Ignition Timing retard	-	NO ₂	05/19/11
V9	S9	Caterpillar 3516B Prime Mover	1825 kW/ 2593 bhp	N/A	-	N/A	05/19/11
C7-C10	S13-S16	Caterpillar 3516 DITA diesel	1600 KW/ 2307 bhp	Ignition Timing retard	-	NO ₂	05/19/11

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2010 annual emission update is attached. Emissions are summarized in the following tables.

2010 Actual Emissions

Emission Unit	2010 Criteria Pollutant Emission in Tons/Year				
	VOC	CO	SO ₂	PM ₁₀	NO _x
V1-V8, V10-V12, C7-C10	1.504	11.467	8.742	1.128	49.815
V9	0.176	0.121	0.094	0.044	5.979
Total	1.679	11.588	8.836	1.172	55.794

2010 Facility Hazardous Air Pollutant Emissions

Pollutant	Hazardous Air Pollutant Emission in Tons/Year
None reported	

III. FUEL BURNING EQUIPMENT APPLICABLE REQUIREMENTS – (Emission Unit ID#V1-V12, #C7-C10)

A. Limitations

Condition 1 requires control of nitrogen oxides (as NO₂) by setting the engine fuel injection to three degrees retarded timing (excluding Ref. No. V9) per Condition 2 of 05/19/11 NSR Permit..

Conditions 2 and 3 limit the type of fuel to diesel with maximum sulfur content of 0.05% (by weight) for engine V9 and 0.5% (by weight) for all other engines per Conditions 3 and 8 of 05/19/11 NSR Permit..

Condition 4 limits the generation of electricity from the plant (excluding Ref. No. V9) to 6,510,000 electric kilowatt-hours per year per Condition 5 of 05/19/11 NSR Permit.

Condition 5 limits Ref. No. V9 to generating no more than 51,100 electric kilowatt-hours per year per Condition 6 of 05/19/11 NSR Permit.

Condition 6 limits the hours of operation of V9 to no more than twenty-eight hours/year and no more than fifteen hours during any ozone season per Condition 7 of 05/19/11 NSR Permit.

Conditions 7, 8, and 9 specify the emission limits and opacity limits for the generators per Conditions 9, 10, and 11 of 05/19/11 NSR Permit..

Condition 10 is a general requirement for the generators to be operated by trained personnel familiar with the equipment and manufacturer operating instructions. It also requires that a maintenance schedule be developed and followed for the generators, with records kept on all scheduled and any non-scheduled maintenance per Condition 18 of 05/19/11 NSR Permit.

B. Monitoring and Recordkeeping

The permit includes requirements to maintain records of maintenance, monitoring and testing. Records of engine maintenance, Condition III.B.1, and operator training, Condition III.B.3.e, will be used to demonstrate proper operations which minimizes emissions. The records include all maintenance and repairs made to the engines and certification of their fuel injection setting for three degrees retarded timing. No direct emissions monitoring are required. Instead, Condition III.B.2 requires weekly visible emissions observation to be made as an indicator of proper engine operation and for periodic monitoring purposes. In case of excess emission problems, but also at least once a year during September, EPA Method 9 visible emission evaluations will be conducted for each engine, as stated in Testing Condition III.C.3, to demonstrate compliance with the opacity limit. Furthermore, Condition III.B.3 states that monthly records be kept on the kilowatt-hours of electricity generated, which is used to calculate the annual total for comparison with the permit limit. The records shall be kept current for most recent five year period per Condition 13 of 05/19/11 NSR Permit.

C. Testing

At the present time, additional NO₂ testing is not required. Proper operation and maintenance shall minimize emissions, but periodic monitoring in Condition III.B.2 also requires weekly observation of the exhaust stack as an indicator of engine problems. Then, regular visible emissions evaluation, in accordance with EPA Reference Method 9, shall be conducted for each engine to demonstrate compliance with the opacity limit. The evaluation shall be conducted at least once a year in September, and whenever an exceedance is found that requires non-routine engine repair and adjustment.

Although the permit does not require further stack testing, except for visible emission evaluation, a table of test methods has been included in case later testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

D. Reporting

No specific reporting requirement has been included in the permit other than that required by general conditions. However, reports shall be submitted upon request of the Department, such as the annual emission inventory update and certified emission statements.

Streamlined Requirements

There were no streamlined requirements for the generators.

IV. INSIGNIFICANT EMISSION UNITS

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 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
DT1-DT8	Day Tanks	9 VAC 5-80-720B	VOC	1,000 gallons each
FO1-FO4	Fuel Oil Storage tanks	9 VAC 5-80-720B	VOC	15,000 gallons each

¹The citation criteria for insignificant activities are as follows:
 9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
 9 VAC 5-80-720 B - Insignificant due to emission levels
 9 VAC 5-80-720 C - Insignificant due to size or production rate

V. INAPPLICABLE REQUIREMENTS

The Department has not established any inapplicable requirements to list in the permit.

VI. GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 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.

Comments on General Conditions

B. Permit Expiration

This condition refers 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. 2-2003".

[This general condition cite(s) the Article(s) that follow(s):
Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources]

This general condition cites the sections that follow:

- 9 VAC 5-80-80. Application
- 9 VAC 5-80-140. Permit Shield
- 9 VAC 5-80-150. Action on Permit Applications

F. Failure/Malfunction Reporting

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 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.

This general condition cites the sections that follow:

- 9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources
- 9 VAC 5-40-50. Notification, Records and Reporting
- 9 VAC 5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:
40 CFR 60.13 (h). Monitoring Requirements.

J. Permit Modification

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 5-80-1790. 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

U. Malfunction as an Affirmative Defense

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 Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

- 9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
- 9 VAC 5-80-110. Permit Content

VII. Federal-Only Enforceable Requirements

The facility has diesel driven engine-generator sets on site that appear to be subject to 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ. The Commonwealth of Virginia has not accepted delegation of these regulations; therefore the requirements are federally-enforceable only at this point in time.

PUBLIC PARTICIPATION

The proposed permit will be place on public notice in the News & Messenger on October 18, 2011. The public notice period will run from October 19, 2011 to November 18, 2011.