



NRO-202-13

# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

### NORTHERN REGIONAL OFFICE

Douglas W. Domenech  
Secretary of Natural Resources

13901 Crown Court, Woodbridge, Virginia 22193  
(703) 583-3800 Fax (703) 583-3821  
[www.deq.virginia.gov](http://www.deq.virginia.gov)

David K. Paylor  
Director

Thomas A. Faha  
Regional Director

*Sent Via Email and USPS*

October 25, 2013

Dr. Evelyn Mahieu  
Director, Environmental Services and Compliance  
Prince William County Service Authority  
4 County Complex Court  
P.O. Box 2266  
Woodbridge, Virginia 22192

Location: Prince William County  
Registration No.: 73870  
Facility ID No. 51-153-00902

Dear Dr. Mahieu:

Attached is a significant amendment to your minor new source review permit dated May 31, 2011, to construct and operate a diesel engine generator at the Prince William County Service Authority (PWCSA) Neabsco Lift Station in Woodbridge, Virginia in accordance with the provisions of the Virginia State Air Pollution Control Board's Regulations for the Control and Abatement of Air Pollution. This amended permit supersedes your permit dated May 31, 2011.

The Department of Environmental Quality (DEQ) deemed the application complete on July 15, 2013, and has determined that the application meets the requirements of 9 VAC 5-80-1290 for a significant amendment to a new source review permit.

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

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

Please note that the diesel engine generator may be an affected facility under 40 CFR Part 60, New Source Performance Standards (NSPS) Subpart IIII (Stationary Compression Ignition Internal Combustion Engines) and 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories (MACT) Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines). As the owner/operator of the potentially affected unit, DEQ advises you to review the NSPS and MACT to

ensure compliance with applicable emission standards, operational limitations, and the monitoring, notification, reporting and recordkeeping requirements. Applicable notifications shall be sent to EPA, Region III. Both the NSPS and MACT may be found at [www.ecfr.gov](http://www.ecfr.gov).

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

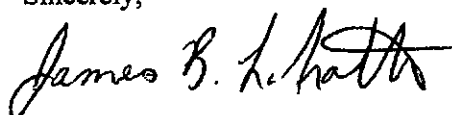
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

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

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

If you have any questions concerning this permit please contact me at (703) 583-3928, or via email at [james.lafratta@deq.virginia.gov](mailto:james.lafratta@deq.virginia.gov).

Sincerely,



James B. LaFratta  
Regional Air Permit Manager

TAF/JBL/73870/13-202-mnsr.docx

Attachment: Permit

cc: NRO Regional Air Compliance Manager (pdf copy via email)



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David K. Paylor  
Director

Thomas A. Faha  
Regional Director

## STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE

This permit supersedes your permit dated May 31, 2011.

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

Prince William County Service Authority (PWCSA)  
4 County Complex Road  
Woodbridge, VA 22195-2266  
Registration No.: 73870  
AFS ID No.: 51-153-00902

is authorized to construct and operate

one (1) diesel emergency engine-generator set

located at

PWCSA Sewer Lift Station  
15801 Neabsco Road  
Woodbridge, VA 22192  
(Prince William County)

in accordance with the Conditions of this permit.

Approved on:  
Amended on:

May 31, 2011.  
October 25, 2013.

A handwritten signature in black ink, appearing to read "Thomas A. Faha".

Thomas A. Faha  
Regional Director

Permit consists of 9 pages.  
Permit Conditions 1 to 23.

## **INTRODUCTION**

This permit approval is based on the permit applications dated July 11, 2013 and March 2, 2011. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action. In addition, this facility may be subject to additional applicable requirements not listed in this permit.

Unless otherwise specified in this permit, words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-20 and 9 VAC 5-80-1110 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

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

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

## **PROCESS REQUIREMENTS**

1. **Equipment List** – Equipment at this facility consists of:

<b>Equipment to be Constructed/Installed:</b>			
<b>Reference No.</b>	<b>Equipment Description</b>	<b>Rated Capacity</b>	<b>Federal Requirements</b>
1	One (1) Cummins 2000 DQKAB diesel emergency generator	2,922 bhp 2,000 ekW	9 VAC 5-50-410 and 9 VAC 5-60-100

<b>Equipment Exempt from Permitting:</b>				
<b>Reference No.</b>	<b>Equipment Description</b>	<b>Rated Capacity</b>	<b>Exemption Citation</b>	<b>Exemption Date</b>
AST1	Above Ground Storage Tank for Diesel Fuel	3,000 gallons	9 VAC 5-80-1105.B.8	May 31, 2011

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.  
(9 VAC 5-80-1180 D 3)

2. **Emission Controls** – Emissions from the diesel engine-generator set (Ref. No. 1) shall be controlled by:
- a. Nitrogen Oxides (NO<sub>x</sub>) – electronic fuel injection, turbocharged engine and low temperature after-cooler, use of good operating practices and performing maintenance in accordance with the manufacturer recommendations.
  - b. Sulfur Dioxide (SO<sub>2</sub>) – ultra low sulfur diesel fuel oil with a sulfur content not to exceed 0.0015% by weight (15 ppmw).
  - c. Carbon Monoxide (CO), Volatile Organic Compounds (VOCs) and Visible Emissions – following the manufacturer recommended operating and maintenance practices. In addition, the permittee may only change those settings that are permitted by the manufacturer and does not increase air emissions.

(9 VAC 5-80-1180 and 9 VAC 5-50-260)

3. **Monitoring** – The diesel engine-generator set (Ref No. 1) shall be equipped with a non-resettable hour metering device to monitor the operating hours. The non-resettable hour meter used to continuously measure the hours of operation for the diesel engine-generator set shall be observed by the owner with a frequency of not less than once each day the diesel engine-generator set is operated. The owner shall keep a log of these observations.

The non-resettable hour meter shall be provided with adequate access for inspection and shall be in operation when the diesel engine-generator set is operating.

(9 VAC 5-80-1180)

### **OPERATING LIMITATIONS**

4. **Emergency/ Critical Power Generation** – The diesel engine-generator set (Ref. No. 1) shall only be operated in the following modes:
- a. In situations that arise from sudden and reasonably unforeseeable events where the primary energy or power source is disrupted or disconnected due to conditions beyond the control of an owner or operator of a facility including:
    - i. A failure of the electrical grid;
    - ii. On-site disaster or equipment failure; or
    - iii. Public service emergencies such as flood, fire, natural disaster, or severe weather conditions.
  - b. For participation in an ISO-declared emergency, where an ISO emergency is:
    - i. An abnormal system condition requiring manual or automatic action to maintain system frequency, to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property;

- ii. Capacity deficiency or capacity excess conditions;
  - iii. A fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel;
  - iv. Abnormal natural events or man-made threats that would require conservative operations to posture the system in a more reliable state; or
  - v. An abnormal event external to the ISO service territory that may require ISO action.
- c. For situations where immediate action on the part of the facility is needed due to a loss or anticipated loss of acceptable electrical power service from the primary provider and the loss or anticipated loss of power service is beyond the reasonable control of the facility. Operation under these circumstances shall be allowed until such time as acceptable power provider service is restored or the loss of acceptable power provider service is no longer reasonably anticipated.
  - d. For periodic maintenance, testing, and operational training.

Total emissions for the diesel engine-generator set for any consecutive 12-month period, calculated as the sum of all emissions from operations under the scenarios above, shall not exceed the applicable limits stated in Condition 8.

(9 VAC 5-80-1180)

- 5. **Operating Hours** – The diesel engine-generator set (Ref. No. 1) shall not operate more than 500 hours per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.  
(9 VAC 5-80-1180)
- 6. **Fuel** – The approved fuel for the diesel engine-generator set (Ref No. 1) is ultra low sulfur diesel (ULSD) fuel that meets the specifications below:
  - a. American Society for Testing and Materials (ASTM) specification D975 grade ultra low sulfur 2-D S15 or grade 2-D S15, or
  - b. Has a maximum sulfur content not to exceed 0.0015% (15 ppmw), and either a minimum cetane number of forty or maximum aromatic content of thirty-five percent by volume.  
(9 VAC 5-80-1180)
- 7. **Fuel Certification** – The permittee shall obtain a certification from the fuel supplier with each shipment of diesel fuel. Each fuel supplier certification shall include the following:
  - a. The name of the fuel supplier;
  - b. The date on which the fuel was received;
  - c. The quantity of the fuel delivered in the shipment;

- d. A statement that the fuel oil complies with the ASTM specifications for ultra low sulfur diesel fuel or meets alternative fuel specification (satisfactory to demonstrate compliance with the applicable fuel specifications of Condition 6); and
- e. The sulfur content of the fuel oil (to the extent that the maximum sulfur content is not evident from the information provided in accordance with d above).

Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by DEQ may be used to determine compliance with the fuel specifications stipulated in Condition 6. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.

(9 VAC 5-80-1180)

### **EMISSION LIMITS**

8. **Emission Limits** – Emissions from the operation of the diesel engine-generator set (Ref. No. 1) shall not exceed the limits specified below:

Nitrogen Oxides (as NO <sub>2</sub> ):	42.5 lbs/hr	10.6 tons/yr
Carbon Monoxide (CO):	2.3 lbs/hr	0.6 tons/yr

These emission limits are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 5 and 6.

(9 VAC 5-80-1180 and 9 VAC 5-50-260)

9. **Visible Emission Limit** – Visible emissions from the diesel engine-generator set (Ref. No. 1) shall not exceed 5% opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed 10% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.

During times of startup and shutdown, visible emissions from the diesel engine-generator set shall not exceed 10% opacity, except during one 6-minute period in any one hour in which visible emissions shall not exceed 20% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

(9 VAC 5-80-1180)

### **EMISSION TESTING**

10. **Facility Construction** – The diesel engine-generator set (Ref No. 1) shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility/equipment such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing a stack or duct that is free from cyclonic flow. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.

(9 VAC 5-50-30 F and 9 VAC 5-80-1180)

11. **Emission Testing/Visible Emission Evaluation** – Upon request of the DEQ, the permittee shall conduct performance tests and/or visible emission evaluations of the diesel engine-generator set (Ref. No. 1) to demonstrate compliance with the emission limits contained in this permit or the Board's regulations. The details of the tests shall be arranged with the Regional Air Compliance Manager of the DEQ's Northern Regional Office (NRO).  
(9 VAC 5-50-30 G and 9 VAC 5-80-1200)

## **RECORDS**

12. **On-Site Records** – The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO. These records shall include, but are not limited to:
- a. A monthly log of the monitoring device observations as required by Condition 3.
  - b. Engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement for the diesel engine-generator set (Ref. No. 1).
  - c. The manufacturer's written operating instructions or procedures developed by the owner/operator that are approved by the engine manufacturer for the diesel engine-generator set (Ref. No. 1).
  - d. Annual hours of operation of the diesel engine-generator set (Ref. No. 1), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
  - e. Records of the reasons for operation for the diesel engine-generator set (Ref. No. 1), including, but not limited to, the date, cause of operation, cause of the emergency, the ISO-declared emergency notification, and the hours of operation.
  - f. All fuel supplier certifications.
  - g. Scheduled and unscheduled maintenance and operator training.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-50-50 and 9 VAC 5-80-1180)

## **NOTIFICATIONS**

13. **Initial Notifications** – The permittee shall furnish written notification to DEQ's NRO of:
- a. The actual date on which construction of the diesel engine-generator set (Ref. No. 1) commenced within 30 days after such date. The notification shall include the following:
    - i. Name and address of the permittee;
    - ii. The address of the affected source;



- iii. Engine information, including make, model, engine family, serial number, model year, maximum engine power and engine displacement;
  - iv. Emission control equipment; and
  - v. Fuel used.
- b. The anticipated start-up date of the diesel engine-generator set (Ref. No. 1), postmarked not more than 60 days nor less than 30 days prior to such date.
  - c. The actual start-up date of the diesel engine-generator set (Ref. No. 1) within 15 days after such date. The actual start-up date shall be the date on which the engine completes manufacturer's trials, but shall be no later than 30 days after start-up for manufacturer's trials.

(9 VAC 5-50-50 and 9 VAC 5-80-1180)

#### **GENERAL CONDITIONS**

14. **Permit Invalidation** – This permit to construct the diesel engine-generator set (Ref. No. 1) shall become invalid, unless an extension is granted by the DEQ, if:
- a. A program of continuous construction is not commenced within 18 months from the date of this permit; or
  - b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time.

(9 VAC 5-80-1210)

15. **Permit Suspension/Revocation** – This permit may be suspended or revoked if the permittee:
- a. Knowingly makes material misstatements in the permit application or any amendments to it;
  - b. Fails to comply with the conditions of this permit;
  - c. Fails to comply with any emission standards applicable to a permitted emissions unit;
  - d. Causes emissions from the stationary source which result in violations of, or interfere with the attainment and maintenance of, any ambient air quality standard; or
  - e. Fails to operate in conformance with any applicable control strategy, including any emission standards or emissions limitations, in the State Implementation Plan in effect at the time an application for this permit is submitted.

(9 VAC 5-80-1210 G)

16. **Right of Entry** – The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:
- To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;
  - To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;
  - To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
  - To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.  
(9 VAC 5-170-130 and 9 VAC 5-80-1180)

17. **Maintenance/Operating Procedures** – At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to the diesel engine-generator set (Ref. No. 1) and the process equipment which affect such emissions:

- Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- Maintain an inventory of spare parts.
- Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-50-20 E and 9 VAC 5-80-1180 D)

18. **Record of Malfunctions** – The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive

measures taken and name of person generating the record.  
(9 VAC 5-20-180 J and 9 VAC 5-80-1180 D)

19. **Notification for Facility or Control Equipment Malfunction** – The permittee shall furnish notification to the DEQ's NRO of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the DEQ's NRO.  
(9 VAC 5-20-180 C and 9 VAC 5-80-1180)
20. **Notification for Control Equipment Maintenance** – The permittee shall furnish notification to the Regional Air Compliance Manager of the DEQ's NRO in case of shutdown or bypassing, or both, of air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour. The intent to shut down or bypass such equipment shall be reported to DEQ's NRO and local air pollution control agency (if any) at least 24 hours prior to the shutdown. Such prior notice shall include, but is not limited to, the following information:
  - a. Identification of the air pollution control equipment to be taken out of service, as well as its location and its registration number.
  - b. The expected length of time that the air pollution control equipment will be out of service.
  - c. The nature and quantity of emissions of air pollutants likely to occur during the shut-down period.
  - d. Measures that will be taken to minimize the length of the shut-down or to negate the effect of the outage.  
(9 VAC 5-20-180 B)
21. **Violation of Ambient Air Quality Standard** – The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.  
(9 VAC 5-20-180 I and 9 VAC 5-80-1180)
22. **Change of Ownership** – In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the DEQ's NRO of the change of ownership within 30 days of the transfer.  
(9 VAC 5-80-1240)
23. **Permit Copy** – The permittee shall keep a copy of this permit on the premises of the facility to which it applies.  
(9 VAC 5-80-1180)