Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 FAX (804) 698-4178
www.deq.virginia.gov

Travis A. Voyles
Acting Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4020

Thomas A. Faha
Regional Director

December 6, 2022

Mr. Colin Clish
Vice President, Development
Remington Technology Park Limited Partnership
12270 Lucky Hill Road
Remington, VA 22734

Location: Fauquier County
Registration No.: 74172

Dear Mr. Colin Clish:

Attached is a minor amendment to your new source review permit dated October 3, 2019 as amended May 3, 2021, to construct and operate a data center in accordance with the provisions of the Virginia Regulations for the Control and Abatement of Air Pollution. This amended permit supersedes your permit dated October 3, 2019, as amended May 3, 2021.

In the course of evaluating the application and arriving at a final decision to approve the project, the Department of Environmental Quality (DEQ) deemed the application complete on December 1, 2022.

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 Remington Technology Park Limited Partnership of the responsibility to comply with all other local, state, and federal permit regulations.

The proposed natural gas engine gen-sets may be subject to the requirements of 40 CFR Part 60, New Source Performance Standards (NSPS) Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines and 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (MACT) Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. In summary, the units may be required to comply with certain federal emission standards and operating limitations. The Department of Environmental Quality (DEQ) advises you to review the referenced MACT and NSPS to ensure compliance with applicable emission and operational

limitations. The Department of Environmental Quality (DEQ) advises you to review the referenced MACT and NSPS to ensure compliance with applicable emission and operational limitations. As the owner/operator you are also responsible for any monitoring, notification, reporting and recordkeeping requirements of the MACT and NSPS. Notifications shall only be sent to EPA, Region III.

To review any federal rules referenced in the above paragraph or in the attached permit, the US Government Publishing Office maintains the text of these rules at www.ecfr.gov, Title 40, Part 60 and 63.

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 notice was mailed or delivered to you. 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 amendment 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:

Michael S. Rolband Director
Department of Environmental Quality
P. O. Box 1105
Richmond, VA 23218

If this permit amendment 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.

Please contact Ms. Katie DeVoss at (571) 866-6048 or katie.devoss@deq.virginia.gov if you have any concerns or questions.

Sincerely,

Justin A. Wilkinson
Air Permit Manager

JAW/KD/74172 mNSR (2022-12-06)

Commonwealth of Virginia

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Regional Director

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE

This amended permit document supersedes the permit document dated October 3, 2019 as amended May 3, 2021.

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

Remington Technology Park Limited Partnership
12270 Lucky Hill Rd.
Remington, VA 22734
Registration No.: 74172

is authorized to construct and operate

natural gas engine generator sets (gen-sets)

located at

Remington Technology Park
12270 Lucky Hill Rd.
Remington, VA 22734
(Fauquier County)

in accordance with the Conditions of this permit.

Approved on: October 3, 2019
Last amended on: December 6, 2022

Justin A. Wilkinson
Air Permit Manager

Permit consists of 18 pages.
Permit Conditions 1 to 32.

INTRODUCTION

This permit approval is based on the permit application dated February 28, 2019, including supplemental information dated April 2, 2019, April 25, 2019, and July 22, 2019; the letter extension request dated March 19, 2021 and supplemental information dated April 2, 2021; and the letter extension request dated October 11, 2022.

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.

Words or terms used in this permit shall have meanings as provided in 9VAC5-80-1110 and 9VAC5-10-10 of the Commonwealth of Virginia's 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 Department of Environmental Quality (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 9VAC5-170-60 of the State Air Pollution Control Board's Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

Equipment List – Equipment at this facility consists of:

Equipment to be constructed:				
Reference No.	**Equipment Description**	**Standby Rated Capacity**	**Delegated Federal Requirements**	**Original Permit Date**
Gen 1 – Gen 24	Twenty Four (24) Caterpillar G3520H natural gas engine gen-sets	3,448 bhp 2,485 ekW (each unit)	None	October 3, 2019

Specifications included in the above tables are for informational purposes only and do not form enforceable terms or conditions of the permit.

PROCESS REQUIREMENTS

1. Emission Controls – Carbon monoxide (CO) emissions from each natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) shall be controlled by an engine oxidation catalyst. The engine oxidation catalyst shall be provided with adequate access for inspection and shall be in operation when each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) is operating.
(9VAC5-80-1180 and 9VAC5-50-260)

2. Emission Controls – Nitrogen oxides (NO_X) emissions from the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) shall be controlled by closed loop Selective Catalytic Reduction (SCR). Each SCR system shall be equipped with a temperature probe to continuously monitor the catalyst bed exhaust temperature while each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) is operational. Engine exhaust gas shall be treated with urea when the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) are operating at or above twenty percent load and the catalyst bed exhaust temperature of 572 °F is achieved, except for periods of start-up, shutdown, or malfunction. In the event that the engine exhaust gas temperature exceeds 977 °F, urea injection shall be discontinued and any operations above that level will be considered a malfunction. The SCR shall be provided with adequate access for inspection and shall be in operation when the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) are operating as stated above.
(9VAC5-80-1180 and 9VAC5-50-260)

3. Emission Controls – Visible emissions, particulate matter (PM_{10} and $PM_{2.5}$) emissions, carbon monoxide (CO) emissions, volatile organic compound (VOC) emissions, and nitrogen oxide (NO_X) emissions from each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) shall be controlled by the use of good operating practices and performing appropriate maintenance in accordance with the manufacturer recommendations. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not increase air emissions.
(9VAC5-80-1180 and 9VAC5-50-260)

4. Monitoring Devices – Natural gas engine-generator set

    a. Each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) 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 each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) shall be observed by the owner with a frequency of not less than once each day the natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) is operated. The owner shall keep a log of these observations.

    b. Each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) shall also be equipped with a device to monitor and record the engine-generator kilowatt output at a minimum frequency of once every fifteen minutes.

Each monitoring device shall be installed, maintained, calibrated (as appropriate) and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) are operating.
(9VAC5-80-1180 D)

5. Monitoring Devices – SCR and Oxidation Catalyst

   a. The SCR systems shall be equipped with devices to continuously measure and record the SCR bed exhaust temperature (in °F) and the NO_X emissions measured after the catalyst, expressed in parts per million (ppm). The information shall be recorded at a minimum frequency of once every fifteen minutes, and correlated to run date, engine load/kilowatt output, and engine operating hours.

   b. The engine oxidation catalyst controls shall be equipped with devices to continuously measure and record catalyst bed temperature (in °F) at a minimum frequency of once every fifteen minutes during the operation of each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24). The information shall be correlated to run date, engine load/kilowatt output, and engine operating hours.

   Each monitoring device shall be installed, maintained, calibrated, and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection. The monitoring devices shall be in operation when the SCR and engine oxidation catalyst are operating.
   (9VAC5-80-1180 D)

OPERATING/EMISSION LIMITATIONS

6. Operation of the Engine-Generator Set – The permittee shall operate and maintain each natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) and control device according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, the permittee may only change those settings that are permitted by the manufacturer and does not increase air emissions.
   (9VAC5-80-1180)

7. Operating Limitations (Ozone Season) – No natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) shall be operated for the purposes of preventative maintenance between the hours of 7 AM to 5 PM any day May 1 through September 30.
   (9VAC5-80-1180)

8. Operating Limitations (Ozone Season) – Integrational Operational Period (See Condition 9.d for definition)– During the integration operational period of each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24), any operation of the unit (that involves fuel combustion) between the hours of 7 AM to 5 PM any day during the ozone season of May 1 through September 30 shall only occur if the forecast Air Quality Index (AQI) for ozone as

published on the AirNow website (http://airnow.gov) for Northern Virginia for that day is ≤100. In the event that AirNow-EnviroFlash (www.enviroflash.info) issues an Air Alert for Metropolitan Washington, D.C. for a day which the forecasted AQI for ozone was ≤100, operation of each unit (which involves fuel combustion) shall be minimized to the maximum extent practical.
(9VAC5-80-1180)

9. Alternate Power Generation – The natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) shall only be operated in the following modes:

   a. In situations that arises 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 periodic maintenance, testing, and operational training;

   d. For the integration operational period, which is the period of time beginning with the first time the affected unit is started on-site and ending when the affected unit is fully integrated with the sources electrical system; and

   e. Voluntarily for the purposes of peak-shaving, demand response, or as part of a power supply arrangement with a power provider, other market participant, or system

operator. Operations, as outlined in this subsection, shall be allowed when the engine-generator set is operating at a load level necessary to sustain urea injection.

When changing from Alternate (Non-Emergency) Power Generation to Emergency Power Generation only, the permittee shall submit appropriate documentation to the Department of Environmental Quality (DEQ), and shall receive DEQ approval for the change in the method of operation of the natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) to ensure that the facility remains in compliance with the appropriate permitting requirements. Total emissions for any 12 month period, calculated as the sum of all emissions from operation under the scenarios above, shall not exceed the limits stated in Condition 14. (9VAC5-80-1180)

10. Operating Hours – The natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) shall not operate more than 2,000 hours per year each, 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.
(9VAC5-80-1180)

11. Fuel Specification – The approved fuel for the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) is pipeline quality natural gas. Pipeline natural gas must either be composed of at least 70 percent methane by volume or have a heat content between 950 and 1100 Btu/cf.
(9VAC5-80-1180 and 9VAC5-50-260)

12. Urea Specification – Urea solutions for use in SCR systems shall meet the specifications below:

Urea Content	32.5% by weight ±0.7% by weight
Density at 20 °C	1.09 g/cm³ ±0.003 g/cm³
Refracting Index at 20 °C	1.38285 ±0.00145
Alkalinity as NH_3	≤ 0.2%
Biuret	≤ 0.3%
Aldehyde	≤ 5 mg/kg
Insoluble	≤ 20 mg/kg
Phosphate, Calcium, Iron, Aluminum	≤ 0.5 mg/kg (each)
Magnesium, Sodium, Potassium	≤ 0.5 mg/kg (each)
Copper, Zinc, Chromium, Nickel	≤ 0.2 mg/kg (each)

Exceedance of these specifications may be considered credible evidence of an exceedance of emission limits. A change in the urea content may require a permit to modify and operate.
(9VAC5-80-1180 and 9VAC5-50-260)

EMISSION LIMITS

13. Emission Limits (Hourly) – Emissions from the operation of each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) shall not exceed the limits specified below:

	Uncontrolled	Controlled
Nitrogen Oxides (as NO_2)	7.60 lb/hr	0.76 lbs/hr
Carbon Monoxide (CO)	11.71 lb/hr	0.84 lbs/hr
Volatile Organic Compounds* (VOC)	3.50 lb/hr	1.27 lbs/hr
Particulate Matter (PM_{10})	0.20 lb/hr	0.20 lbs/hr
Particulate Matter ($PM_{2.5}$)	0.20 lb/hr	0.20 lbs/hr

* The Volatile Organic Compounds emission limit includes formaldehyde emissions.

These emissions 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 1, 2, 3, and 6.
(9VAC5-80-1180 and 9VAC5-50-260)

14. Emission Limits (Annual) – Total emissions from the combined operation of the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) for all purposes shall not exceed the limits specified below:

Nitrogen Oxides (as NO_2)	18.24 tons/yr
Carbon Monoxide (CO)	20.16 tons/yr
Volatile Organic Compounds* (VOC)	30.47 tons/yr
Particulate Matter (PM_{10})	4.80 tons/yr
Particulate Matter ($PM_{2.5}$)	4.80 tons/yr

* The Volatile Organic Compounds emission limit includes formaldehyde emissions.

These emissions are derived from the estimated overall controlled emission from the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) operating for 2,000 hours per year each. 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 1, 2, 3, and 6.
(9VAC5-80-1180 and 9VAC5-50-260)

15. Visible Emission Limit – Visible emissions from each natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) exhausts shall not exceed 5% 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 startup and shutdown, visible emissions from each natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) 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). (9VAC5-80-1180 and 9VAC5-50-260)

INITIAL COMPLIANCE DETERMINATION

16. Stack Test – Initial performance tests shall be conducted on two Caterpillar G3520H natural gas engine gen-sets (Ref. Nos. Gen 1 – Gen 24) for nitrogen oxides (as NO_2) using EPA Reference Method 7 or 7E and carbon monoxide (CO) using EPA Reference Method 10 or 10A to determine compliance with the respective emission limits contained in Condition 13.

    a. Emissions testing for each selected natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) shall consist of three one-hour test runs under load. The average of the three runs shall be reported as the short-term emission rate for that natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24);

    b. Testing shall be performed on the exhaust stack of the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) to demonstrate compliance with the NO_X and CO emission limits specified in Condition 13. Testing shall be conducted on the two Caterpillar G3520H natural gas engine gen-sets operating at ≥90 percent of their rated capacity, unless multiple load band testing is approved by DEQ;

    c. Recorded engine generator set operational information shall include, but not be limited to:

        i. Generator load/kilowatt output; and

        ii. Fuel consumption and fuel sulfur content of the fuel oil.

    d. Perform testing to demonstrate compliance within 120 days after the integration operational period has commenced. The integration operational period is defined as: the period of time beginning with the first time the affected unit is started on-site and ending when the affected unit is fully integrated with the sources electrical system. In no case shall this period exceed 30 days. If this deadline falls within the ozone season (May 1 through September 30), the facility shall perform testing to demonstrate compliance within 30 days after the end of the ozone season. Tests shall be conducted and reported and data reduced as set forth in 9VAC5-50-30;

    e. The details of the tests are to be arranged with the Regional Air Compliance Manager of the DEQ's NRO. The permittee shall submit the test protocol to the Regional Air

Compliance Manager of the DEQ's NRO at least thirty days prior to testing to ensure adequate time for DEQ approval. If the test protocol is received by the DEQ with less than thirty days for review and acceptance, DEQ approval may not be issued in a timely manner to allow for testing to take place according to the permittee's schedule;

f. Should conditions occur which would require rescheduling the testing, the permittee shall notify the Regional Air Compliance Manager of the DEQ's NRO in writing, within seven days prior to the original scheduled test date or as soon as the rescheduling is deemed necessary; and

g. Two copies, one hard copy and one on electronic media, of the test results shall be submitted to the Regional Air Compliance Manager of the DEQ's NRO within 60 days after test completion and shall conform to the test report format enclosed with this permit.

(9VAC5-50-30, 9VAC5-80-1200, and 9VAC5-50-410)

17. Stack Test – Initial performance tests shall be conducted on two Caterpillar G3520H natural gas engine gen-sets (Ref. Nos. Gen 1 – Gen 24) for volatile organic compounds (VOC) emissions and formaldehyde using appropriate testing methods to determine compliance with the respective emission limits contained in Conditions 13.

a. Testing shall be conducted on the two Caterpillar G3520H natural gas engine gen-sets operating at ≥90 percent of its rated capacity, unless multiple load band testing is approved by DEQ;

b. Perform testing to demonstrate compliance within 120 days after the integration operational period has commenced. If this deadline falls within the ozone season (May 1 through September 30) the facility shall perform testing to demonstrate compliance within 30 days after the end of the ozone season. Tests shall be conducted and reported and data reduced as set forth in 9VAC5-50-30 and 9VAC5-60-30, and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410 and 9VAC5-60-70;

c. The details of the tests are to be arranged with the Regional Air Compliance Manager, DEQ's NRO. The permittee shall submit the test protocol to the Regional Air Compliance Manager of the DEQ's NRO at least thirty days prior to testing to ensure adequate time for DEQ approval. If the test protocol is received by the DEQ with less than thirty days for review and acceptance, DEQ approval may not be issued in a timely manner to allow for testing to take place according to the permittee's schedule;

d. Should conditions occur which would require rescheduling the testing, the permittee shall notify the Regional Air Compliance Manager of the DEQ's NRO in writing, within seven days prior to the original scheduled test date or as soon as the rescheduling is deemed necessary; and

e. Two copies, one hard copy and one on removable electronic media, of the test results shall be submitted to the Regional Air Compliance Manager of the DEQ's NRO

within 60 days after test completion and shall conform to the test report format enclosed with this permit.

For lab testing only (not field testing): Samples taken as required by this permit shall be analyzed in accordance with 1VAC30-46, Accreditation for Commercial Environmental Laboratories.
(9VAC5-50-30, 9VAC5-80-1200, and 9VAC5-50-410)

18. Visible Emissions Evaluation – Concurrent with the initial compliance determination required in Condition 16 , Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall also be conducted by the permittee on the selected natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) selected for initial performance testing. The details of the tests shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO. The permittee shall submit a VEE protocol in conjunction with the initial stack test protocol required by Condition 16 at least 30 days prior to testing.

    a. Should conditions prevent concurrent opacity observations, the Regional Air Compliance Manager of the DEQ's NRO shall be notified in writing, within seven days, prior to the scheduled testing and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests.

    b. Two copies of the test result (one hard copy and one on electronic media) shall be submitted to the Regional Air Compliance Manager of the DEQ's NRO within 60 days after test completion and shall conform to the test report format enclosed with this permit (Attachment A).

    (9VAC5-50-30 and 9VAC5-80-1200)

CONTINUING COMPLIANCE DETERMINATION

19. Facility Construction – The facility 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.
(9VAC5-50-30 F and 9VAC5-80-1180)

20. Emissions Testing/Visible Emissions Evaluation – Upon request by the DEQ, the permittee shall conduct stack tests and/or VEEs of the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO.
(9VAC5-50-30 G and 9VAC5-80-1200)

21. Urea Storage and Testing – The urea solution shall be stored and replaced in accordance with manufacturer recommendations and shall be stored in a manner to minimize temperature spikes. Urea solutions for use with closed loop SCR systems shall be tested every 36 months, from the date of delivery, to verify quality of the urea solution, as specified in Condition 12.

    Any test results that demonstrate the urea does not comply with Condition 12 shall be submitted to DEQ within 15 days of testing. The facility shall notify Regional Air Compliance Manager of the DEQ's NRO of corrective actions taken and provide Regional Air Compliance Manager of the DEQ's NRO with test results demonstrating that the corrected or replace urea solution complies with Condition 12 within 45 days of the original testing date.
    (9VAC5-80-1180)

RECORDS

22. 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 the date of monitoring device observations.

    b. Monthly and annual hours of operation of each natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) while operating with control systems on, calculated monthly as the sum of each consecutive 12 month period.

    c. Monthly and annual hours of operation of each natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) while operating with control systems off, calculated monthly as the sum of each consecutive 12 month period.

    d. Monthly and annual hours of operation of the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) combined, calculated as the sum of each consecutive 12 month period.

    e. Records of the reasons for operation for each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) including, but not limited to, the date, cause of operation, cause of the emergency (if applicable), the ISO-declared emergency notification (if applicable), control device status, and the hours of operation.

    f. Records for the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) operations, as necessary, to demonstrate compliance with the operating limitations of Condition 7; which includes but is not limited to: times, dates, control device status, and reasons for operation of each engine-generator set that was operating between May 1 and September 30.

    g. To verify compliance with Condition 8, maintain records for each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24)of:

i. The forecasted AQI, as determined by the AirNow website for Northern Virginia, for ozone for the day(s) that the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) operated during the integration operational period;

ii. The measured AQI, as determined by the AirNow website for Northern Virginia, for ozone for the day(s) that the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) operated during the integration operational period; and

iii. Documentation recording any Air Alerts issued for that operating day, as determined by AirNow-EnviroFlash; and

iv. Details of commissioning activities, to include, but not limited to, clock hours and duration.

h. All valid purchase contracts, tariff sheets or transportation contracts for the fuel, to demonstrate compliance with Condition 11.

i. A NO_X urea table for each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) equipped with SCR to verify that the SCR is operating as specified by the manufacturer. Each NO_X urea table shall include the engine load, temperature after the catalyst, NO_X concentration before and after the catalyst, the urea consumption rate, and the catalyst efficiency.

j. Operation and control device monitoring records for each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) equipped with a SCR as required in Condition 5. This includes records of the SCR catalyst exhaust bed temperature and NO_X emission concentration as measured by SCR continuous monitoring device.

k. Operation and control device monitoring records for each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) equipped with an engine oxidation catalyst as required in Condition 5. This includes records of the engine oxidation catalyst bed temperature.

l. Control efficiency of the SCR using a calculation method approved by the Regional Air Compliance Manager of the DEQ's NRO.

m. Records of all urea solution testing, in accordance with Condition 21.

n. Engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement for each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24).

o. The manufacturer's written operating instruction or procedures developed by the owner/operator that are approved by the engine manufacturer for each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24).

p. Results of all stack tests and visible emission evaluations.

q. Scheduled and unscheduled maintenance and operator training.

Compliance for the consecutive 12-month period in subsections above (as applicable) shall be demonstrated monthly by adding the total for the most recently completed month to the individual monthly totals for the preceding 11 months.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years, unless otherwise noted.
(9VAC5-80-1180 and 9VAC5-50-50)

NOTIFICATIONS

23. Initial Notifications – The permittee shall furnish written notification of the items below to the Regional Air Compliance Manager of the DEQ's NRO at the following address:

Regional Air Compliance Manager
Department of Environmental Quality
13091 Crown Court
Woodbridge, VA 22193

The permittee shall submit one notification for each building or construction phase containing information on each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) as described below:

a. The actual date on which installation of the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) in the building, or phase, commenced within 30 days after such date. The notification must contain the following:

i. Name and address of the permittee;

ii. The address of the affected source; and,

iii. The date construction commenced.

b. The date that the integration operational period started for each natural gas engine-generator set (Ref. Nos. Gen 1 – Gen 24) within 15 days after the last generator at each building, or construction phase, completes its integration operational period. If a period of construction is paused or halted for 45 days, this notification shall be provided to the Regional Air Compliance Manager of the DEQ's NRO within 15 days after completion of the integration operational period for the most recently installed engine-generator set. The notification must contain the following:

i. Engine information including make, model, engine family, serial number, model year, maximum engine power, engine displacement, fuel used;

ii. Installation date; and,

iii. Integration operational period start and end dates.

For the purpose of this notification, the integration operational period is defined as: the period of time beginning with the first time the affect unit is started on-site and ending when the affected unit is fully integrated with the sources electrical system. In no case shall this period exceed 30 days.
(9VAC5-50-50 and 9VAC5-80-1180)

GENERAL CONDITIONS

24. Permit Invalidation – This permit to construct the natural gas engine-generator sets (Ref. Nos. Gen 1 – Gen 24) 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 amendment.

    b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of the phased construction of a new stationary source or project.

    (9VAC5-80-1210)

25. 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.

    (9VAC5-80-1210 G)

26. Right of Entry – The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

    a. 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;

b. 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;

c. 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

d. 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.
(9VAC5-170-130 and 9VAC5-80-1180)

27. Maintenance/Operating Procedures – At all times, including periods of start-up, shutdown, soot blowing, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated monitoring devices and 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:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

b. Maintain an inventory of spare parts.

c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

d. 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.
(9VAC5-50-20 E and 9VAC5-80-1180 D)

28. 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.
(9VAC5-20-180 J and 9VAC5-80-1180 D)

29. Notification for Facility or Control Equipment Malfunction – The permittee shall furnish notification to the Regional Air Compliance Manager of 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. Such notification shall be made 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 14 days 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 Regional Air Compliance Manager of the DEQ's NRO.
(9VAC5-20-180 C and 9VAC5-80-1180)

30. 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.
(9VAC5-20-180 I and 9VAC5-80-1180)

31. Change of Ownership – In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current minor NSR 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.
(9VAC5-80-1240)

32. Permit Copy – The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9VAC5-80-1180)