Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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

Travis A. Voyles
Secretary of Natural and Historic Resources

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

Richard C. Doucette, CPG
Regional Director

March 19, 2024

Mr. Vincent K Moore Jr., GSP
Sr. EHS Compliance Operations Analyst
Equinix, LLC
21715 Filigree Court
Ashburn, Virginia 20147

Location: Loudoun County
Reg. No.: 73233

Dear Mr. Moore:

Attached is a permit approval to construct and operate a project at a data center in accordance with the provisions of the Virginia Regulations for the Control and Abatement of Air Pollution. This combined permit document supersedes your permit document dated March 31, 2015.

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 March 15, 2024.

This permit document 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 Equinix, LLC of the responsibility to comply with all other local, state, and federal permit regulations.

The proposed engine gen-sets may be subject to 40 CFR 63, Maximum Achievable Control Technology, (MACT) Subpart ZZZZ and 40 CFR 60, New Source Performance Standard (NSPS), Subpart IIII. Virginia has not accepted delegation of these rules. In summary, the units may be required to comply with certain federal emission standards and operating limitations. DEQ advises you to review the referenced MACT and NSPS to ensure compliance with applicable emission and operational limitations. As the owner/operator you may be also

responsible for any monitoring, testing, notification, reporting and recordkeeping requirements of the MACT and NSPS. Notifications and reports 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 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 DEQ 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 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 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 Ms. Cameron Stewart at (571) 866-6093 or by email at **cameron.stewart@deq.virginia.gov.**

Sincerely,

Justin A. Wilkinson
Regional Air Permit Manager

JAW/CLS/73233 mNSR (2024-03-19)

Attachment: Permit

Commonwealth of Virginia

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Richard C. Doucette, CPG
Regional Director

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE

This permit document supersedes your permit document dated March 31, 2015.

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

Equinix, LLC
21711 Filigree Court
Ashburn, Virginia 20147
Registration No.: 73233

is authorized to construct and operate

emergency diesel engine generator-sets (gen-sets)

located at

21691, 21701, 21711, 21715 and 21721 Filigree Court
Ashburn, Virginia 20147
(Loudoun County)

in accordance with the Conditions of this permit document.

Approved on: March 19, 2024

Justin A. Wilkinson
Regional Air Permit Manager

Permit consists of 24 pages.
Permit Conditions 1 to 36.
Appendix A, Tables 1 and 2.
Source Testing Report Format.

INTRODUCTION

This permit approval is based on and combines permit terms and conditions in accordance with 9VAC5-80-1255 from the following permit approvals and the respective permit applications:

- mNSR approval dated March 19, 2024, based on the permit application dated September 20, 2023, including supplementation information dated October 27, 2023, March 6, 2024, and March 15, 2024.
- mNSR approval dated March 31, 2015 based on the permit application dated December 8, 2014.
- mNSR approval dated April 8, 2010, based on the permit application dated January 27, 2010, including supplementation information dated March 15, 2010.
- mNSR approval dated February 4, 2010, based on the permit application dated October 9, 2009, including supplementation information dated December 15, 2009.
- mNSR approval dated November 7, 2007, based on the permit application dated July 9, 2007, including supplementation information dated August 9, 2007 and November 1, 2007.
- mNSR approval dated October 13, 2006, based on the permit application dated July 18, 2006, including supplementation information dated August 25, 2006.
- mNSR approval dated September 5, 2003, based on the permit application dated August 5, 2003, including supplementation information dated August 7, 2003.
- mNSR approval dated October 31, 2002, based on the permit application dated January 29, 2002, including supplementation information dated May 15, 2002, July 8, 2002, September 11, 2002, and September 16, 2002.

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 document.

Words or terms used in this permit document shall have meanings as provided in 9VAC5-80-1110 (definitions) and 9VAC5-10-20 of the State Air Pollution Control Board's (Board) Regulations for the Control and Abatement of Air Pollution (Regulations). The regulatory reference or authority for each condition is listed in parentheses () after each condition. The enabling permit program, or permit programs is provided below each permit condition in the regulatory authority parenthetical as follows: 9VAC5-80-850 for Article 5, 9VAC5-80-1180 for Article 6, 9VAC5-80-1985 for Article 8, and 9VAC5-80-2050 for Article 9. The most recent effective date for a term or condition is listed in brackets [ ]. When identical conditions for one or more emission units are combined, the effective date listed in this permit does not alter the prior effective date(s) for any such conditions as issued in a previous permit action. In accordance with 9VAC5-80-1120F, any condition not marked as state-only enforceable (SOE) is state and federally enforceable.

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 Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

PROCESS REQUIREMENTS

Equipment List - Equipment at this facility consists of the following:

Equipment to be Constructed:				
Reference No.	**Equipment Description**	**Rated Capacity**	**Delegated Federal Requirements**	**Original Permit Date**
DC2EG-7 DC2EG-R	Two (2) Caterpillar Model 3516C diesel-fired emergency engine gen-sets	2,937 bhp, each; 2,000 ekW, each	None	March 19, 2024

Equipment permitted prior to the date of this permit:				
Reference No.	**Equipment Description**	**Rated Capacity**	**Add-On Control Technology**	**Original Permit Date**
DC1EG-1 DC1EG-2 DC1EG-3	Three Caterpillar engine generator sets, each with model 3412C diesel engine and model SR4B generator	1180 bhp, each; 800 kW, each	-	10/31/2002 (as amended 9/5/2003)
DC1EG-4	One Caterpillar engine generator set with model 3412C diesel engine and model SR4B generator	1108 bhp; 750 kW	-	2/10/2010
DC2EG-1 DC2EG-2 DC2EG-3 DC2EG-4 DC2EG-5 DC2EG-6	Six Caterpillar engine generator sets, each with model 3516B diesel engine and model SR4B generator	2876 bhp, each; 2000 kW, each	-	10/31/2002 (as amended 9/5/2003)

Equipment permitted prior to the date of this permit:				
DC4EG-A DC4EG-B DC4EG-C DC4EG-D DC4EG-E DC4EG-R DC4EG-S	Seven Caterpillar engine generator sets, each with model 3516C diesel engine and model SR5 generator	3634 bhp, each; 2500 kW, each	-	10/13/2006
DC5EG-A DC5EG-B DC5EG-C DC5EG-D DC5EG-E DC5EG-R DC5EG-S	Seven Caterpillar engine generator sets, each with model 3516C diesel engine and model SR5 generator	3634 bhp, each; 2500 kW, each	SCR – Miratech (closed loop) NOx control system	11/7/2007
DC6EG-A DC6EG-B DC6EG-R DC6EG-C DC6EG-D DC6EG-E	Six Caterpillar engine generator sets, each with model C175-16 diesel engine and model SR5 generator	4423 bhp, each; 3000 kW, each	SCR – Miratech (closed loop) NOx control system	4/8/2010
DC11EG-1 DC11EG-2 DC11EG-3 DC11EG-4 DC11EG-5 DC11EG-6 DC11EG-7 DC11EG-8 DC11EG-9	Nine (9) Caterpillar engine generator sets, each with model 3516C-HD diesel engine and matching generator rated at 2500 kilowatts (kW) output	3634 brake horsepower (bhp), each; 2500 kW, each	-	3/31/2015

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

1. **Emission Controls** - Emissions from the engine gen-sets shall be controlled by the following:

   a. Nitrogen oxides (as NO_2) emissions from each of the six engine gen-sets at Building DC6 (Ref. Nos. DC6EG-A through DC6EG-E and DC6EG-R) and the seven engine gen-sets at Building DC5 (Ref. Nos. DC5EG-A through DC5EG-E, DC5EG-R, and DC5EG-S) shall be controlled by a 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 the engine gen-set is operational. Engine exhaust gas shall be treated with urea solution when the engines are operating at or above twenty percent load and the catalyst bed exhaust temperature of 570°F is

achieved, except for periods of start-up, shutdown or malfunction. In the event that engine exhaust gas temperature exceeds 950°F, urea solution injection shall be discontinued and any operations above that level will be considered a malfunction. The SCR system control device shall be provided with adequate access for inspection.

b. Nitrogen oxides (as NO_2) emissions from each engine gen-set at Building DC11 (Ref. Nos. DC11EG-1 through DC11EG-9) shall be controlled by electronic fuel injection, turbocharged engine and aftercooler. The permittee shall maintain documentation that demonstrates the control features have been installed on the engine gen-sets.

c. Sulfur Dioxide (SO_2) emissions from the engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-6, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) shall be controlled by the use of ultra low sulfur diesel fuel oil with a sulfur content not to exceed 0.0015% by weight.

d. Proper combustion for and visible emissions from the diesel engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-6, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) shall be controlled by the use of proper operating practices and performing appropriate maintenance in accordance with the manufacturer recommendations.

(9VAC5-80-1180 and 9VAC5-50-260) [3/19/2024]

2. **Emission Controls -** Emissions from the emergency diesel engine gen-sets shall be controlled by the following:

a. Nitrogen oxides (NO_X) emissions from each emergency diesel engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R) shall be controlled by engine design.

b. Carbon monoxide (CO) emissions, particulate matter ($PM_{10}/PM_{2.5}$) emissions, volatile organic compounds (VOC) emissions, nitrogen oxide (NO_X) emissions (as NO_2), and visible emissions from the emergency diesel engine gen-sets (Ref. Nos. DC2EG-7 and DC2EG-R) shall be controlled by the use of good operating practices and performing 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 degrade the air emissions from the emergency diesel engine gen-sets.

(9VAC5-80-1180 and 9VAC5-50-260) [3/19/2024]

3. **Monitoring -**

   a. Each engine gen-set (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-7, DC2EG-R, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) shall be equipped with a non-resettable hour meter which measures the duration of time that each engine is operated. Refer to Condition 25 for record keeping requirements to demonstrate compliance with this condition.

   b. The SCR system on each diesel engine gen-set at Building DC6 (Ref. Nos. DC6EG-A thru DC6EG-E and DCEG6-R) and Building DC5 (Ref. Nos. DC5EG-A thru DC5EG-E, DC5EG-R and DC5EG-S) shall be equipped with a device to continuously measure and record the SCR catalyst bed exhaust temperature, and the NO_X emissions measured after the catalyst (expressed in 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. Refer to Condition 25 for record keeping requirements to demonstrate compliance with this condition.

   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 and shall be in operation when the engines are operating.
   (9VAC5-80-1180 D, 9VAC5-50-20 C, and 9VAC5-50-260) [3/19/2024]

4. **Monitoring Device Observation** - To ensure good performance, the monitoring devices used to continuously measure the operating hours and the SCR parameters required in Condition 0 shall be observed by the permittee at a minimum frequency of once per day during days in which the engine gen-set is called into service. Refer to Condition 25 for record keeping requirements to demonstrate compliance with this condition.
   (9VAC5-80-1180) [3/19/2024]

OPERATING LIMITATIONS

5. **Emergency Power Generation** - The engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-7, DC2EG-R, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) 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 scheduled maintenance checks and readiness testing (Scheduled MCRT).

d. For unscheduled maintenance, testing, and operational training.

e. 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 source's electrical system.

(9VAC5-80-1180) [3/19/2024]

6. **Operating Hours -**

a. No engine gen-set (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-6, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and

DC11EG-1 through DC11EG-9) shall operate more than 500 hours per year, calculated monthly as the sum of each consecutive 12-month period.

b. The engine gen-sets at Building DC11 (Ref. Nos. DC11EG-1 thru DC11EG-9) shall not operate more than combined total of 900 hours per year.

c. No engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R) shall operate more than 100 hours per year, calculated monthly as the sum of each consecutive 12-month period.

d. Each emergency diesel engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R) shall not operate more than 17 hours per year for scheduled maintenance checks and readiness testing (Scheduled MCRT, as provided in Condition 5.c).

Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total hours of operation for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-1180) [3/19/2024]

7. **Operation of the Engine Gen-Sets** - The permittee must operate and maintain each engine gen-set (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-7, DC2EG-R, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) 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 do not degrade on air emissions.
(9VAC5-80-1180 and 9VAC5-50-260) [3/19/2024]

8. **Operating Limitations (Ozone Season) -** No emergency diesel engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R) shall be operated for scheduled maintenance checks and readiness testing (Scheduled MCRT), stack testing, or operational training (that involves fuel combustion) between the hours of 7 a.m. to 5 p.m. any day during May 1 through September 30. The permittee may petition the Regional Air Compliance Manager of DEQ's NRO, for exceptions to this requirement, with approvals made on a case-by-case basis.
(9VAC5-80-1180) [3/19/2024]

9. **Operating Limitations (Ozone Season) - Integration Operational Period -** During the integration operational period of each emergency diesel engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R), any operation of the unit (that involves fuel combustion) between the hours of 7 a.m. to 5 p.m. 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 (**https://airnow.gov**) for Northern Virginia for that day is less than or equal to 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

less than or equal to 100, operation of each unit (which involves fuel combustion) shall be minimized to the maximum extent practical.
(9VAC5-80-1180) [3/19/2024]

10. **Fuel Specification** - The approved fuel for the engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-7, DC2EG-R, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) shall be diesel fuel oil that meets the specifications below:

    a. Does not exceed the American Society for Testing and Materials (ASTM) specification, D975, for grade ultra low sulfur 2-D or grade 2-D S15, or,

    b. Has a maximum sulfur content not to exceed 0.0015% by weight (15 ppm), and either a minimum cetane number of forty or maximum aromatic content of thirty-five volume percent.

    A change in the fuel type or the fuel sulfur content may require a permit to modify and operate.
    (9VAC5-80-1180 and 9VAC5-50-260) [3/19/2024]

11. **Fuel Certification** - The permittee shall obtain a certification from the fuel supplier with each shipment of diesel fuel oil. Each fuel supplier certification shall include the following:

    a. The name of the fuel supplier; and

    b. The date on which the diesel fuel oil was received; and

    c. The quantity of diesel fuel oil delivered in the shipment; and

    d. A statement that the diesel fuel oil conforms to the requirements of the Condition 10 - Fuel Specification; or

    e. Alternatively, the permittee shall obtain approval from the Regional Air Compliance Manager of the DEQ's Northern Regional Office (NRO), at the address in Condition 25, if other documentation will be used to certify the diesel fuel oil type.

    Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by the DEQ, may be used to determine compliance with the fuel specifications stipulated in Condition 10.
    (9VAC5-80-1180) [3/19/2024]

EMISSION LIMITS

12. **Hourly Emission Limits** - Hourly emissions from the operation of each engine gen-set shall not exceed the limits specified below:

a. Engine gen-sets at Building DC1 (Ref. Nos. DC1EG-1 through DC1EG-4)

	DC1EG-1 thru -3	DC1EG-4
Particulate Matter (PM_{10})	0.70 lbs/hr	0.52 lbs/hr
Nitrogen Oxides (as NO_2)	18.73 lbs/hr	17.61 lbs/hr
Carbon Monoxide (CO)	4.15 lbs/hr	3.23 lbs/hr
Volatile Organic Compounds (VOC)	0.68 lbs/hr	0.60 lbs/hr

b. Engine gen-sets at Building DC2 (Ref. Nos. DC2EG-7 and DC2EG-R)

	DC2EG-7 and DC2EG-R
Particulate Matter (PM2.5)	0.62 lbs/hr
Particulate Matter (PM10)	0.62 lbs/hr
Nitrogen Oxides (as NO2)	38.85 lbs/hr
Carbon Monoxide (CO)	3.90 lbs/hr
Volatile Organic Compounds (VOC)	1.14 lbs/hr

c.

Engine gen-sets at Buildings DC4 and DC2 (Ref. Nos. DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S; and Ref. Nos. DC2EG-1 through DC2EG-6)

	DC4EG-A thru -S	DC2EG-1 thru -6
Particulate Matter (PM10)	0.40 lbs/hr	0.63 lbs/hr
Nitrogen Oxides (as NO2)	48.11 lbs/hr	70.02 lbs/hr
Carbon Monoxide (CO)	5.86 lbs/hr	4.85 lbs/hr
Volatile Organic Compounds (VOC)	1.17 lbs/hr	1.32 lbs/hr

d. Engine gen-sets at Building DC5 with SCR (Ref. Nos. DC5EG-A through DC5EG-E, DC5EG-R and DC5EG-S)

	With SCR operating	W/out SCR operating
Particulate Matter (PM10)	0.40 lbs/hr	0.40 lbs/hr
Nitrogen Oxides (as NO2)	4.81 lbs/hr	48.11 lbs/hr
Carbon Monoxide (CO)	5.86 lbs/hr	5.86 lbs/hr
Volatile Organic Compounds (VOC)	1.17 lbs/hr	1.17 lbs/hr

e. Engine gen-sets at Building DC6 with SCR (Ref. Nos. DC6EG-A through DC6EG-E and DC6EG-R)

	With SCR operating	W/out SCR operating
Particulate Matter (PM10)	0.60 lbs/hr	0.60 lbs/hr
Nitrogen Oxides (as NO2)	6.01 lbs/hr	60.09 lbs/hr
Carbon Monoxide (CO)	13.00 lbs/hr	13.00 lbs/hr
Volatile Organic Compounds (VOC)	2.56 lbs/hr	2.56 lbs/hr

f. Engine gen-sets at Building DC11 (Ref. Nos. DC11EG-1 thru DC11EG-9)

	DC11EG-1 thru -9
Particulate Matter (PM10)	0.41 lbs/hr
Nitrogen Oxides (as NO2)	48.07 lbs/hr
Carbon Monoxide (CO)	6.01 lbs/hr
Volatile Organic Compounds (VOC	1.20 lbs/hr

These emissions are derived from the manufacturer "not to exceed" data on emissions at maximum design capacity of the diesel engines. For engine gen-sets equipped with SCR (Ref. Nos. DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E and DC6EG-R), continuing compliance with NO_2 emission limits is based also on proper SCR operation, as stated in Condition 1, and monitoring system calibration, as stated in Condition 21. Compliance with the other pollutant limits shall be based on the proper operation and maintenance of the diesel engines and/or testing, as required by DEQ. (9VAC5-80-1180 and 9VAC5-50-260) [3/19/2024]

13. **Annual Emission Limits -** Emissions from the operation of the emergency diesel engine gen-sets (Ref. Nos. DC2EG-7 and DC2EG-R) shall not exceed the limits specified below:

Nitrogen Oxides (NO_X as NO2)	3.88 tons/yr

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 the annual emission limits may be determined as stated in Conditions 2, 6, 10, and 12.
(9VAC5-80-1180) [3/19/2024]

14. **Annual Engine-Generator Emission Limits** - Total emissions from the engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-6, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) combined shall not exceed the limits specified below:

Particulate Matter (PM)/PM-10	0.71 tons/yr
Nitrogen Oxides (as NO_2)	66.15 tons/yr
Carbon Monoxide	8.37 tons/yr
Volatile Organic Compounds	2.07 tons/yr

Compliance with the other emission limits may be determined from operating records and use of nominal emission factors, as stated in Conditions 1, 10, 12, and 15. (9VAC5-80-1180 and 9VAC5-50-260) [3/19/2024]

15. **Annual Emissions Calculations** - The total annual emissions from the engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-6, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) shall be calculated using the equation below:

a. NO_X emissions (tons/year) =

$$\left\{\begin{array}{l}\left(\frac{\text{Total hours Ref.\# DC1EG-1 thru-3 operated}}{\text{Year}}\times\frac{15.48\text{ lbs. NO}_x}{\text{hour}}\right)+\\ \left(\frac{\text{Total hours Ref.\# DC1EG-4 operated}}{\text{Year}}\times\frac{14.56\text{ lbs. NO}_x}{\text{hour}}\right)+\\ \left(\frac{\text{Total hours Ref.\# DC2EGs operated}}{\text{Year}}\times\frac{58.35\text{ lbs. NO}_x}{\text{hour}}\right)+\\ \left(\frac{\text{Total hours Ref.\# DC4EGs operated}}{\text{Year}}\times\frac{40.09\text{ lbs. NO}_x}{\text{hour}}\right)+\\ \left\{\left(\frac{\text{Total hours Ref.\# DC5EGs operated without SCR}}{\text{Year}}\times\frac{40.09\text{ lbs. NO}_x}{\text{hour}}\right)+\right.\\ \left(\frac{\text{Total hours Ref.\# DC5EGs operated with SCR}}{\text{Year}}\times\frac{4.01\text{ lbs. NO}_x}{\text{hour}}\right)+\\ \left(\frac{\text{Total hours Ref.\# DC6EGs operated without SCR}}{\text{Year}}\times\frac{50.08\text{ lbs. NO}_x}{\text{hour}}\right)+\\ \left(\frac{\text{Total hours Ref.\# DC6EGs operated with SCR}}{\text{Year}}\times\frac{6.01\text{ lbs. NO}_x}{\text{hour}}\right)+\\ \left(\frac{\text{Total hours Ref.\# DC11EGs operated}}{\text{Year}}\times\frac{48.07\text{ lbs. NO}_x}{\text{hour}}\right)\end{array}\right\}\times\frac{1\text{ Ton}}{2{,}000\text{ lbs.}}$$

b. Emission Factors: Annual emissions for other criteria pollutants may be calculated using the above formula with the manufacturer emission factors as follows:

Engine-generator emission factors (in lbs/hour)

	DC1EG-1 thru -3	DC1 EG-4	DC2EGs	DC4EGs	DC5EGs	DC6EGs	DC11 EGs
NOx as (NO_2)	15.48	14.56	58.35	40.09	40.09 4.01 with SCR	50.08 6.01 with SCR	48.07
CO	2.22	1.73	2.69	3.25	3.25	7.22	6.01
SO2	0.014	0.013	0.034	0.044	0.044	0.054	0.044
VOC	0.44	0.46	0.99	0.88	0.88	1.92	1.20
PM-10	0.36	0.27	0.45	0.28	0.28	0.43	0.41

The total annual emissions from the engine gen-sets shall be calculated monthly as the sum of each consecutive twelve-month period. Refer to Condition 25 for recordkeeping requirements to demonstrate compliance with this condition.
(9VAC5-80-1180 and 9VAC5-50-260) [3/19/2024]

16. **Visible Emission Limit** - The below visible emission limits apply at all times except during startup, shutdown, and malfunction, unless otherwise stated:

    a. Visible emissions from each of the engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG-3 and DC2EG-1 through DC2EG-6) shall not exceed twenty percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed thirty percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).

    b. Visible emissions from the stack of each of the engine gen-sets (Ref. Nos. DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC4EG-A through DC4EG-E, DC4EG-R, and DC4EG-S) shall not exceed five percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed ten percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).

    c. Visible emissions from each of the engine gen-sets (Ref. Nos. DC1EG-4, DC2EG-7, DC2EG-R, DC6EG-A through DC6EG-E, DC6EG-R, DC11EG-1 through DC11EG-9), shall not exceed five percent (5%) opacity except during one six-minute period in any one hour in which visible emissions shall not exceed ten percent (10%) opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). During start-up and shut-down times, visible emissions from the generators shall not exceed ten percent (10%) except during one six-minute period in any one hour in which visible emissions shall not exceed twenty percent (20%) opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).

    (9VAC5-80-1180, 9VAC5-50-80, and 9VAC5-50-260) [3/19/2024]

17. **Testing/Monitoring Ports** - The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This

includes constructing the 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 in accordance with EPA Reference Method 1 (ref. 40 CFR 60, Appendix A). In addition, safe sampling platforms and access shall be provided. (9VAC5-50-30 F and 9VAC5-80-1180) [3/19/2024]

INITIAL COMPLIANCE DETERMINATION

18. **Testing Verification Meeting** - The permittee shall arrange to meet with the Regional Air Compliance Manager of the DEQ's NRO to discuss annual performance assessment per Condition 21. The meeting shall take place prior to the submittal of the final stack test protocol and is required in order for the protocol to be accepted. (9VAC5-80-1180) [3/19/2024]

19. **Stack Test** - Initial performance tests shall be conducted on the two (2) emergency diesel engine gen-sets (Ref. Nos. DC2EG-7 and DC2EG-R) for NO_X (as NO_2) and CO using appropriate EPA reference methods as approved by the Regional Air Compliance Manager of the DEQ's NRO to determine compliance with the emission limits contained in Condition 12.

    a. Emissions testing of each pollutant for each selected emergency diesel engine gen-set shall consist of three (3) one-hour test runs under load. The average of the three (3) runs shall be reported as the short-term emission rate for that emergency diesel engine gen-set;

    b. Testing shall be performed on the exhaust stack of the emergency diesel engine gen-set to demonstrate compliance with the NO_X and CO emission limits specified in Condition 12. Testing shall be conducted with the emergency diesel engine gen-set operating at ≥ 90 percent of its rated capacity, unless multiple load band testing is approved by DEQ;

    c. Recorded emergency diesel engine gen-set operational information shall include, but not be limited to:

        i. Generator load/kilowatt output.

        ii. Fuel consumption and fuel sulfur content of the diesel 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 source electrical system. 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 DEQ's NRO. The permittee shall submit the test protocol to the Regional Air Compliance Manager of DEQ's NRO, at least 30 days prior to testing to ensure adequate time for DEQ approval. If the test protocol is received by the DEQ with less than 30 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 DEQ's NRO, in writing, within seven (7) days of the scheduled test date or as soon as the rescheduling is deemed necessary; and

g. Two (2) copies (one (1) paper copy and one (1) electronic copy) of the test results shall be submitted to the Regional Air Compliance Manager, DEQ's NRO within 60 days after test completion and shall conform to the test report format enclosed with this permit.

(9VAC5-50-30 and 9VAC5-80-1200) [3/19/2024]

20. **Visible Emissions Evaluation** - Concurrent with the initial performance tests required in Condition 19, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall also be conducted by the permittee on the emergency diesel engine gen-sets selected for initial performance testing. The details of the tests are to be arranged with the Regional Air Compliance Manager of DEQ's NRO. The permittee shall submit a VEE protocol in conjunction with the initial stack test protocol required by Condition 19, 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 (7) days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same operating conditions as the initial performance tests.

b. Two (2) copies of the test result (one (1) hard copy and one (1) electronic copy) 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) [3/19/2024]

CONTINUING COMPLIANCE VERIFICATION

21. **Continuing SCR System Assessment** - Within the first twelve months following the initial performance testing, and once every twelve months thereafter, the closed loop SCR monitoring system for each engine gen-set employed to monitor NO_X (as NO_2) emissions at Buildings DC5 and DC6 (Ref. Nos. DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, and DC6EG-R) shall be calibrated in accordance with the manufacturer's recommended procedures, using EPA Protocol 1 calibration gases.

    a. Calibrations shall be accurate to within five parts per million (ppm) of the sample gas.

    b. The permittee shall maintain on-site records of annual calibration testing, calibration gas certifications, and any corrective action that may have been taken.

    (9VAC5-80-1180) [3/19/2024]

22. **Stack Tests** - Upon request by the DEQ, the permittee shall conduct additional performance testing of the engine gen-sets 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 at the address referenced in Condition 25. (9VAC5-80-1200 and 9VAC5-50-30 G) [3/19/2024]

23. **Visible Emissions Evaluation (VEE)** - Upon request by the DEQ, the permittee shall conduct additional visible emission evaluations of the diesel engines to demonstrate compliance with the visible 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 at the address referenced in Condition 25.
    (9VAC5-80-1200 and 9VAC5-50-30 G) [3/19/2024]

24. **SCR Compliance Demonstration** - The engine gen-sets equipped with SCR (Ref. Nos. DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, and DC6EG-R) shall conduct stack testing for nitrogen oxides (as NO_2) within sixty days following each change or regeneration of the catalyst in the SCR. This testing shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO at the address referenced in Condition 25.
    (9VAC5-50-30 and 9VAC5-80-1200) [3/19/2024]

RECORDS

25. **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 at the following address:

    Regional Air Compliance Manager

Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

These records shall include, but are not limited to:

a. Reason for operation (as stated in Condition 5) and the annual hours of operation of the engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG4, DC2EG-1 through DC2EG-6, DC4EG-A through DC4EG-E,DC4EG-R, DC4EG-S, and DC11EG-1 through DC11EG-9), calculated monthly as the sum of each consecutive twelve-month period.

b. Reason for operation (as stated in Condition 5) and the annual hours of operation of the engine gen-sets at each load condition, with the SCR operational and without the SCR operational (Ref. Nos. DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, and DC6EG-R).

c. Records of the reasons for operation for each emergency diesel engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R), including, but not limited to, the date, cause of operation, cause of the emergency, the ISO-declared emergency notification, and the hours of operation.

d. Monthly and annual hours of operation of each emergency diesel engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R), with annual hours of operation calculated monthly as the sum of each consecutive 12-month period.

e. Monthly and annual hours of operation of each emergency diesel engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R), for purposes of scheduled maintenance checks and readiness testing (Scheduled MCRT), calculated monthly as the sum of each consecutive 12-month period.

f. Monthly log of monitoring device data required by Condition 0. Data may be recorded as shown in Appendix A - Table 1 Monitoring Data, or other format as approved by DEQ.

g. Logs of monitoring device observations per Condition 4.

h. Monthly and annual emissions calculations from the engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-6, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) using the calculation methods in Condition 15 to verify compliance with the ton/yr emissions limitations in Condition 14. Compliance for the consecutive twelve-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 eleven months.

i. Monthly and annual emissions calculations for NO_X (as NO_2), CO, VOC, PM_{10}, and $PM_{2.5}$ from the emergency diesel engine gen-sets (Ref. Nos. DC2EG-7 and DC2EG-R), with annual emissions, calculated monthly, as the sum of each consecutive 12-month period, to verify compliance with the annual emission limits in Condition 13.

j. All fuel supplier certifications.

k. Records, as necessary, to demonstrate compliance with the operating limitations of Condition 8; which includes but is not limited to: times, dates and reasons for operation of each diesel engine gen-set that was operating between May 1 and September 30.

l. To verify compliance with Condition 9, maintain records of:

   i. The forecasted AQI, as determined by the AirNow website for Northern Virginia, for ozone for the days that an emergency diesel engine gen-set operated during the integration operational period;

   ii. The measured AQI, as determined by the AirNow website for Northern Virginia, for ozone for the days that an emergency diesel engine gen-set operated during the integration operational period;

   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.

m. All VEE, emission stack test reports, and annual performance assessment results for each engine gen-set.

n. Records of scheduled maintenance checks and readiness testing (Scheduled MCRT) , unscheduled maintenance, and other maintenance records in accordance with Condition 31.

o. Operator training in accordance with Condition 31.

p. Records for the engine gen-sets (Ref. Nos. DC1EG-1 through DC1EG-4, DC2EG-1 through DC2EG-6, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) 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. The records shall be maintained in a form suitable for inspection and maintained for at least two years (unless a longer period is specified in the applicable emission standard) following the date of the occurrence.

q. Records of each change or regeneration of the catalyst in the SCR.

r. Records of the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer and the air pollution control device manufacturer.

s. Records of changes in settings that are permitted by the manufacturer of the engine gen-sets (Ref. Nos. DC1EG-4, DC2EG-7, DC2EG-R, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9) and the air pollution control device manufacturer.

t. For the engine gen-sets (Ref. Nos. DC1EG-4, DC2EG-7, DC2EG-R, DC4EG-A through DC4EG-E, DC4EG-R, DC4EG-S, DC5EG-A through DC5EG-E, DC5EG-R, DC5EG-S, DC6EG-A through DC6EG-E, DC6EG-R, and DC11EG-1 through DC11EG-9), maintain documentation from the manufacturer that each engine is certified to meet the emission standards.

u. Engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement for each emergency diesel engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R).

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) [3/19/2024]

NOTIFICATIONS

26. **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
13901 Crown Court
Woodbridge, VA 22193

The permittee shall submit notification(s) for each building containing the information as described below:

a. The actual date on which installation of the emergency diesel engine gen-sets (Ref. Nos. DC2EG-7 and DC2EG-R) commenced in each building, within thirty (30) days after such date. The notification must contain the following:

i. Name and address of the permittee;

ii. The building;

iii. Unit reference number of the initial unit installed; and

iv. The date installation commenced.

b. The start and end dates of the integration operational period for each emergency diesel engine gen-set (Ref. Nos. DC2EG-7 and DC2EG-R) within fifteen (15) days after the last engine gen-set at each building completes its integration operational period. If a period of construction is paused or halted for ≥45 days, this notification shall be provided to the DEQ within fifteen (15) days after completion of the integration operational period for the most recently installed engine gen-set. The notification must contain the following:

i. Unit reference number;

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

iii. Installation date; and

iv. 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 affected unit is started on-site and ending when the affected unit is fully integrated with the source's electrical system. (9VAC5-80-1180 and 9VAC5-50-50) [3/19/2024]

27. **Initial Notifications** - The permittee shall furnish written notification to the Regional Air Compliance Manager of the DEQ's NRO at the address referenced in Condition 25, of:

a. The actual date on which installation of the Caterpillar 3516C engine gen-sets (Ref. Nos. DC11EG-1 through DC11EG-9) commenced within thirty days after such date. The notification must 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 manufacturer's trials for each engine gen-set, postmarked within 15 days prior to such date.

c. The anticipated start-up date of the Caterpillar 3516C engine gen-sets (Ref. Nos. DC11EG-1 through DC11EG-9) postmarked not more than sixty days nor less than thirty days prior to such date.

d. The actual start-up date of the Caterpillar 3516C engine gen-sets (Ref. Nos. DC11EG-1 through DC11EG-9) within fifteen days after such date. The actual start-up date shall be the date on which each engine completes manufacturer's trials, but shall be no later than thirty days after start-up for manufacturer's trials.

e. The anticipated date of performance tests of each Caterpillar 3516C engine gen-set (Ref. Nos. DC11EG-1 through DC11EG-9) postmarked at least thirty days prior to such date.

(9VAC5-50-50 and 9VAC5-80-1180) [3/19/2024]

GENERAL CONDITIONS

28. **Permit Invalidation** - This permit to construct the emergency diesel engine gen-sets (Ref. Nos. DC2EG-7 and DC2EG-R) 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 'Original Permit Date' specified in the equipment list in the Introduction section of this permit; or if

b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time.

(9VAC5-80-1210)

29. **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)

30. **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)

31. **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:

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)

32. **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 of malfunction), corrective action, preventive measures taken and name of person generating the record.
(9VAC5-20-180 J and 9VAC5-80-1180 D)

33. **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)

34. **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)

35. **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 NRO of the change of ownership within 30 days of the transfer.
(9VAC5-80-1240)

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

APPENDIX A TABLE 1 MONITORING DATA

Facility:
Registration No.
Date:

MONITORING DATA

Unit Ref # **Engine Run Time**

Date & Time	Run Time with SCR (minutes)	Run Time without SCR (minutes)	SCR Catalyst Bed Temperature (Degrees F)	DOC Catalyst Bed Temperature (Degrees F)	Engine Generator Load/Electrical Output (kW)	NOx Emission Rate (Expressed as NO2, lbs/hr)	Reason for Operation
1/1/2008 0:00							
1/1/2008 0:15							
1/1/2008 0:30							
1/1/2008 0:45							
1/1/2008 1:00							
1/1/2008 1:15							
1/1/2008 1:30							
1/1/2008 1:45							
1/1/2008 2:00							
1/1/2008 2:15							
1/1/2008 2:30							
1/1/2008 2:45							
ETC							

These are the Excel Worksheet Functions that allow the cell values to be transferred to the Monthly Summary Table. Cell ranges will require expansion.

Total	=SUM(B3:B14)	=SUM(B3:B14)	=SUM(B3:B14)	=SUM(B3:B14)	=SUM(B3:B14)	=SUM(B3:B14)
Max	=MAX(B3:B14)	=MAX(B3:B14)	=MAX(B3:B14)	=MAX(B3:B14)	=MAX(B3:B14)	=MAX(B3:B14)
Min	=MIN(B4:B14)	=MIN(B4:B14)	=MIN(B4:B14)	=MIN(B4:B14)	=MIN(B4:B14)	=MIN(B4:B14)
Avg	=AVERAGE(B5:B14)	=AVERAGE(B5:B14)	=AVERAGE(B5:B14)	=AVERAGE(B5:B14)	=AVERAGE(B5:B14)	=AVERAGE(B5:B14)

APPENDIX A TABLE 2 MONTHLY SUMMARY TABLE

This EXCEL spreadsheet may be obtained from DEQ.

Facility:
Registration No.
Date:

MONTHLY SUMMARY TABLE

2008 MONTHLY SUMMARY TABLE	January	February	March	April	May	June	July	August	ETC	Total
EG-1										
Engine Run Hours										
Engine Run Hours with SCR										
Engine Run Hours without SCR										
Total Engine Run Hours										
Rolling 12-month totals										
SCR Catalyst Bed Temperature (Degrees F)										
Minimum Catalyst Temperature										
Maximum Catalyst Temperature										
Average Catalyst Temperature										
DOC Catalyst Bed Temperature (Degrees F)										
Minimum Catalyst Temperature										
Maximum Catalyst Temperature										
Average Catalyst Temperature										
Engine Generator Electrical Output (kW)										
Minimum Load (>0)										
Maximum Load										
Average Load										
[NOx Emission Rate (Expressed as NO2, lbs/hr)] OR [Urea Injection Rate]										
Minimum Emission Rate										
Maximum Emission Rate										
Average Emission Rate										
Reason for Operation										

SOURCE TESTING REPORT FORMAT

Report Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Test Dates.
4. Tester; name, address and report date

Certification

1. Signed by team leader/certified observer (include certification date)
2. Signed by responsible company official
3. *Signed by reviewer

Copy of approved test protocol

Summary

1. Reason for testing
2. Test dates
3. Identification of unit tested & the maximum rated capacity
4. *For each emission unit, a table showing:
    a. Operating rate
    b. Test Methods
    c. Pollutants tested
    d. Test results for each run and the run average
    e. Pollutant standard or limit
5. Summarized process and control equipment data for each run and the average, as required by the test protocol
6. A statement that test was conducted in accordance with the test protocol or identification & discussion of deviations, including the likely impact on results
7. Any other important information

Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Sampling port location and dimensioned cross section Attached protocol includes: sketch of stack (elevation view) showing sampling port locations, upstream and downstream flow disturbances and their distances from ports; and a sketch of stack (plan view) showing sampling ports, ducts entering the stack and stack diameter or dimensions

Test Results

1. Detailed test results for each run
2. *Sample calculations
3. *Description of collected samples, to include audits when applicable

Appendix

1. *Raw production data
2. *Raw field data
3. *Laboratory reports
4. *Chain of custody records for lab samples
5. *Calibration procedures and results
6. Project participants and titles
7. Observers' names (industry and agency)
8. Related correspondence
9. Standard procedures

* Not applicable to visible emission evaluations