Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE
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Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE

This permit supersedes your permit dated February 19, 2020.

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

Amazon Data Services, Inc.
13200 Woodland Park Rd.
Herndon, VA 20171
Registration No.: 74190

is authorized to construct and operate

emergency diesel engine generator sets

located at

DCA-50
22129 Confederate Road
Elkwood, VA 22718

in accordance with the Conditions of this permit.

Approved on July 16, 2020.

Thomas Faha
Director, Department of Environmental Quality

Permit consists of 18 pages.
Permit Conditions 1 to 31.

INTRODUCTION

This permit approval is based on the permit application dated April 10, 2020, October 31, 2019, May 3, 2017; September 10, 2008, April 10, 2013, March 11, 2015, July 27, 2015, April 8, 2016, and October 25, 2016, and additional information received June 22, 2020, July 14, 2020, January 29, 2020, January 14, 2020, December 20, 2010, May 29, 2013, April 21, 2015, August 12, 2015, August 27, 2015, May 16, 2016, November 15, 2016, and November 21, 2016.

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 9VAC5-10-10 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

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

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 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.

Equipment List - Equipment at this facility covered by this permit consists of:

Equipment to be Constructed:

Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
EG-POD 11	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture to be determined	3,000 ekW 4,423 bhp	None
EG-POD 12	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture to be determined	3,000 ekW 4,423 bhp	None
EG-POD 13	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture to be determined	3,000 ekW 4,423 bhp	None

EG-POD 14	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture to be determined	3,000 ekW 4,423 bhp	None
EG-POD 15	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture to be determined	3,000 ekW 4,423 bhp	None
EG-POD 16	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture to be determined	3,000 ekW 4,423 bhp	None
EG-POD 17	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture to be determined	3,000 ekW 4,423 bhp	None

Other Permitted Equipment:

Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
EG-POD 1	Caterpillar 3516C emergency diesel engine gen-sets, date of manufacture 2013	2,000 ekW 2,937 bhp	None
EG POD 2	Caterpillar 3516C emergency diesel engine gen-sets, date of manufacture 2013	2,000 ekW 2,937 bhp	None
EG-POD 3	Caterpillar 3516C emergency diesel engine gen-set, date of manufacture 2015	2,000 ekW 2,937 bhp	None
EG-POD 4	Caterpillar 3516C emergency diesel engine gen-set, date of manufacture 2013	2,500 ekW 3,634 bhp	None
EG-POD 5	Caterpillar 3516C emergency diesel engine gen-set, date of manufacture 2015	2,000 ekW 2,937 bhp	None
EG-POD 6	Caterpillar C175-16 emergency diesel engine gen-sets, date of manufacture 2016	3,000 ekW 4,423 bhp	None
EG-POD 7	Caterpillar C175-16 emergency diesel engine gen-sets, date of manufacture 2016	3,000 ekW 4,423 bhp	None
EG-POD 8	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture 2017	3,000 ekW 4,423 bhp	None
EG-POD 9	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture 2018	3,000 ekW 4,423 bhp	None
EG-POD 10	Caterpillar C175-16 emergency diesel engine gen-set, date of manufacture to be determined	3,000 ekW 4,423 bhp	None

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 –** The emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 4 and EG-POD 11 through EG-POD 17) shall control emissions as follows:

   a. Visible emissions, particulate emissions, carbon monoxide (CO) emissions, volatile organic compound (VOC) emissions, and nitrogen oxide (NO_X) emissions shall be controlled by engine design, 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.

   b. Sulfur dioxide (SO_2) emissions from the emergency diesel engine gen-sets shall be controlled by the use of ultra-low sulfur fuels with a sulfur content not to exceed 0.0015% by weight (15 ppm).

   (9VAC5-80-1180 and 9VAC5-50-260)

2. **Emission Controls –** The emergency diesel engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 10) shall control emissions as follows:

   a. Visible emissions, particulate emissions, carbon monoxide (CO) emissions, volatile organic compound (VOC) emissions, and nitrogen oxide (NO_X) emissions shall be controlled by engine design, 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.

   b. Sulfur dioxide (SO_2) emissions from the emergency diesel engine gen-sets shall be controlled by the use of ultra-low sulfur fuels with a sulfur content not to exceed 0.0015% by weight (15 ppm).

   c. Nitrogen oxides (NO_x) emissions shall be controlled by closed loop selective catalytic reduction (SCR). Each SCR system shall be equipped with a temperature probe to monitor the catalyst bed exhaust temperature at all times when the engine gen-set to which it is connected is operating. The emergency diesel engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 10) exhaust gas shall be treated with diesel exhaust fluid (DEF) when the engine is operating at or above 572°F (300°C) but below 1022°F (550°C) except for periods of start-up, shutdown, self-cleaning, or malfunction. The SCR shall be considered fully operational for emission calculation purposes when DEF dosing is occurring.

(9VAC5-80-1180 and 9VAC5-50-260)

3. **Monitoring Devices –**

   a. Each emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) 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 engine gen-set shall be observed by the owner with a frequency of not less than once each day the engine is operated.

   b. The closed loop SCR system on the emergency diesel engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 10), shall be equipped with a system to measure and record the NO_x emissions (expressed in ppm), measured before and after the catalyst, and catalyst bed exhaust temperature at least once every fifteen minutes. The information shall be correlated to run date, engine load/kilowatt output, and engine operating hours. The control device shall also be equipped with a non-resettable hour meter to continuously measure its hours of operation. Total operating time and load shall be recorded for all periods when emergency diesel engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 10) are in operation.

   c. A device to continuously measure and record fuel consumption (in gallons) for each emergency diesel engine gen-set. The device used to continuously measure fuel consumption for each emergency diesel engine gen-set shall be observed by the owner with a frequency of not less than once each day the emergency diesel engine gen-set is operated. The permittee shall keep a log of these observations.

   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 SCR are operating.
   (9VAC5-80-1180 D)

OPERATING LIMITATIONS

4. **Emergency Power Generation –** The emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) 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 unscheduled maintenance, testing, and operational training.

d. For scheduled maintenance checks and readiness testing (MCRT).

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 sources electrical system.

Total emissions for any annual period, calculated as the sum of all emissions from operations under the scenarios above, shall not exceed the limits stated in Condition 15.

(9VAC5-80-1180)

5. **Operation of the Diesel Engine Gen-Sets –** The permittee shall operate and maintain each emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 17) 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 increase air emissions. (9VAC5-80-1180 and 9VAC5-50-260)

6. **Operating Limitations (Ozone** Season**)** – No emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 17) shall be operated for scheduled maintenance checks and

readiness testing (MCRT), or operator training (that involves fuel combustion) between the hours of 7 AM to 5 PM any day during May 1 through September 30.
(9VAC5-80-1180)

7. **Operating Limitations (Ozone Season) –** Integration Operational Period – During the integration operational period of each diesel engine-generator set (Ref. Nos. EG-POD 10 through EG-POD 17) 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 Elkwood, VA for that day is less than or equal to 100. In the event that AirNow-EnviroFlash (**www.enviroflash.info**) issues an Air Alert for Elkwood, VA 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)

8. **Operating Hours –** Each emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) shall not operate more than 500 hours per year, calculated monthly as the sum of each consecutive 12 month period. Compliance for the consecutive 12 month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-1180)

9. **Operating Hours –** Each emergency diesel engine gen-set controlled by SCR (Ref. Nos. EG-POD 5 through EG-POD 10) shall not operate without the exhaust gas treated with DEF for more than 100 hours per year, calculated monthly as the sum of each consecutive 12-month period.

   Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
   (9VAC5-80-1180 and 9VAC5-50-260)

10. **Operating Hours –** Each individual emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 17) shall not operate more than 32 hours per year for scheduled maintenance checks and readiness testing (MCRT).

    Compliance for the consecutive 12 month period shall be demonstrated monthly by adding the total operating hours for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
    (9VAC5-80-1180)

11. **Fuel Throughput –** The emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) shall consume no more than 682,222 gallons of diesel fuel per year combined, 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)

12. **Fuel –** The approved fuel for the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) is diesel fuel oil that:

    a. Does not exceed the American Society for Testing and Materials (ASTM) specification, D975, for 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 40 or maximum aromatic content of 35 volume percent.

    (9VAC5-80-1180)

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

    a. The name of the fuel supplier;

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

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

    d. A statement that the diesel fuel conforms to the applicable fuel specification requirements of Condition 12; and

    e. The sulfur content of the diesel fuel.

    Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by DEQ may be used to determine compliance with the fuel specifications stipulated in Condition 12. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
    (9VAC5-80-1180)

EMISSION LIMITS

14. **Emission Limits –** Emissions from the operation of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) shall not exceed the limits specified below:

Unit Ref. No.	NO_x (as NO_2) (lb/hr)	CO (lb/hr)	VOC (lb/hr)	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)
EG-POD 1 through EG-POD 3 (each unit)	38.85	3.95	1.14	0.57	0.57	0.57

Unit Ref. No.	NO_x (as NO_2) (lb/hr)	CO (lb/hr)	VOC (lb/hr)	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)
EG-POD 4	48.06	6.09	1.21	0.40	0.40	0.40
EG-POD 5 without SCR	38.85	3.95	1.14	0.57	0.57	0.57
EG-POD 5 with SCR	5.83	3.95	1.14	0.57	0.57	0.57
EG-POD 6 through EG-POD 10 without SCR (each unit)	58.51	13.13	2.56	0.59	0.59	0.59
EG-POD 6 through EG-POD 10 with SCR (each unit)	8.78	13.13	2.56	0.59	0.59	0.59
EG-POD 11 through EG-POD 17 (each unit)	58.51	13.13	2.56	0.59	0.59	0.59

(9VAC5-80-1180 and 9VAC5-50-260)

15. **Annual Emission Limits –** Emissions from the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) shall not exceed:

Pollutant	Engine Gen-Sets (Ref. No. EG-POD 1 through EG-POD 17) (combined, All operations) (tpy)	Engine Gen-Sets (Ref. No. EG-POD 1 through EG-POD 17) (combined, Scheduled MCRT) (tpy)
NO_x (as NO_2)	96.0	14.5
CO	51.0	2.9
VOC	18.2	0.6
PM	5.7	-
PM_{10}	5.7	-
$PM_{2.5}$	5.7	-

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, 5, 9, 11, 14, 16, and 22. (9VAC5-80-1180)

16. **Visible Emission Limit –** Visible emissions from the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) 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). This condition applies at all times except during startup, shutdown, and malfunction. (9VAC5-80-1180, 9VAC5-50-260 and 9VAC5-50-80)

INITIAL COMPLIANCE DETERMINATION

17. **Stack Tests –** Initial performance tests shall be conducted on the permitted emergency diesel engine gen-sets Ref. Nos.: EG-POD 1 through EG-POD 17 as follows:
    a. Two emergency diesel engine gen-sets of Ref. Nos.: EG-POD 1 through EG-POD 3, two emergency diesel engine gen-sets of Ref. Nos.: EG-POD 6 through EG-POD 17, emergency diesel engine gen-set Ref. No.: EG-POD 4, emergency diesel engine gen-set Ref. No.: EG-POD 5 shall be tested to determine compliance with the nitrogen oxides (as NO_2) and carbon monoxide (CO) emission limits contained in Condition 14.

    b. For equipment permitted prior to the date of this permit (Ref. Nos.: EG-POD 1 through EG-POD 9), tests shall be performed, reported, and demonstrate compliance no later than 90 days from the effective date of this permit issuance. Tests shall be conducted and reported and data reduced as set forth in 9VAC5-50-30.

    c. For equipment to be constructed (Ref. Nos.: EG-POD 10 through EG-POD 17), 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.

    d. Carbon monoxide (CO) shall be tested using EPA Reference Method 10.

    e. Nitrogen oxides shall be tested using EPA Reference Method 7 or 7E.

    f. Emissions testing of nitrogen oxides (as NO_2), and CO on the emergency diesel engine gen-sets shall consist of three 1-hour test runs. The average of the three runs shall be reported as the short-term emission rate for that engine gen-set.

    g. Testing shall be conducted with the emergency diesel engine gen-sets operating at greater than 90% of its permitted electrical output capacity, unless multiple load band testing is approved by DEQ.

    h. Recorded engine gen-set operating parameter 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.

i. 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 of the scheduled test date or as soon as the rescheduling is deemed necessary.

j. The details of the tests are to be arranged with the Regional Air Compliance Manager of the DEQ's NRO. The permittee shall submit two copies, one paper copy and one on removable electronic media, of the test protocol to the Regional Air Compliance Manager of the 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.

k. Two copies, one paper 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.

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

18. **Visible Emissions Evaluation –** Concurrent with the initial performance tests required in Condition 17, 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 emergency diesel engine gen-sets selected for initial performance testing. Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. 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 17, 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, 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. **Testing/Monitoring Ports –** The emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) 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 at the appropriate locations and safe sampling platforms and access shall be provided.
(9VAC5-50-30 F and 9VAC5-80-1180)

20. **Emission Testing/Visible Emission Evaluation –** Upon request by DEQ, the permittee shall conduct performance tests and/or visible emission evaluations of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager of DEQ NRO.
(9VAC5-80-1200 and 9VAC5-50-30 G)

RECORDS AND NOTIFICATIONS

21. **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 one notification for each building or construction phase containing information on each emergency diesel engine gen-set (EG-POD 10 through EG-POD 17) as described below:

    a. The actual date on which installation of the emergency diesel engine gen-sets in the building 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 emergency diesel engine gen-set within 15 days after the last generator 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 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;

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 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.
(9VAC5-80-1180 and 9VAC5-50-50)

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 Air Compliance Manager of DEQ NRO. These records shall include, but are not limited to:

a. Hourly average of NO_x concentration (in ppm) measured at the inlet and outlet of the SCR exhaust catalyst of the engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 10) for each hour that the engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 10) are operated.

b. Hourly average NO_x control efficiency (in %) calculated from the inlet and outlet NO_x concentrations of the SCR exhaust catalyst of the engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 10) for each hour that the engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 10) are operated.

c. Hourly average SCR catalyst bed exhaust temperature of each hour that each SCR equipped engine gen-set, (Ref. Nos. EG-POD 5 through EG-POD 10), is operated.

d. Annual hours of operation of each engine gen-set, (Ref. Nos. EG-POD 5 through EG-POD 10), with SCRs fully operational, calculated monthly as the sum of each consecutive 12-month period.

e. Annual hours of operation of each engine gen-set, (Ref. Nos. EG-POD 5 through EG-POD 10), without SCRs fully operational, calculated monthly as the sum of each consecutive 12-month period.

f. A monthly log of the monitoring device data and observations required by Condition 3.

g. Monthly Summary Table for each engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 17) to include:

   i. Engine Hours for each engine gen-set.

   ii. Total engine hours on a rolling 12-month basis.

   iii. Time, date, and reasons for operation (as described in Condition 4)

h. All records, as necessary, to demonstrate compliance with the operating limitations of Conditions 6 and 7.

i. Annual hours of schedule maintenance checks and readiness testing for each engine gen-set, (Ref. Nos. EG-POD 1 through EG-POD 17) calculated monthly as the sum of each consecutive 12-month period, to verify compliance with the hourly limitation in Condition 10.

j. Monthly and annual fuel consumption for the combined operation of the emergency diesel engine gen-sets (Ref. Nos.: EG-POD 1 through EG-POD 17), with annual fuel consumption calculated monthly as the sum of each consecutive 12-month period, to verify compliance with the throughput limitation in Condition 11.

k. All fuel supplier certifications per Condition 13.

l. Annual emissions calculations for NO_x (as NO_2), CO, VOC, PM, PM_{10}, and $PM_{2.5}$ from the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17) to verify compliance with the emissions limitations in Condition 15, with annual emissions calculated monthly as the sum of each consecutive 12-month period.

m. Engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement for each emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17).

n. The manufacturer's written operating instructions or procedures developed by the owner/operator that are approved by the engine manufacturer for the engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17).

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

p. Records of scheduled and unscheduled maintenance and operator training.

q. Records of changes in settings that are permitted by the manufacturer of the engine-gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17).

r. Documentation from the manufacturer that each emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 17) is certified to meet the EPA Tier 2 emission standards

For annual limits, compliance for the consecutive 12 month periods 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.

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

GENERAL CONDITIONS

23. **Permit Invalidation –** This permit to construct the emergency diesel engine gen-sets (Ref. Nos. EG-POD 10 through EG-POD 17) 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.

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)

24. **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)

25. **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)

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

    The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 17:

    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)

27. **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)

28. **Notification for Facility or Control Equipment Malfunction –** The permittee shall furnish notification to the Northern Regional Office 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 Northern Regional Office.
(9VAC5-20-180 C and 9VAC5-80-1180)

29. **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)

30. **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 Northern Regional Office of the change of ownership within 30 days of the transfer.
(9VAC5-80-1240)

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

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