COMMONWEALTH of VIRGINIA

Molly Joseph Ward
Secretary of Natural Resources

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193-1453
(703) 583-3800
www.deq.virginia.gov

David K. Paylor
Director

Thomas A. Faha
Regional Director

August 23, 2017

Mr. Scott Davis
Executive Vice President & Chief Technology Officer
Gazelle Ventures, LLC (ACC10)
401 9th St., N.W., Suite 600
Washington, DC 20004

Location: Loudoun County
Registration No.: 73370

Dear Mr. Davis:

Attached is a permit to construct and operate emergency diesel engine-generator sets in accordance with the provisions of the Virginia State Air Pollution Control Board's Regulations for the Control and Abatement of Air Pollution.

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 July 7, 2017.

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

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

The proposed diesel engine-generator sets may be subject to the requirements of 40 CFR Part 60, New Source Performance Standards (NSPS) Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (MACT) Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*. In summary, the units may be required to comply with certain federal emission standards and operating limitations. The DEQ advises you to review the referenced NSPS and MACT regulations to ensure compliance with applicable emission standards, operational limitations, and the monitoring, notification, reporting and recordkeeping requirements. Notifications shall 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/or 63.

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

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

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

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

If you have any questions concerning this permit, please contact me, by phone at (703) 583-3928 or e-mail at james.lafratta@deq.virginia.gov.

Sincerely,

James B. LaFratta
Regional Air Permit Manager

TAF/JBL/73370 mNSR Permit (8-23-2017)

Attachment: Permit

cc: Christopher Sweet, DuPont Fabros Technology, Inc. (electronic copy)
Manager/Inspector, NRO Air Compliance (electronic copy)
Dr. Mary Cate Opila, Office of Permits and Air Toxics, U.S. EPA, Region III (electronic copy)

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David K. Paylor
Director

Thomas A. Faha
Regional Director

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE

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

Gazelle Ventures, LLC (ACC10)
401 9th St., N.W., Suite 600
Washington, DC 20004
Registration No.: 73370

is authorized to construct and operate

emergency diesel engine generator sets

located at

21744 Sir Timothy Drive
Ashburn, VA 20147
(Loudoun County)

in accordance with the Conditions of this permit.

Approved on August 23, 2017

James B. La Fratta

for Thomas A. Faha
Regional Director

Permit consists of 17 pages (w/o Attachment).
Permit Conditions 1 to 30.
Attachment A - Source Testing Report Format (1 page).

INTRODUCTION

This permit approval is based on the permit application dated February 27, 2017, including supplemental information dated April 25, 2017 and July 7, 2017. 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 9 VAC 5-80-1110 (definitions) and 9 VAC 5-10-20 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

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

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

Equipment List – Equipment at this facility consists of:

Equipment to be constructed:			
Reference No.	**Equipment Description**	**Prime Rated Capacity**	**Delegated Federal Requirements**
EG-1A	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-1B	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-2A	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-2B	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-3A	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-3B	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None

Equipment to be constructed (continued):			
Reference No.	**Equipment Description**	**Prime Rated Capacity**	**Delegated Federal Requirements**
EG-4A	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-4B	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-5A	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-5B	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-6A	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-6B	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-7A	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-7B	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-8A	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-8B	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-9A	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None
EG-9B	Caterpillar 3516C Diesel Engine Generator	3273 bhp 2250 ekW	None

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

PROCESS REQUIREMENTS

1. **Emission Controls –**

   a. Nitrogen oxide (NOX) emissions from the engine-generator sets (Ref. Nos. EG-1A thru EG-9B) shall be controlled by electronic fuel injection, turbocharged engine, air-to-air aftercooler and low NOX emission package.

   b. Nitrogen oxide (NOX) emissions from the engine-generator sets (Ref. Nos. EG-1A thru EG-9B) shall be controlled by an open 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-generator set is operational. Engine exhaust gas shall be treated with urea solution (40% commercial grade urea by weight) when the engines are operating at or above twenty percent load and the catalyst bed exhaust temperature of 500 °F is achieved, except for periods of start-up, shutdown, or malfunction. In the event that the 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 shall be provided with adequate access for inspection and shall be in operation when the engine-generator sets are operating as stated above.

   c. The permittee shall maintain documentation that demonstrates the control device/technology prescribed in 'a' and 'b' above has been installed on the engine-generator sets.

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

2. **Emission Controls** – Visible emissions, particulate emissions, carbon monoxide (CO), and volatile organic compound (VOC) emissions from the emergency engine-generator sets shall be controlled by the use of good operating practices and performing appropriate maintenance in accordance with the manufacturer recommendations.
   (9 VAC 5-80-1180)

3. **Monitoring Devices** – Each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B) shall be equipped with the following monitoring devices:

   a. a non-resettable hour metering device to continuously monitor the operating hours.

   b. a device to continuously monitor and record the urea solution injection rate.

   c. a device to continuously monitor and record the SCR catalyst bed exhaust temperature.

   d. a device to continuously monitor and record the engine-generator kilowatt output.

e. a fuel flow monitoring device to continuously monitor and record the engine fuel consumption rate.

Each monitoring device shall monitor and record at a frequency of not less than once every fifteen minutes of engine-generator set operation and shall be correlated to run date, engine load/kilowatt output, and engine operating hours.

Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the engines are operating.

Each monitoring device shall be installed, maintained, calibrated (as applicable) and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations.

To ensure proper performance of the engine, control device and the monitoring device, the permittee shall observe each monitoring device, at a minimum frequency of once per day during days in which the engine-generator set(s) is operating.

(9 VAC 5-80-1180 D)

OPERATING LIMITATIONS

4. **Operation of the Engine-Generator Sets** - The permittee shall operate and maintain each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B) and control device according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, the permittee may only change those settings that are permitted by the manufacturer and does not increase air emissions. (9 VAC 5-80-1180)

5. **Emergency Power Generation** – The emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B) 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; and

   v. An abnormal event external to the ISO service territory that may require ISO action.

c. For periodic maintenance, testing, and operational training.

(9 VAC 5-80-1180)

6. **Operating Hours** – In addition to the fuel throughput limitations specified in Condition 0, each individual emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B), shall not operate more than 100 hours per year for maintenance checks and readiness testing and no more than 500 hours per year for all purposes (as provided in Condition 5) combined. The annual limits for hours of operation are per each consecutive 12-month period. Compliance for each consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180)

7. **Fuel** – The approved fuel for the emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B) is diesel fuel. The diesel fuel shall meet the American Society for Testing and Materials (ASTM) D975 specification for Grade No. 1-D S15 or Grade No. 2-D S15 and have a maximum sulfur content of 15 ppm, per shipment. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-1180)

8. **Fuel Throughput** – The emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B) combined shall consume no more than 765,000 gallons of diesel fuel per year, with no more than 22,500 gallons (of the 765,000 gallons) per year consumed during which the engine exhaust gas is not treated with urea solution. The annual fuel consumption limits are per each consecutive 12-month period. Compliance for each consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180)

9. **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; and

   d. A statement that the diesel fuel:

      i. Complies with the ASTM specifications for Grade No. 1-D S15 or Grade No. 2-D S15 (also known as ultra low sulfur diesel (ULSD)); or

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

   Alternatively, the permittee must obtain approval from DEQ-NRO's Regional Air Compliance Manager, if other documentation will be used to certify the diesel fuel type.

   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 7. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
   (9 VAC 5-80-1180)

EMISSION LIMITS

10. **Emission Limits (Hourly)** – Emissions from the operation of the emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B) shall not exceed the limits specified below:

Pollutant	With SCR Operating (i.e., urea solution treatment) (each unit)	Without SCR Operating (i.e., no urea solution treatment) (each unit)
Nitrogen Oxides (as NO_2)	5.1 lbs/hr 0.0292 lb/gallon	7.3 lbs/hr 0.136 lb/gallon
Carbon Monoxide	5.8 lbs/hr	5.8 lbs/hr
Volatile Organic Compounds	1.2 lbs/hr	1.2 lbs/hr
PM_{10}	0.4 lbs/hr	0.4 lbs/hr
$PM_{2.5}$	0.4 lbs/hr	0.4 lbs/hr

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

11. **Emission Limits (Annual)** – Emissions from the operation of the emergency engine generator sets (Ref. Nos. EG-1A thru EG-9B), combined, shall not exceed the limits specified below:

Nitrogen Oxides (as NO_2)	12.4 tons/yr
Carbon Monoxide	24.6 tons/yr
Volatile Organic Compounds	6.3 tons/yr
PM_{10}	2.2 tons/yr
$PM_{2.5}$	2.2 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 these emission limits may be determined as stated in Conditions 1, 2, 4, 6, 7 and 8.
(9 VAC 5-50-260 and 9 VAC 5-80-1180)

12. **Visible Emission Limit** – Visible emissions from each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B) shall not exceed 5% opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed 10% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup and shutdown.

During startup and shutdown, visible emissions from each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B) shall not exceed 10% opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed 20% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-1180)

INITIAL COMPLIANCE DETERMINATION

13. **Stack Test** – Initial performance tests shall be conducted on two of the 18 emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B) for nitrogen oxides (as NO_2) using EPA Reference Method 7 or 7E and carbon monoxide using EPA Reference Method 10 or 10A, to determine compliance with the emission limits (lb/hr and lb/gal as applicable) contained in Condition 10.

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

    b. Testing shall be performed on the exhaust stack of the emergency engine-generator sets to demonstrate compliance with the NOx and CO emission limits specified in Condition 10, with the SCR operational (i.e., urea solution injection). Testing shall be conducted with the emergency engine-generator set operating at ≥ 90 percent of its 'prime' rated capacity, unless multiple load band testing is approved by DEQ;

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

        1. Generator load/kilowatt output;

        2. Fuel consumption and fuel sulfur content of the fuel oil;

        3. NOx concentration before and after the catalyst;

        4. SCR catalyst bed exhaust temperature; and

        5. Urea solution injection rate

    d. The testing on a selected emergency engine generator set shall be performed, reported, and demonstrate compliance within sixty days after achieving maximum power demand rate at which that unit will be operated but in no event later than 180 days after start-up of that unit. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30;

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

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

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

(9 VAC 5-50-30 and 9 VAC 5-80-1200)

14. **Initial Portable Analyzer Test** – An initial portable analyzer test shall be performed in conjunction with the initial performance testing (per Condition 13) for the emergency engine-generators tested to establish a correlation between the stack test results and the portable analyzer results, for use in the annual performance assessment required by Condition 16. The procedure for the initial portable analyzer testing and the correlation determination shall be submitted in conjunction with the initial stack test protocol and agreed upon by the Regional Air Compliance Manager of the DEQ's NRO.
(9 VAC 5-50-30 and 9 VAC 5-80-1200)

15. **Visible Emissions Evaluation** – Concurrently with the initial stack tests, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall be conducted by the permittee on the two emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B) selected for initial stack testing in Condition 13.

a. The VEE shall be performed on the exhaust stack while operating at $\geq$ 90 percent of the 'prime' rated capacity of the emergency engine-generator set.

b. The VEE shall consist of thirty sets of twenty-four consecutive observations (at fifteen second intervals) to yield a six-minute average. The details of the tests are to be arranged with the Regional Air Compliance Manager DEQ-NRO.

c. The permittee shall submit a VEE protocol in conjunction with the initial stack test protocol required by Condition 13, at least thirty days prior to testing to ensure adequate time for DEQ approval. If the VEE protocol is received by the DEQ with less than thirty days for review and acceptance, DEQ approval may not be issued in a timely manner to allow for testing to take place according to the permittee's schedule.

d. The VEE on a selected emergency engine-generator set shall be performed within sixty days after achieving the maximum power demand rate at which that unit will be operated, but in no event later than 180 days after start-up of that unit.

e. Should conditions occur which would require rescheduling the testing, the permittee shall notify the Regional Air Compliance Manager, DEQ-NRO in writing, within seven days of the scheduled test date or as soon as the rescheduling is deemed necessary. In any case the visible emissions testing shall be rescheduled within thirty days.

f. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests.

g. Two copies, one paper copy and one on removable electronic media, of the test result shall be submitted to the Regional Air Compliance Manager, DEQ-NRO within sixty days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-50-30 and 9 VAC 5-80-1200)

CONTINUING COMPLIANCE DETERMINATION

16. **Annual Performance Assessment –**

a. Engines selected for stack testing:

i. Following the initial portable analyzer test, subsequent testing shall be conducted in a manner that each engine-generator set is tested, at minimum, once every four years. The portable analyzer testing shall be performed at a comparable load at which the engine-generator set operated during the stack test performance demonstration. The procedure for the portable analyzer testing shall be submitted in conjunction with the initial stack test protocol. Results of the testing shall be maintained on-site in accordance with Condition 20.

ii. Additional nitrogen oxide (as NO_2) stack testing may be required if the difference between the initial NOx emission concentration established for the portable analyzer during the performance demonstration per Condition 14, and the NOx emission concentration determined during the annual portable analyzer test per Condition 16.a.i is equal to or greater than ten percent (10%).

b. Engines not selected for stack testing:

Within the first twelve months, subsequent to the initial startup of the unit, and annually thereafter, the permittee shall perform a portable analyzer test to determine the nitrogen oxide (as NO_2) emission concentration for, at minimum, twenty-five percent of the

installed engine-generator sets (Ref. Nos. EG-1A thru EG-9B) at ACC10. The testing shall be conducted in a manner such that each engine-generator set is tested, at a minimum, once every four years. Details of the test shall be arranged with the Regional Air Compliance Manager. The procedure for the portable analyzer testing, including proposed operating load, shall be submitted in conjunction with the initial stack test protocol. Results of the testing shall be maintained on-site in accordance with Condition 20.

c. Immediately prior to conducting the portable analyzer test, the portable analyzer shall be calibrated using EPA Protocol 1 gases.

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

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

(9 VAC 5-80-1180)

17. **Facility Construction** – The emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B) shall be constructed so as to allow for emissions testing upon reasonable notice, using appropriate methods. Sampling ports shall be provided when requested at the appropriate locations in accordance with EPA Reference Method 1 (reference 40 CFR Part 60, Appendix A). In addition, safe sampling platforms and access shall be provided.
(9 VAC 5-50-30 F and 9 VAC 5-80-1180)

18. **Stack Testing and Visible Emission Evaluations** – Upon request by the DEQ, the permittee shall conduct stack tests and/or visible emission evaluations of the emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B) 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, DEQ-NRO.
(9 VAC 5-50-30 G and 9 VAC 5-80-1200)

19. **SCR Compliance Demonstration** – The permittee shall conduct testing for NOx (as NO2) on the engine-generator sets equipped with SCR within sixty days following each change or regeneration of the catalyst in the SCR system by either stack testing or by use of the portable analyzer. This testing shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO.
(9 VAC 5-50-30 and 9 VAC 5-80-1200)

RECORDS

20. **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, DEQ-NRO. These records shall include, but are not limited to:

    a. Documentation from the manufacturer that each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B) is certified to meet the EPA Tier 2 emission standards;

    b. A monthly log of the monitoring device observations, as required by Condition 3;

    c. A monthly summary table for each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B) to include:

        i. Reasons for operating as defined in Condition 5;
        ii. Engine hours – total and subtotals for each reason for operation;
        iii. Hours of operation with and without the SCR operational; and
        iv. Fuel consumption.

    d. Annual hours of operation of each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B) for purposes for maintenance checks/readiness testing, calculated monthly as the sum of each consecutive 12-month period;

    e. Annual hours of operation (all purposes) of each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B) and for the same units combined (with and without urea solution treatment of the engine exhaust), calculated monthly as the sum of each consecutive 12-month period;

    f. Annual consumption of diesel fuel for each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B) and for the same units combined (with and without urea solution treatment of the engine exhaust), calculated monthly as the sum of each consecutive 12-month period;

    g. All fuel supplier certifications, as required per Condition 9;

    h. A NOx Urea Table (Urea Load Map) for each engine-generator set (Ref. Nos. EG-1A thru EG-9B), equipped with SCR to verify that the SCR is operating as specified by the manufacturer. Each NOx Urea Table shall include the engine load, temperature after the catalyst, NOx concentration before and after the catalyst, the urea solution consumption rate, and the catalyst efficiency.

    i. The percent urea used in the SCR urea injection solution for each engine-generator set (Ref. Nos. EG-1A thru EG-9B);

j. Engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement for each engine-generator set (Ref. Nos. EG-1A thru EG-9B);

k. Monthly and annual emission calculations for NOx (as NO2), CO, VOC, PM10 and PM2.5 from the combined operation of the engine-generator sets (Ref. Nos. EG-1A thru EG-9B). The annual emissions shall be calculated monthly as the sum of each consecutive 12-month period;

l. Results of all stack tests, portable analyzer calibrations, annual performance assessment results (for each engine-generator set), visible emission evaluations, and monitoring device certifications/calibrations;

m. Scheduled and unscheduled maintenance and operator training on the emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B).

Compliance for the consecutive 12-month period (as applicable for the items above) 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 the DEQ and shall be current for the most recent five years, unless otherwise noted.
(9 VAC 5-80-1180 and 9 VAC 5-50-50)

NOTIFICATIONS

21. **Initial Notifications** – The permittee shall furnish written notification to the Regional Air Compliance Manager, DEQ-NRO of:

    a. The actual date on which construction of each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B), postmarked no later than 30 days after such date. The notification shall include the following:

        i. Name and address of the permittee;
        ii. The address of the affected source;
        iii. Engine information including make, model, engine family, serial number, model year, maximum energy power and engine displacement;
        iv. Emission control equipment; and
        v. Fuel used.

    b. The anticipated start-up date of each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B), postmarked not more than 60 days nor less than 30 days prior to such date; and

c. The actual start-up date of each emergency engine-generator set (Ref. Nos. EG-1A thru EG-9B), post marked within 15 days after such date. The actual start-up date shall be the date on which each engine completes manufacturer's trials (commissioning), but shall be no later than thirty days after the initial start-up for manufacturer's trials.

d. The anticipated date of the performance tests and visible emissions evaluation of the emergency engine-generator sets (selected for testing per Conditions 13, 14 and 15), postmarked at least 30 days prior to such date.

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

GENERAL CONDITIONS

22. **Permit Invalidation** – This permit to construct the engine-generator sets (Ref. Nos. EG-1A thru EG-9B) shall become invalid, unless an extension is granted by the DEQ, if:

    a. A program of continuous construction is not commenced within 18 months from the date of this permit; or

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

    (9 VAC 5-80-1210)

23. **Permit Suspension/Revocation** – This permit may be suspended or revoked if the permittee:

    a. Knowingly makes material misstatements in the permit application or any amendments to it;

    b. Fails to comply with the conditions of this permit;

    c. Fails to comply with any emission standards applicable to a permitted emissions unit;

    d. Causes emissions from the stationary source which result in violations of, or interfere with the attainment and maintenance of, any ambient air quality standard; or

    e. Fails to operate in conformance with any applicable control strategy, including any emission standards or emissions limitations, in the State Implementation Plan in effect at the time an application for this permit is submitted.

    (9 VAC 5-80-1210 G & H)

24. **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.
    (9 VAC 5-170-130 and 9 VAC 5-80-1180)

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

    The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to the emergency engine-generator sets (Ref. Nos. EG-1A thru EG-9B):

    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; and

    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.
    (9 VAC 5-50-20 E and 9 VAC 5-80-1180 D)

26. **Record of Malfunctions** – The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shut-down 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.
(9VAC 5-20-180 J and 9 VAC 5-80-1180 D)

27. **Notification for Facility or Control Equipment Malfunction** – The permittee shall furnish notification to the Regional Air Compliance Manager, DEQ-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 as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within fourteen days of the occurrence. 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, DEQ-NRO.
(9 VAC 5-20-180 C and 9 VAC 5-80-1180)

28. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I and 9 VAC 5-80-1180)

29. **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 Regional Air Compliance Manager, DEQ-NRO of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-1240)

30. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-1180)

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