Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

www.deq.virginia.gov

Travis A. Voyles
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director

December 3, 2024

Mr. Dale Spencer
Director of Construction
Intergate-Ashburn, LLC
12201 Tukwila International Blvd.
Seattle, WA 98168

Location: Loudoun County
Registration No.: 73935

Dear Mr. Spencer:

Attached is a permit to construct and operate a data center in accordance with the provisions of the Virginia State Air Pollution Control Board 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 November 27, 2024.

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

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

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

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

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

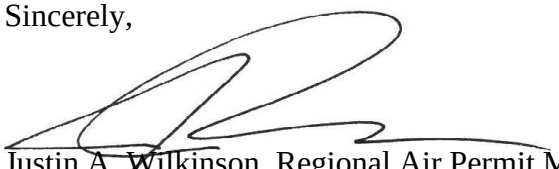
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

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. Katie DeVoss at (571) 866-6090 or **katie.devoss@deq.virginia.gov**.

Sincerely,



Justin A. Wilkinson, Regional Air Permit Manager
Virginia Department of Environmental Quality
justin.wilkinson@deq.virginia.gov
Northern Regional Office
13901 Crown Court, Woodbridge, VA 22193
(703) 583-3800

JAW/KD/73935 mNSR (2024-12-03)

Attachment: Permit

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

www.deq.virginia.gov

Travis A. Voyles
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE

This permit document supersedes the permit document dated June 3, 2020.

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

Intergate-Ashburn, LLC
12201 Tukwila International Blvd.
Seattle, WA 98168
Registration No.: 73935

is authorized to construct and operate

emergency diesel engine generator sets (gen-sets)

located at

21741 Red Rum Drive
Ashburn, VA 20147 (Loudoun County)

in accordance with the Conditions of this permit.

Approved on December 3, 2024.

Justin A. Wilkinson, Regional Air Permit Manager
Virginia Department of Environmental Quality

Permit consists of 23 pages (without the attachments).
Permit Conditions 1 to 30.
Attachments: 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 permit dated December 3, 2024, based on the permit application dated April 25, 2024, including supplemental information dated June 6, 2024, August 30, 2024, September 27, 2024, and November 27, 2024;
- mNSR permit dated June 3, 2020, based on the permit application dated March 13, 2020 including supplemental information dated April 23, 2020, May 5, 2020, and May 15, 2020;
- mNSR administrative amendment dated August 1, 2018, based on the permit amendment application dated July 31, 2018;
- mNSR permit dated July 27, 2018, based on the permit application dated April 24, 2018, including supplemental information dated June 1, 2018, June 22, 2018, and July 9, 2018;
- mNSR permit dated June 23, 2015, based on the permit application dated June 9, 2015 including supplemental information dated June 4, 2015; and
- mNSR permit dated December 10, 2013, based on the permit application dated July 31, 2013 including supplemental information dated September 17, 2013.

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 9VAC5-10-20 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. 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 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 to be Constructed				
Reference No.	**Equipment Description**	**Rated Capacity**	**Delegated Federal Requirements**	**Original Permit Date**
A00	One (1) emergency diesel engine gen-set consisting of: Kohler KD900 Caterpillar C32 Cummins 900DQFAC	Kohler KD900: 1,494 bhp, 1,000 kWe Caterpillar C32: 1,483 bhp, 1,000 kWe Cummins 900DQFAC 1,322 bhp, 1,000 kWe	None	12/3/2024
A01 – A42	Forty-two (42) emergency diesel engine gen-sets consisting of: Kohler KD2250 Caterpillar 3516C Cummins DQKAF	Kohler KD2250: 3,352 bhp, 2,250 kWe Caterpillar 3516C: 3,379 bhp, 2,250 kWe Cummins DQKAF: 3,280 bhp, 2,250 kWe	None	12/3/2024

Equipment at Buildings A, B, and C Permitted Prior to the Date of this Permit				
Reference. No.	**Equipment Description**	**Rated Capacity**	**Delegated Federal Requirements**	**Original Permit Date**
C09 & C10	Two (2) Kohler KD2250 emergency diesel engine gen-sets	3,352 bhp, 2,250 kWe	None	6/2/2020
B01 – B20	Twenty (20) Kohler KD2250 emergency diesel engine gen-sets	3,352 bhp, 2,250 kWe	None	7/27/2018
B00	One (1) Kohler 900REOZMD building emergency diesel engine gen-set	1,528 bhp 970 kWe	None	7/27/2018
C01 – C08	Eight (8) Caterpillar 3516C-DITA emergency diesel engine gen-sets	2,937 bhp, 2,000 kWe	None	12/10/2013
C00	One (1) Caterpillar Model C9 building emergency diesel engine gen-set	398 bhp, 250 kWe	None	12/10/2013

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 –** Emissions from each of the emergency diesel-fueled engine-gen-sets (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) shall be controlled by the following:

   a. Nitrogen oxides (NO_X) emissions from each emergency diesel engine gen-set (Ref. Nos. A00 – A42) shall be controlled by engine design.

   b. Nitrogen oxides (NO_X) emissions from the emergency diesel engine gen-sets (Ref. Nos. B00 – B20, and C00 – C10) shall be controlled by electronic fuel injection, turbocharged engine, and aftercooler. The permittee shall maintain documentation that demonstrates the control devices have been installed on each emergency diesel engine gen-set.

   c. Carbon monoxide (CO) emissions, particulate matter ($PM_{10}/PM_{2.5}$) emissions, volatile organic compound (VOC) emissions, nitrogen oxide (NO_X) emissions (as NO_2), and visible emissions from the emergency diesel engine gen-sets (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) 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.

   (9VAC5-50-260 and 9VAC5-80-1180) [12/3/2024]

2. **Monitoring –**

   a. <u>Fuel Flow</u>: Each emergency diesel engine gen-set (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) shall be equipped with a device to continuously measure and record individual fuel consumption (in gallons) for each engine gen-set.

   b. <u>Engine Operating Hours</u>: Each emergency diesel engine gen-set (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) shall be equipped with a non-resettable hour meter which measures the duration of time that each engine gen-set is operated.

   Each monitoring device (as required above) shall be observed by the permittee 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 (as appropriate), and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The details of the monitoring device calibrations are to be arranged with the Regional Air Compliance Manager of the DEQ Northern Regional Office (NRO).

   Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the associated engine gen-set is operating.
   (9VAC5-80-1180 D and 9VAC5-50-20 C) [12/3/2024]

OPERATING LIMITATIONS

3. **Operation of the Emergency Diesel Engine Gen-Sets –** The permittee shall operate and maintain each emergency diesel engine gen-set (Ref. Nos. A00 – A42, C09, and C10) and control device according to the manufacturer's written instructions or procedures developed 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) [12/3/2024]

4. **Operating Limitations (Ozone Season) –** No diesel engine gen-set (Ref. Nos. A00 – A42, B00 – B20, C09, and C10) shall be operated for scheduled maintenance and readiness testing, testing, or operational training (that involves fuel combustion) between the hours of 7:00 a.m. to 5:00 p.m. on any day during the period from May 1 through September 30 of each calendar year. The permittee may petition the DEQ's NRO Air Compliance Manager for exceptions to this requirement, with approvals made on a case-by-case basis.
(9VAC5-80-1180) [12/3/2024]

5. **Operating Limitations (Ozone Season) – Integration Operational Period –** During the integration operational period of each diesel engine-gen-set (Ref. Nos. A00 – A42, C09, and C10), 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 (**http://www.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 Northern Virginia 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) [12/3/2024]

6. **Emergency Power Generation –** The emergency diesel engine gen-sets (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) shall only be operated for the following purposes:

    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 sources electrical system.

(9VAC5-80-1180) [12/3/2024]

7. **Operating Hours –** Each individual emergency diesel engine gen-set (Ref. Nos. B00 – B20 and C00 – C08) 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 6) combined.

   Each individual emergency diesel engine gen-set (Ref. Nos. A00 – A42, C09, and C10) shall not operate more than 24 hours per year for scheduled maintenance checks and readiness testing (as provided in Condition 6.c) and no more than 500 hours per year for all purposes (as provided in Condition 6) combined.

   The annual limits for hours of operation shall be 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) [12/3/2024]

8. **Fuel Specification –** The approved fuel for the emergency diesel engine gen-sets (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) is ultra-low sulfur diesel fuel oil, and shall meet the specifications below:

ULTRA-LOW SULFUR DIESEL FUEL OIL:

a. Does not exceed the American Society for Testing and Materials (ASTM) specification, D975, for grade ultra-low sulfur 1-D S15 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 (40) or maximum aromatic content of thirty-five percent (35%) by volume.

Exceedance of these specifications may be considered credible evidence of an exceedance of emission limits. A change in the fuel type or the fuel sulfur content may require a permit to modify and operate.
(9VAC5-80-1180) [12/3/2024]

9. **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;

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

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

d. A statement that the distillate oil complies with the requirements of Condition 8 (Fuel Specification).

Alternatively, the permittee shall obtain approval from the Regional Air Compliance Manager of the DEQ's NRO 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 8. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
(9VAC5-80-1180) [12/3/2024]

10. **Diesel Fuel Throughput Limits –** The annual quantities of ultra-low sulfur diesel fuel oil consumed in the emergency diesel engine gen-sets shall not exceed the following limitations:

    a. The emergency diesel engine gen-set (Ref. No. A00) shall consume no more than 3,933 gallons of diesel fuel oil per year calculated monthly as the sum of each consecutive 12-month period.

    b. The emergency diesel engine gen-set (Ref. No. B00) shall consume no more than 3,817 gallons of diesel fuel oil per year calculated monthly as the sum of each consecutive 12-month period.

    c. The emergency diesel engine gen-set (Ref. No. C00) shall consume no more than 1,065 gallons of diesel fuel oil per year calculated monthly as the sum of each consecutive 12-month period.

    d. The forty-two (42) emergency diesel engine gen-sets (Ref. Nos. A01 – A42) combined shall consume no more than 386,001 gallons of diesel fuel oil per year calculated monthly as the sum of each consecutive 12-month period.

    e. The twenty (20) Kohler KD-2250 emergency diesel engine gen-sets (Ref. Nos. B01 – B20) combined shall consume no more than 183,810 gallons of diesel fuel oil per year calculated monthly as the sum of each consecutive 12-month period.

    f. The eight (8) Caterpillar C3516C-DITA emergency diesel engine gen-sets (Ref. Nos. C01 – C08) combined shall consume no more than 61,116 gallons of diesel fuel oil per year calculated monthly as the sum of each consecutive 12-month period.

    g. The two (2) Kohler KD-2250 emergency diesel engine gen-sets (Ref. Nos. C09 and C10) combined shall consume no more than 18,381 gallons of diesel fuel oil 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 calendar months.
    (9VAC5-80-1180) [12/3/2024]

EMISSION LIMITS

11. **Emission Limits (Hourly) –** Hourly emissions from the operation of each emergency diesel engine gen-set (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) shall not exceed the limits specified below:

Pollutant	Kohler KD2250 (B01 - B20, C09, & C10)	Caterpillar 3516C-DITA (C01 – C08)	Kohler 900REOZMD (B00)	Caterpillar C9 (C00)
Nitrogen Oxides (as NO_2)	44.09 lbs/hr	38.89 lbs/hr	20.21 lbs/hr	5.27 lbs/hr
Carbon Monoxide (CO)	11.16 lbs/hr	21.25 lbs/hr	9.58 lbs/hr	2.67 lbs/hr
Volatile Organic Compounds (VOC)	0.77 lbs/hr	5.28 lbs/hr	2.85 lbs/hr	0.79 lbs/hr
Particulate Matter (PM_{10})	0.89 lbs/hr	4.72 lbs/hr	2.57 lbs/hr	0.72 lbs/hr
Particulate Matter ($PM_{2.5}$)	0.89 lbs/hr	4.72 lbs/hr	2.57 lbs/hr	0.72 lbs/hr

Pollutant	(A01 – A42)		
	Kohler KD2250	Caterpillar 3516C	Cummins DQKAF
Nitrogen Oxides (as NO_2)	44.09 lbs/hr	44.63 lbs/hr	43.39 lbs/hr
Carbon Monoxide (CO)	4.13 lbs/hr	4.81 lbs/hr	2.68 lbs/hr
Volatile Organic Compounds (VOC)	2.04 lbs/hr	1.16 lbs/hr	0.29 lbs/hr
Particulate Matter (PM_{10})	0.68 lbs/hr	0.47 lbs/hr	0.45 lbs/hr
Particulate Matter ($PM_{2.5}$)	0.68 lbs/hr	0.47 lbs/hr	0.45 lbs/hr

Pollutant	(A00)		
	Kohler KD900	Caterpillar C32	Cummins 900DQFAC
Nitrogen Oxides (as NO_2)	18.08 lbs/hr	19.52 lbs/hr	11.80 lbs/hr
Carbon Monoxide (CO)	2.81 lbs/hr	2.78 lbs/hr	1.69 lbs/hr
Volatile Organic Compounds (VOC)	0.09 lbs/hr	0.34 lbs/hr	0.23 lbs/hr
Particulate Matter (PM_{10})	0.34 lbs/hr	0.26 lbs/hr	0.39 lbs/hr
Particulate Matter ($PM_{2.5}$)	0.34 lbs/hr	0.26 lbs/hr	0.39 lbs/hr

Compliance with these pollutant limits shall be based on the proper operation and maintenance of the diesel engines, or by testing, if required. (9VAC5-50-260 and 9VAC5-80-1180) [12/3/2024]

12. **Emission Limits (Annual) –** Total emissions from all engine gen-sets shall not exceed the limits specified below:

Pollutant	Kohler KD900 Caterpillar C32 Cummins 900DQFAC (A00)	Kohler 900REOZMD (B00)	Caterpillar C9 (C00)	Caterpillar 3516C-DITA (C01 – C08)
Nitrogen Oxides (as NO_2)	0.55 tons/yr	0.56 tons/yr	0.14 tons/yr	8.56 tons/yr
Carbon Monoxide (CO)	0.44 tons/yr	0.26 tons/yr	0.07 tons/yr	4.69 tons/yr
Volatile Organic Compounds (VOC)	0.05 tons/yr	0.08 tons/yr	0.02 tons/yr	1.16 tons/yr
Particulate Matter (PM_{10})	0.03 tons/yr	0.07 tons/yr	0.02 tons/yr	1.04 tons/yr
Particulate Matter ($PM_{2.5}$)	0.03 tons/yr	0.07 tons/yr	0.02 tons/yr	1.04 tons/yr

Pollutant	Kohler KD2250 Caterpillar 3516C Cummins DQKAF (A01 – A42)	Kohler KD2250 (B01 – B20)	Kohler KD2250 (C09 & C10)	Facility-Wide (A00 – A42, B00 – B20, C00 – C10)
Nitrogen Oxides (as NO_2)	54.37 tons/yr	24.25 tons/yr	2.43 tons/yr	90.86 tons/yr
Carbon Monoxide (CO)	32.04 tons/yr	18.52 tons/yr	1.85 tons/yr	57.87 tons/yr
Volatile Organic Compounds (VOC)	6.68 tons/yr	0.80 tons/yr	0.08 tons/yr	8.87 tons/yr
Particulate Matter (PM_{10})	2.21 tons/yr	1.17 tons/yr	0.12 tons/yr	4.66 tons/yr
Particulate Matter ($PM_{2.5}$)	2.21 tons/yr	1.17 tons/yr	0.12 tons/yr	4.66 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, 9, 10, and 11, or other means acceptable to DEQ. (9VAC5-80-1180) [12/3/2024]

13. **Visible Emission Limit –** Visible emissions from each emergency diesel engine gen-set (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) 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). This condition applies at all times except during startup, shutdown and malfunction.

    During startup and shutdown, visible emissions from each engine gen-set (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) shall not exceed ten percent (10%) opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed twenty percent (20%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
    (9VAC5-80-1180 and 9VAC5-50-260) [12/3/2024]

INITIAL COMPLIANCE DETERMINATION

14. **Stack Test –** Initial performance tests shall be conducted on at least twenty percent (20%) of the units installed for each type of engine model (Kohler KD2250, Caterpillar 3516C, and Cummins DQKAF) of the forty-two (42) emergency diesel engine gen-sets (Ref. Nos. A01 – A42) 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 11.

    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 11. 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) [12/3/2024]

15. **Stack Test –** Initial performance tests shall be conducted on the emergency diesel engine gen-set (Ref. No. A00) 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 11.

a. Emissions testing of each pollutant for the 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 the 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 11. 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) [12/3/2024]

16. **Visible Emissions Evaluation –** Concurrent with the initial performance tests required in Conditions 14 and 15, 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 Conditions 14 and 15, 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) [12/3/2024]

CONTINUING COMPLIANCE DETERMINATION

17. **Facility Construction –** The emergency diesel engine gen-sets (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) shall be constructed so as to allow for emissions testing upon reasonable notice, using appropriate methods. This includes constructing the facility/equipment such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing a stack or duct that is free from cyclonic flow. Sampling ports shall be provided when requested at the appropriate locations in accordance with EPA Reference Method 1 (reference 40 CFR Part 60, Appendix A). In addition, safe sampling platforms and access shall be provided. (9VAC5-50-30 F and 9VAC5-80-1180) [12/3/2024]

18. **Emission Testing/Visible Emissions Evaluation –** Upon request by the DEQ, the permittee shall conduct additional stack tests and/or visible emission evaluations of the emergency diesel engine gen-sets (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO. (9VAC5-80-1200 and 9VAC5-50-30 G) [12/3/2024]

RECORDS

19. **On Site Records –** The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO. These records shall include, but are not limited to:

    a. A monthly log of the monitoring device observations as required by Condition 2.

    b. Records, as necessary, to demonstrate compliance with the nonemergency operating limitations of Condition 4, which includes but is not limited to the time and date that each diesel engine gen-set was operating during the period from May 1 through September 30, of each calendar year.

    c. To verify compliance with Condition 5, maintain records of:

        i. The forecasted AQI, as determined by the AirNow website for Northern Virginia, for ozone for the day(s) 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 day(s) that the 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.

d. Records of the reasons for operation for each emergency diesel engine gen-set (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10), including, but not limited to, the date, cause of operation, cause of the emergency, the ISO-declared emergency notification, and the hours of operation.

e. Monthly and annual hours of operation of each emergency diesel engine gen-set (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10), calculated monthly as the sum of each consecutive 12-month period.

f. Monthly and annual hours of operation of each emergency diesel engine gen-set (Ref. Nos. B00 – B20 and C00 – C08), for purposes of maintenance checks/readiness testing, calculated monthly as the sum of each consecutive 12-month period.

g. Monthly and annual hours of operation of each emergency diesel engine gen-set (Ref. Nos. A00 – A42, C09, and C10), for purposes of scheduled maintenance checks and readiness testing, calculated monthly as the sum of each consecutive 12-month period.

h. Monthly and annual fuel consumption of the emergency diesel engine gen-set (Ref. No. A00), calculated monthly as the sum of each consecutive 12-month period to verify compliance with the fuel throughput limitation specified in Condition 10.a.

i. Monthly and annual fuel consumption of the emergency diesel engine gen-set (Ref. No. B00), calculated monthly as the sum of each consecutive 12-month period to verify compliance with the fuel throughput limitation specified in Condition 10.b.

j. Monthly and annual fuel consumption of the emergency diesel engine gen-set (Ref. No. C00), calculated monthly as the sum of each consecutive 12-month period to verify compliance with the fuel throughput limitation specified in Condition 10.c.

k. Monthly and annual fuel consumption of each emergency diesel engine gen-set (Ref. Nos. A01 – A42, B01 – B20, and C01 – C10), for all purposes, with the annual fuel consumption calculated monthly as the sum of each consecutive 12-month period.

l. Monthly and annual fuel consumption of the forty-two (42) emergency diesel engine gen-sets (Ref. Nos. A01 – A42), combined, calculated monthly as the sum of each consecutive 12-month period to verify compliance with the fuel throughput limitation specified in Condition 10.d.

m. Monthly and annual fuel consumption of the twenty (20) emergency diesel engine gen-sets (Ref. Nos. B01 – B20), combined, calculated monthly as the sum of each consecutive 12-month period to verify compliance with the fuel throughput limitation specified in Condition 10.e.

n. Monthly and annual fuel consumption of the eight (8) Caterpillar 3516C-DITA emergency diesel engine gen-sets (Ref. Nos. C01 – C08), combined, calculated monthly as the sum of each consecutive 12-month period to verify compliance with the throughput limitation specified in Condition 10.f.

o. Monthly and annual fuel consumption of the two (2) Kohler KD2250 emergency diesel engine gen-sets (Ref. Nos. C09 and C10), combined, calculated monthly as the sum of each consecutive 12-month period to verify compliance with the fuel throughput limitation specified in Condition 10.g.

p. 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-set (Ref. No. A00) to verify compliance with the ton/yr emissions limitations in Condition 12.

q. 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-set (Ref. No. B00) to verify compliance with the ton/yr emissions limitations in Condition 12.

r. 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-set (Ref. No. C00) to verify compliance with the ton/yr emissions limitations in Condition 12.

s. 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. A01 – A42) to verify compliance with the ton/yr emissions limitations in Condition 12.

t. 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. B01 – B20) to verify compliance with the ton/yr emissions limitations in Condition 12.

u. 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. C01 – C08) to verify compliance with the ton/yr emissions limitations in Condition 12.

v. 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. C09 and C10) to verify compliance with the ton/yr emissions limitations in Condition 12.

w. All fuel supplier certifications.

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

y. Records of scheduled maintenance checks and readiness testing (Scheduled MCRT).

z. Records of unscheduled maintenance and operator training.

aa. Records as required by Condition 25.

bb. Records of the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer for each emergency diesel engine gen-set.

cc. Records of changes in settings that are permitted by the manufacturer of the emergency diesel engine gen-sets.

dd. Engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement for each engine-gen-set (Ref. Nos. A00 – A42, C09, and C10).

ee. For the emergency diesel engine gen-sets (Ref. Nos. A00 – A42, B00 – B20, and C00 – C10), maintain documentation from the manufacturer that the emergency diesel engine gen-sets are certified to meet the EPA's Tier 2 emission standards.

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

These records shall be available for inspection by the DEQ and shall be current for the most recent five years, unless otherwise noted.
(9VAC5-80-1180 and 9VAC5-50-50) [12/3/2024]

NOTIFICATIONS

20. **Initial Notifications –** The permittee shall furnish written notification of items a through f below to the 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

    a. The actual date(s) on which construction of the Kohler emergency diesel engine gen-sets (Ref. Nos. B00 – B20, C09, and C10) commenced within 30 days after such date(s). The notification must contain 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. Fuel type;

    b. The anticipated date(s) of the manufacturer's trials of the Kohler emergency diesel engine gen-sets (Ref. Nos. B00 – B20, C09, and C10) postmarked not more than 30 days nor less than 15 days prior to such date(s);

    c. The actual date(s) on which the manufacturer's trials of the Kohler emergency diesel engine gen-sets (Ref. Nos. B00 – B20, C09, and C10) are conducted within 15 days after such date(s);

    d. The anticipated start-up date(s) of the Kohler emergency diesel engine gen-sets (Ref. Nos. B00 – B20, C09, and C10) postmarked not more than 60 days nor less than 30 days prior to such date(s);

    e. The actual start-up date(s) of the Kohler emergency diesel engine gen-sets (Ref. Nos. B00 – B20, C09, and C10) within 15 days after such date(s). 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;

    f. The anticipated date(s) of performance tests and visible emissions evaluations of the emergency diesel engine gen-sets, postmarked at least 30 days prior to such date(s).

    (9VAC5-50-50 and 9VAC5-80-1180) [6/3/20]

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 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. A00 – A42) 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. A00 – A42) 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. (9VAC5-50-20) [12/3/2024]

GENERAL CONDITIONS

22. **Permit Invalidation –** This permit to construct the emergency diesel engine gen-sets (Ref. Nos. A00 – A42, B00 – B20, C09, and C10) 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 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)

23. **Permit Suspension/Revocation –** The Board may suspend or revoke any permit if the permittee:

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

    b. Fails to comply with the terms or 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 fails to operate in conformance with any applicable control strategy, including any emission standards or emission limitations, in the implementation plan in effect at the time that an application is submitted; or

    e. Fails to comply with the applicable provisions of 9VAC5-80-1100 et seq.

    (9VAC5-80-1210 F and 9VAC5-80-1210 G)

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

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 measures in order to minimize the duration and frequency of excess emissions, including the following:

a. Develop a maintenance schedule and maintain records of all scheduled and nonscheduled 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 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)

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. 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 occurrence. 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)

27. **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 two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Air Compliance Manager, the DEQ's NRO.
(9VAC5-20-180 C and 9VAC5-80-1180)

28. **Violation of Ambient Air Quality Standard –** Regardless of any other provision of this permit, the permittee shall, upon request of the DEQ, reduce the level of operation of the facility if the DEQ determines that is necessary to prevent a violation of any primary ambient air quality standard. Under worst case conditions, the DEQ may order that the permittee shut down the facility, if there is no other method of operation to avoid a violation of the ambient air quality standard. The DEQ reserves the right to prescribe the method of determining if a facility will cause such a violation. In such cases, the facility shall not be returned to operation until it and the associated air pollution control equipment are able to operate without violation of any primary ambient air quality standard.
(9VAC5-20-180 I and 9VAC5-80-1180)

29. **Change of Ownership –** In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Regional Air Compliance Manager of the DEQ's NRO of the change of ownership within 30 days of the transfer.
(9VAC5-80-1240)

30. **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