Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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

Travis A. Voyles
Acting Secretary of Natural and Historic Resources

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

Thomas A. Faha
Regional Director

January 20, 2023

Mr. Sudhir Kalra
EVP, Global Operations
Compass Datacenters, LLC
42254 Thunderball Drive
Leesburg, VA 20175

Location: Loudoun County
Registration No.: 74160

Dear Mr. Kalra:

Attached is a permit to construct and operate emergency diesel engine generator sets (gen-sets) at Compass Datacenters, LLC's computer data center, in accordance with the provisions of the Commonwealth of Virginia State Air Pollution Control Board's (Board's) Regulations for the Control and Abatement of Air Pollution (Regulations). This permit document supersedes and combines the terms and conditions from your permit dated September 12, 2018.

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 January 19, 2023.

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 Compass Datacenters, LLC of the responsibility to comply with all other local, state, and federal permit regulations.

The proposed emergency diesel engine gen-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 MACT and NSPS to ensure compliance with applicable emission and operational limitations. As the owner/operator you are also responsible for any monitoring, notification, reporting and recordkeeping requirements of the MACT and NSPS. Notifications shall only be sent to EPA, Region III.

To review any federal rules referenced in the above paragraph or in the attached permit, the US Government Publishing Office maintains the text of these rules at www.ecfr.gov, Title 40, Part 60 and Part 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 30-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) 866-6048 or via email at katie.devoss@deq.virginia.gov.

Sincerely,

Justin A. Wilkinson
Regional Air Permit Manager

JAW/KD/74160 mNSR (2023-01-20)
Attachment: Permit

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Director
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Thomas A. Faha
Regional Director

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE
This permit document supersedes your permit dated September 12, 2018.

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

Compass Datacenters, LLC
14555 North Dallas Parkway
Suite 125
Dallas, TX 75254
Registration No.: 74160

is authorized to construct and operate

emergency diesel engine generator sets (gen-sets)

located at

42255, 42254, 42311 and 42310 Thunderball Drive
Leesburg, Virginia (Loudoun County)

in accordance with the Conditions of this permit.

Approved on January 20, 2023.

Justin A. Wilkinson
Regional Air Permit Manager

Permit consists of 19 pages (w/o the attachment)
Permit Conditions 1 to 30.
Appendix A: Source Testing Report Format (1 page)

INTRODUCTION

This permit approval is based on the permit application dated May 11, 2018 and supplemental information dated June 8, 2018, and permit application dated October 25, 2022 and supplemental information dated November 3, 2022, November 28, 2022, December 16, 2022, December 21, 2022, and January 19, 2023.

Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action. In addition, this facility may be subject to additional applicable requirements not listed in this permit.

Words or terms used in this permit shall have meanings as provided in 9VAC5-80-1110 and 9VAC5-10-10 of the Commonwealth of Virginia State Air Pollution Control Board's (Board's) Regulations (Regulations) for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

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

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9VAC5-170-60 of the Board's Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

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

Equipment to be Constructed:

Reference No.	Equipment Description	Standby Rated Capacity	Delegated Federal Requirements	Original Permit Date
IADI-II-12-Gen-3A through IADI-II-12-Gen-3E	Five (5) Cummins Model QSK60-G15 emergency diesel engine gen-sets	2,922 bhp 2,000 ekW (each unit)	None	January 20, 2023

Equipment Previously Permitted:

Reference No.	Equipment Description	Standby Rated Capacity	Delegated Federal Requirements	Original Permit Date
IADI-I-1-Gen-1A through IADI-I-1-Gen-2C; IADI-I-2-Gen-1A through IADI-I-2-Gen-2C; IADI-I-3-Gen-1A through IADI-I-3-Gen-2C; IADI-I-4-Gen-1A through IADI-I-4-Gen-2C; IADI-I-5-Gen-1A through IADI-I-5-Gen-3C; IADI-I-6-Gen-1A through IADI-I-6-Gen-2C; IADI-II-7-Gen-1A through IADI-II-7-Gen-2C; IADI-II-8-Gen-1A through IADI-II-8-Gen-2C; IADI-II-9-Gen-1A through IADI-II-9-Gen-2C; IADI-II-10-Gen-1A through IADI-II-10-Gen-2C; IADI-II-11-Gen-1A through IADI-II-11-Gen-2C; IADI-II-12-Gen-1A through IADI-II-12-Gen-2C	(75) Cummins Model 2000DQKAB emergency diesel engine gen-sets	2,922 bhp 2,000 ekW (each unit)	None	September 12, 2018

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

PROCESS REQUIREMENTS

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

   a. Nitrogen oxides (NO_X) emissions from each emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall be controlled by engine design.

   b. Carbon monoxide (CO) emissions, particulate matter (PM_{10}/$PM_{2.5}$) emissions, volatile organic compounds (VOCs) emissions, and visible emissions from the emergency diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall be controlled by the use of good operating practices and performing maintenance in accordance with the manufacturer recommendations. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not degrade the air emissions from the emergency diesel engine gen-sets.

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

2. **Monitoring –** Each emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall be equipped with a non-resettable hour meter which measures the duration of time that each engine gen-set is operated.

   Each non-resettable hour meter 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 non-resettable hour meter 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's Northern Regional Office (NRO).

   Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the engine gen-sets are operating.
   (9VAC5-80-1180 D and 9VAC5-50-20 C)

OPERATING LIMITATIONS

3. **Emergency Power Generation –** The emergency diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall only be operated in the following modes:

    a. In situations that arise from sudden and reasonably unforeseeable events where the primary energy or power source is disrupted or disconnected due to conditions beyond the control of an owner or operator of a facility including:

        i. A failure of the electrical grid;

        ii. On-site disaster or equipment failure; or

        iii. Public service emergencies such as flood, fire, natural disaster, or severe weather conditions.

    b. For participation in an ISO-declared emergency, where an ISO emergency is:

        i. An abnormal system condition requiring manual or automatic action to maintain system frequency, to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property;

        ii. Capacity deficiency or capacity excess conditions;

        iii. A fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel;

        iv. Abnormal natural events or man-made threats that would require conservative operations to posture the system in a more reliable state; or

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

    c. For scheduled maintenance checks and readiness testing (Scheduled MCRT).

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

    e. For the integration operational period, which is the period of time beginning with the first time the affected unit is started on-site and ending when the affected unit is fully integrated with the source's electrical system.

    Total emissions for any annual period, calculated as the sum of all emissions from operations under the scenarios above, shall not exceed the limits stated in Condition 10. (9VAC5-80-1180)

4. **Operation of the Engine Gen-Sets –** The permittee shall operate and maintain each emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) and control device according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not increase air emissions.
(9VAC5-80-1180)

5. **Operating Limitations (Ozone Season) –** No emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall be operated for scheduled maintenance checks and readiness testing (Scheduled MCRT), testing, or operational training (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. 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)

6. **Operating Limitations (Ozone Season) – Integration Operational Period –** During the integration operational period of each emergency diesel engine gen-set (Ref. Nos. IADI-II-12-Gen-3A through IADI-II-12-Gen-3E), any operation of the unit (that involves fuel combustion) between the hours of 7 a.m. to 5 p.m. any day during the ozone season of May 1 through September 30 shall only occur if the forecast Air Quality Index (AQI) for ozone as published on the AirNow website (**https://airnow.gov**) for Northern Virginia for that day is less than or equal to 100. In the event that AirNow-EnviroFlash (**www.enviroflash.info**) issues an Air Alert for Metropolitan Washington, D.C. for a day which the forecasted AQI for ozone was less than or equal to 100, operation of each unit (which involves fuel combustion) shall be minimized to the maximum extent practical.
(9VAC5-80-1180)

7. **Operating Hours –** The operation of the diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) are limited by the following:

   a. Each individual emergency diesel engine gen-set shall not operate more than 500 hours per year for all purposes (as provided in Condition 3) combined. These annual limits shall be calculated monthly as the sum of each consecutive 12-month period.

   b. The diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E), combined, shall not operate more than 5,000 hours per year for all purposes (as provided in Condition 3), calculated as the sum of each consecutive 365-day period.

   c. Each individual emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall not operate more than 20 hours per year for scheduled maintenance checks and readiness testing (Scheduled MCRT, as provided in Condition 3.c), calculated monthly as the sum of each consecutive 12-month period.

As applicable above, 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; compliance for the consecutive 365-day period shall be demonstrated daily by adding the total for the most recently completed calendar day to the individual daily totals for the preceding 364 days. (9VAC5-80-1180)

8. **Fuel Specifications –** The approved fuel for the emergency diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) is ultra-low sulfur diesel fuel oil, hydrotreated vegetable oil (HVO), or a blend of these fuels, and shall, prior to blending, meet the specifications below:

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

    b. Has a maximum sulfur content not to exceed 0.0015% by weight (15 ppm), and either a minimum cetane number of 40 or maximum aromatic content of 35 volume percent.

    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.
    (9VAC 5-80-1180)

9. **Fuel Certification –** The permittee shall obtain a certification from the fuel supplier with each shipment of ultra-low sulfur diesel fuel oil and HVO. Each fuel supplier certification shall include the following:

    a. The name of the fuel supplier;

    b. The date on which the ultra-low sulfur diesel fuel oil and HVO was received;

    c. The quantity of ultra-low sulfur diesel fuel oil and HVO delivered in the shipment;

    d. A statement that the fuel complies with the requirements of Condition 8 (Fuel Specifications).

    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 fuel 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.
    (9VAC5-80-1180)

EMISSION LIMITS

10. **Emission Limits –** Emissions from the operation of the emergency diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall not exceed the limits specified below:

Pollutant	Cummins QSK60-G15 (Each Unit)	Cummins QSK60-G15 (Combined Units)
Nitrogen Oxides (NOx as NO_2)	38.00 lb/hr	94.99 tpy
Carbon Monoxide (CO)	6.49 lb/hr	16.23 tpy
Particulate Matter (PM_{10})	1.11 lb/hr	2.77 tpy
Particulate Matter ($PM_{2.5}$)	1.11 lb/hr	2.77 tpy
Volatile Organic Compounds (VOC)	1.35 lb/hr	3.37 tpy

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with the annual emission limits may be determined by Conditions 7 and 8.
(9VAC5-80-1180 and 9VAC5-50-260)

11. **Visible Emission Limit –** Visible emissions from each emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall not exceed 5% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).

During startup and shutdown, visible emissions from each engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall not exceed 10% opacity except during one six-minute period in any one-hour in which visible emissions shall not exceed 20% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-1180, 9VAC5-50-260, and 9VAC5-170-160)

INITIAL COMPLIANCE DETERMINATION

12. **Stack Tests** – Initial performance tests shall be conducted on seven (7) of the seventy-five (75) emergency diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-2C) for nitrogen oxides (as NO_X) and carbon monoxide (CO) to determine compliance with the emission limits (lb/hr) contained in Condition 10. The testing on a selected engine gen-set shall be performed, reported and demonstrate compliance within 60 days after achieving the maximum power demand rate at which the unit will be operated but in no event later than 180 days after startup of that unit. The tests shall be conducted, reported, and data reduced as set forth in 9VAC5-50-30, and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410.

a. Emissions testing of nitrogen oxides (as NO_2) and carbon monoxide (CO) on the emergency diesel engine gen- sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-2C) 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 diesel engine gen-set.

b. Testing shall be conducted with the engine operating at greater than 90% capacity, unless multiple load band testing is approved by DEQ.

c. Recorded engine gen-set operating parameter information shall include, but not be limited to:

   i. Generator load/kilowatt output; and

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

d. Should conditions occur which would require rescheduling the testing, the permittee shall notify the Regional Air Compliance Manager of the DEQ's NRO (at the address listed in Condition 19) in writing, within seven days of the scheduled test date or as soon as the rescheduling is deemed necessary.

e. The details of the tests are to be arranged with the Regional Air Compliance Manager of the DEQ's NRO (at the address listed in Condition 19). The permittee shall submit two copies, one paper copy and one on removable electronic media, of the test protocol to the Regional Air Compliance Manager of the DEQ's NRO at least 30 days prior to testing to ensure adequate time for DEQ approval. If the test protocol is received by the DEQ with less than 30 days for review and acceptance, DEQ approval may not be issued in a timely manner to allow for testing to take place according to the permittee's schedule.

f. Two copies, one paper copy and one on removable electronic media, of the test results shall be submitted to the Regional Air Compliance Manager of the DEQ's NRO (at the address listed in Condition 19) within 60 days after test completion and shall conform to the source testing report format enclosed with this permit.

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

13. **Stack Test –** Initial performance tests shall be conducted on two (2) of the emergency diesel engine gen-sets (Ref. Nos. IADI-II-12-Gen-3A through IADI-II-12-Gen-3E) 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 10.

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 10. 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. In no case shall the integration operational period exceed 30 days. If this deadline falls within the ozone season (May 1 through September 30), the facility shall perform testing to demonstrate compliance within 30 days after the end of the ozone season. Tests shall be conducted and reported and data reduced as set forth in 9VAC5-50-30;

e. The details of the tests are to be arranged with the Regional Air Compliance Manager of 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)

14. **Visible Emissions Evaluation** – Concurrently with the initial performance tests required by Condition 12, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A-4, Method 9, shall also be conducted by the permittee on the seven (7) emergency diesel engine gen-sets selected for the stack tests of Condition 12. Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six-minute average. The details of the tests are to be arranged with the Regional Air Compliance Manager of the DEQ's NRO. The permittee shall submit a test protocol at least 30 days prior to testing. The evaluations shall be performed, reported, and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Should conditions prevent concurrent opacity observations, the DEQ's NRO shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions as possible as the initial performance tests. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test result shall be submitted to the DEQ's NRO within 60 days after test completion and shall conform to the test report format enclosed with this permit.
(9VAC5-50-30 and 9VAC5-80-1200)

15. **Visible Emissions Evaluation** – Concurrent with the initial performance tests required in Condition 13, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall also be conducted by the permittee on the emergency diesel engine gen-sets selected for initial performance testing. The details of the tests are to be arranged with the Regional Air Compliance Manager of DEQ's NRO. The permittee shall submit a VEE protocol in conjunction with the initial stack test protocol required by Condition 13, 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)

CONTINUING COMPLIANCE DETERMINATION

16. **Facility Construction –** The emergency diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) 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.
(9VAC5-50-30 F and 9VAC5-80-1180)

17. **Emission Testing/Visible Emissions Evaluation –** Upon request by the DEQ, the permittee shall conduct stack tests and/or visible emission evaluations of the emergency diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) 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)

RECORDS

18. **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. Documentation from the manufacturer that each emergency diesel engine gen-set is certified to meet the EPA Tier 2 emission standards;

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

    c. A monthly summary table for each emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-2C) to include:

        i. Reasons for operating as defined in Condition 3;
        ii. Engine hours – total and subtotals for each reason of operation; and
        iii. Fuel consumption.

    d. Monthly and annual hours of operation (all purposes) of each emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E), with annual hours of operation calculated monthly as the sum of each consecutive 12-month period.

    e. Daily and annual hours of operation (all purposes) of all 80 units combined (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) and the reasons for operating as defined in Condition 3 including, but not limited to, the date, cause of operation, cause of the emergency, the ISO-declared emergency notification, with annual hours of operation calculated daily as the sum of each consecutive 365-day period.

f. Monthly and annual hours of operation of each emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) for purposes of scheduled maintenance checks and readiness testing (Scheduled MCRT), with annual hours of operation calculated monthly as the sum of each consecutive 12-month period.

g. Daily 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. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E), with annual emissions calculated daily, as the sum of each consecutive 365-day period, to verify compliance with the annual emission limits in Condition 10.

h. Records, as necessary, to demonstrate compliance with the operating limitations of Condition 5, which includes, but is not limited to, the times, dates and reasons for operation of each diesel engine gen-set that was operating between May 1 and September 30.

i. To verify compliance with Condition 6, maintain records of:

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

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

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

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

j. All fuel supplier certifications.

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

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

m. Records of unscheduled maintenance and operator training.

n. Records as required by Condition 24.

o. Records of the manufacturer’s written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer.

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

q. Engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement for each emergency diesel engine gen-set.

As applicable above, 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; compliance for the consecutive 365-day period shall be demonstrated daily by adding the total for the most recently completed calendar day to the individual daily totals for the preceding 364 days.

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

NOTIFICATIONS

19. **Initial Notifications –** The permittee shall furnish written notification of the items 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

The permittee shall submit one notification for each building or construction phase containing information on each emergency engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-2C) as described below:

a. The actual date on which construction of the building or phase commenced within 30 days after such date. The notification must contain the following:

i. Name and address of the permittee,

ii. The address of the affected source,

iii. Engine information including make, model, engine family, serial number, model year, maximum engine power and engine displacement, and

iv. Fuel used.

b. The actual start-up date of each emergency diesel engine gen-set (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-2C) within 15 days after the last generator for each

building or construction phase completes actual start-up. The notification shall contain the following:

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

ii. Installation date, and

iii. Start up date.

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

20. **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. IADI-II-12-Gen-3A through IADI-II-12-Gen-3E) 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. IADI-II-12-Gen-3A through IADI-II-12-Gen-3E) 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)

GENERAL CONDITIONS

21. **Permit Invalidation –** This permit to construct the emergency diesel engine gen-sets (Ref. Nos. IADI-I-1-Gen-1A through IADI-II-12-Gen-3E) shall become invalid, unless an extension is granted by the DEQ, if:

    a. A program of continuous construction or modification is not commenced within 18 months from the "Original Permit Date" specified in the equipment list in the introduction section of this permit.

    b. A program of construction is discontinued for a period of 18 months or more.

    (9VAC5-80-1210)

22. **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)

23. **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)

24. **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 non-scheduled maintenance.

    b. Maintain an inventory of spare parts.

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

    d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

    Records of maintenance 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)

25. **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.
(9VAC 5-20-180 J and 9VAC5-80-1180 D)

26. **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 Regional Air Compliance Manager of the DEQ's NRO.
(9VAC5-20-180 C and 9VAC5-80-1180)

27. **Notification of Control Equipment Maintenance –** The permittee shall furnish notification to the Regional Air Compliance Manager of the DEQ's NRO in case of shutdown or bypassing, or both, of air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour. The intent to shut down or bypass such equipment shall be reported to the Regional Air Compliance Manager of the DEQ's NRO and local air pollution control agency, if any, at least twenty-four hours prior to the planned shutdown. Such prior notice shall include, but is not limited to the following information:

    a. Identification of air pollution control equipment to be taken out of service, as well as its location and registration number;

    b. The expected length of time that the air pollution control equipment will be out of service;

    c. The nature and quantity of emissions of air pollution likely to occur during the shutdown period; and

    d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

    (9VAC5-20-180 B)

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)

Appendix A

Source Testing Report Format

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