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

June 24, 2024

Mr. Justin Montague
Site Director – Richmond, VA
Quality Investment Properties Richmond, LLC
6000 Technology Blvd
Sandston, VA 23150

Location: Henrico County
Registration No.: 51232

Dear Mr. Montague:

Attached is a permit approval to construct and operate a project at a data center facility in accordance with the provisions of the Virginia Regulations for the Control and Abatement of Air Pollution. This combined permit document supersedes your permit document dated September 1, 2023.

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 June 21, 2024.

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

This permit approval to construct and operate shall not relieve Quality Investment Properties Richmond, LLC of the responsibility to comply with all other local, state, and federal permit regulations.

The proposed emergency generators 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 this rule. In summary, the unit may be required to comply with certain federal emission standards and operating limitations. DEQ advises you to review the referenced MACT and NSPS to ensure compliance with applicable emission and operational limitations. As the owner/operator you may be also responsible for any monitoring, testing, notification, reporting and recordkeeping requirements of the MACT and NSPS. Notifications and reports shall be sent to both EPA, Region III and DEQ.

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

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

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

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 the regional office at (804) 527-5020.

Sincerely,

James E. Kyle, P.E., Regional Air Permit Manager
Virginia Department of Environmental Quality
(804) 489-6241
James.Kyle@deq.virginia.gov
Piedmont Regional Office
4949-A Cox Road, Glen Allen, VA 23060

Attachments: Permit
Source Testing Report Format

cc: Inspector/Manager, Air Compliance

Commonwealth of Virginia

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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 your permit document dated September 1, 2023.

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

Quality Investment Properties Richmond, LLC
6000 Technology Blvd
Sandston, VA 23150
Registration No.: 51232

is authorized to construct and operate

a data center facility

located at

6000 Technology Boulevard, Sandston, Virginia

in accordance with the Conditions of this permit document.

Approved on June 24, 2024.

James E. Kyle, P.E., Regional Air Permit Manager
Virginia Department of Environmental Quality
(804) 489-6241
James.Kyle@deq.virginia.gov
Piedmont Regional Office
4949-A Cox Road, Glen Allen, VA 23060

Permit consists of 20 pages.
Permit Conditions 1 to 48.

INTRODUCTION

This permit document 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:

- minor NSR approval dated June 24, 2024 based on the permit application dated May 15, 2024, including supplemental information dated June 21, 2024;
- minor NSR approval dated September 1, 2023 based on the permit application dated December 6, 2000, April 12, 2011, July 22, 2011, September 9, 2011, March 13, 2015, November 17, 2016, April 23, 2021, December 02, 2021, February 25, 2022, August 12, 2022 and June 9, 2023 including amendment information dated March 30, 2001, May 25, 2004, July 23, 2007, October 1, 2007 and November 16, 2007 and supplemental information dated May 12 & 26, 2011, August 9, 2011, February 17, 2012, February 24, 2012, June 30, 2021, July 29, 2021, February 10, 2022, February 11, 2022 and June 29, 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 document.

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

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the Department of Environmental Quality (DEQ) 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 DEQ) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

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

Equipment included in the project:

Reference No.	Equipment Description	Rated Capacity	Referenced Federal Requirements
EG77–EG79	Three (3) Caterpillar model CAT 3516C diesel emergency generators	3,674 BHP, each 2,500 kW, each	None

Other Permitted Equipment:

Reference No.	Equipment Description	Rated Capacity	Referenced Federal Requirements
EG04–EG05	Two (2) Caterpillar model CAT 3516 DITA diesel emergency generators	2,588 BHP, each 1,825 kW, each	None
EG06–EG07	Two (2) Caterpillar model CAT 3516C TA diesel emergency generator	2,937 BHP, each 2,000 kW, each	None
EG08–EG17	Ten (10) Caterpillar model CAT 3516C diesel emergency generators	3,634 BHP, each 2,500 kW, each	None
EG18–EG34	Seventeen (17) Caterpillar model CAT 3516C diesel emergency generators	3,634 BHP, each 2,500 kW, each	None
EG35–EG43	Nine (9) MTU 20V4000 DS2500 diesel emergency generators	3,674 BHP, each 2,500 kW, each	None
EG44–EG77	Thirty-three (33) Caterpillar model CAT 3516C diesel emergency generators	3,674 BHP, each 2,500 kW, each	None
EG80-EG112	Thirty-three (33) MTU 16V4000 DS2250 diesel emergency generators	3,350 BHP, each 2,250 kW, each	None
EG113-EG145	Thirty-three (33) MTU 16V4000 DS2250 diesel emergency generators	3,350 BHP, each 2,250 kW, each (for MTU 16V4000 DS2250 or equivalent)	None
EG146-EG244	Ninety-nine (99) Caterpillar model CAT 3516C or MTU 16V4000 DS2250 diesel emergency generators (or a combination of both) or equivalent	3,634 BHP, each 2,500 kW, each (for Caterpillar model CAT 3516C or equivalent) Or 3,350 BHP, each 2,250 kW, each (for MTU 16V4000 DS2250 or equivalent)	None
EG245, EG281, EG317, EG353, EG392, EG431, EG470, EG509	Eight (8) Caterpillar model CAT C32 diesel emergency generators	1,821 BHP, each 1,250 kW, each	None

Reference No.	Equipment Description	Rated Capacity	Referenced Federal Requirements
EG246-EG280, EG282-EG316, EG318-EG352, EG354-EG391, EG393-EG430, EG432-EG469, EG471-EG508, EG510-EG547,	Two hundred and ninety-five (295) Caterpillar model CAT 3516C diesel emergency generators	3,633 BHP, each 2,500 kW, each	None
CT01-CT04	Four (4) SPX Marley, 2-cell water cooling towers	4,350 GPM, each	None
CT05-CT09	Five (5) EVAPCO, 2-cell water cooling towers	2,880 GPM, each	None
CT10-CT11	Two (2) BAC, 2-cell water cooling towers	5,050 GPM, each	None

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

PROCESS REQUIREMENTS

1. Emission Controls - Visible emissions, particulate emissions, volatile organic compound (VOC) emissions and nitrogen oxide (NO_x) emissions from the engine-generator sets (Ref. Nos. EG04-EG547) shall be controlled by the use of good operating practices and performing appropriate maintenance in accordance with the manufacturer recommendations. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not increase air emissions.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [June 24, 2024]

2. Emission Controls - Carbon monoxide (CO) emissions from the engine-generator sets (Ref. Nos. EG18-EG26, EG28 and EG32–EG547) shall be controlled by the use of good operating practices and performing appropriate maintenance in accordance with the manufacturer recommendations. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not increase air emissions.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [June 24, 2024]

3. Emission Controls - Nitrogen oxides (NO_x) emissions from the engine-generator sets (Ref. Nos. EG04-EG547) shall be controlled by turbocharged engine and aftercooler. The permittee shall maintain documentation that demonstrates the control device has been installed on the engine-generator sets.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [June 24, 2024]

4. Emission Controls - Particulate emissions from the cooling towers (Ref. Nos. CT01-CT11) shall be controlled by limiting the total dissolved solids of the cooling water to 2,500 parts per million as an annual average (12-month rolling basis).
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

5. Emission Controls - Particulate emissions from the cooling towers (Ref. Nos. CT01-CT04) shall be controlled by the use of cooling towers designed to limit cooling tower liquid drift to 0.005% or less. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not increase air emissions.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

6. Emission Controls - Particulate emissions from the cooling towers (Ref. Nos. CT05-CT09) shall be controlled by the use of cooling towers designed to limit cooling tower liquid drift to 0.001% or less. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not increase air emissions.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

7. Emission Controls - Particulate emissions from the cooling towers (Ref. Nos. CT10-CT11) shall be controlled by the use of cooling towers designed to limit cooling tower liquid drift to 0.005% or less. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not increase air emissions.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

8. Monitoring Devices - Each engine-generator set (Ref. Nos. EG04-EG547) shall be equipped with a non-resettable hour metering device to monitor the operating hours and a fuel flow meter to monitor the fuel throughput during operation. The non-resettable hour meter used to continuously measure the hours of operation and the fuel flow meter used to continuously measure the fuel throughput for each engine-generator set shall be observed by the owner with a frequency of not less than once each day the engine-generator set is operated. The owner 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. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the engine-generator sets (Ref. Nos. EG04-EG547) are operating.
   (9 VAC 5-80-1180 D) [June 24, 2024]

OPERATING/EMISSION LIMITATIONS

9. Operation of the Engine-Generator Set - The permittee shall operate and maintain each engine-generator set (Ref. Nos. EG04-EG547) 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. (9 VAC 5-80-1180) [June 24, 2024]

10. Emergency Power Generation - The engine-generator sets (Ref. Nos. EG04-EG547) 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 periodic maintenance, testing, and operational training.

    When changing from Emergency Power Generation to Non-Emergency (Alternate) Power Generation, the permittee shall submit appropriate documentation to the Department of Environmental Quality (DEQ), and receive DEQ approval for the change in the method of operation of the engine-generator set to ensure that the facility remains in compliance with the appropriate permitting requirements. Total emissions for any 12-month period,

calculated as the sum of all emissions from operations under the scenarios above, shall not exceed the limits stated in Conditions 22, 23, 24, 25, 26, 27, 28, 29 and 30.
(9 VAC 5-80-1180) [June 24, 2024]

11. Fuel - The approved fuel for the engine-generator sets (Ref. Nos. EG04-EG547) is diesel fuel. The diesel fuel shall meet the ASTM D975 specification for S15 diesel fuel oil with a maximum sulfur content per shipment of 0.0015%. A change in the fuel shall be considered a change in the method of operation of the engine-generator sets (Ref. Nos. EG04-EG547) and may require a new or amended permit. However, if a change in the fuel is not subject to new source review permitting requirements, this condition should not be construed to prohibit such a change.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [June 24, 2024]

12. Fuel Throughput - The engine-generator sets (Ref. Nos. EG04-EG05) combined shall consume no more than 4,042 gallons of diesel fuel per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180) [September 1, 2023]

13. Fuel Throughput - The engine-generator sets (Ref. Nos. EG06-EG07) combined shall consume no more than 4,555 gallons of diesel fuel per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180) [September 1, 2023]

14. Fuel Throughput - The engine-generator sets (Ref. Nos. EG08-EG17) combined shall consume no more than 29,010 gallons of diesel fuel per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180) [September 1, 2023]

15. Fuel Throughput - The engine-generator sets (Ref. Nos. EG18-EG34) combined shall consume no more than 49,828 gallons of diesel fuel per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180) [September 1, 2023]

16. Fuel Throughput - The engine-generator sets (Ref. Nos. EG35–EG43) combined shall consume no more than 25,281 gallons of diesel fuel per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period

shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180) [September 1, 2023]

17. Fuel Throughput - The engine-generator sets (Ref. Nos. EG44–EG79) combined shall consume no more than 96,250 gallons of diesel fuel per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180) [June 24, 2024]

18. Fuel Throughput - The engine-generator sets (Ref. Nos. EG80–EG112) combined shall consume no more than 89,937 gallons of diesel fuel per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180) [September 1, 2023]

19. Fuel Throughput - The engine-generator sets (Ref. Nos. EG113–EG244) combined shall consume no more than 386,895 gallons of diesel fuel per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180) [September 1, 2023]

20. Fuel Throughput - The engine-generator sets (Ref. Nos. EG242–EG547) combined shall consume no more than 670,000 gallons of diesel fuel per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-1180) [September 1, 2023]

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

    a. The name of the fuel supplier;

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

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

    d. A statement that the diesel fuel complies with the American Society for Testing and Materials specifications (ASTM D975) for S15 diesel fuel oil; and

    e. The sulfur content of the diesel fuel.

Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by DEQ may be used to determine compliance with the fuel specifications stipulated in Condition 11. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
(9 VAC 5-80-1180) [September 1, 2023]

EMISSION LIMITS

22. Emission Limits - Emissions from the operation of the engine-generator sets (Ref. Nos. EG04-EG05) shall not exceed the limits specified below:

	Each	Combined
PM	0.6 lb/hr	0.05 tons/yr
PM10	0.7 lb/hr	0.06 tons/yr
PM2.5	0.7 lb/hr	0.06 tons/yr
Nitrogen Oxides (as NO_2)	81.9 lb/hr	1.8 tons/yr
Carbon Monoxide	10.5 lb/hr	0.3 tons/yr
Volatile Organic Compounds	2.0 lb/hr	0.08 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, 3, 9, 10, 11, 12, 21, 34 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

23. Emission Limits - Emissions from the operation of the engine-generator sets (Ref. Nos. EG06-EG07) shall not exceed the limits specified below:

	Each	Combined
PM	0.6 lb/hr	0.04 tons/yr
PM10	0.7 lb/hr	0.04 tons/yr
PM2.5	0.7 lb/hr	0.04 tons/yr
Nitrogen Oxides (as NO_2)	42.5 lb/hr	0.8 tons/yr
Carbon Monoxide	4.0 lb/hr	0.4 tons/yr

Volatile Organic Compounds	1.2 lb/hr	0.1 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, 3, 9, 10, 11, 13, 21, 34 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

24. Emission Limits - Emissions from the operation of the engine-generator sets (Ref. Nos. EG08-EG17) shall not exceed the limits specified below:

	Each	Combined
PM	0.5 lb/hr	0.2 tons/yr
PM10	0.6 lb/hr	0.2 tons/yr
PM2.5	0.6 lb/hr	0.2 tons/yr
Nitrogen Oxides (as NO_2)	50.6 lb/hr	4.3 tons/yr
Carbon Monoxide	6.1 lb/hr	2.2 tons/yr
Volatile Organic Compounds	1.2 lb/hr	0.5 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, 3, 9, 10, 11, 14, 21, 34 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

25. Emission Limits - Emissions from the operation of the engine-generator sets (Ref. Nos. EG18-EG34) shall not exceed the limits specified below:

	Each	Combined
PM	0.5 lb/hr	0.3 tons/yr
PM10	0.6 lb/hr	0.3 tons/yr
PM2.5	0.6 lb/hr	0.3 tons/yr
Nitrogen Oxides (as NO_2)	48.1 lb/hr	6.9 tons/yr
Carbon Monoxide	6.1 lb/hr	3.8 tons/yr

Volatile Organic Compounds	1.2 lb/hr	0.8 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 3, 9, 10, 11, 15, 21, 34 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

26. Emission Limits - Emissions from the operation of the engine-generator sets (Ref. Nos. EG35–EG43) shall not exceed the limits specified below:

	Each	Combined
PM	1.0 lb/hr	0.2 tons/yr
PM10	1.2 lb/hr	0.2 tons/yr
PM2.5	1.2 lb/hr	0.2 tons/yr
Nitrogen Oxides (as NO_2)	48.6 lb/hr	3.7 tons/yr
Carbon Monoxide	11.9 lb/hr	1.2 tons/yr
Volatile Organic Compounds	2.3 lb/hr	0.7 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 3, 9, 10, 11, 16, 21, 34 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

27. Emission Limits - Emissions from the operation of the engine-generator sets (Ref. Nos. EG44–EG79) shall not exceed the limits specified below:

	Each	Combined
PM	0.5 lb/hr	0.5 tons/yr
PM10	0.6 lb/hr	0.6 tons/yr
PM2.5	0.6 lb/hr	0.6 tons/yr
Nitrogen Oxides (as NO_2)	48.1 lb/hr	13.5 tons/yr
Carbon Monoxide	6.1 lb/hr	7.2 tons/yr

Volatile Organic Compounds	1.2 lb/hr	1.5 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 3, 9, 10, 11, 17, 21, 34, **Error! Reference source n ot found.**, 37 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [June 24, 2024]

28. Emission Limits - Emissions from the operation of the engine-generator sets (Ref. Nos. EG80–EG112) shall not exceed the limits specified below:

	Each	Combined
PM	0.8 lb/hr	0.8 tons/yr
PM10	1.0 lb/hr	0.8 tons/yr
PM2.5	1.0 lb/hr	0.8 tons/yr
Nitrogen Oxides (as NO_2)	44.4 lb/hr	12.3 tons/yr
Carbon Monoxide	9.4 lb/hr	3.9 tons/yr
Volatile Organic Compounds	2.2 lb/hr	2.4 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 3, 9, 10, 11, 18, 21, 34 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

29. Emission Limits - Emissions from the operation of the engine-generator sets (Ref. Nos. EG113–EG244) shall not exceed the limits specified below:

	Each	Combined
PM	0.8 lb/hr	2.0 tons/yr
PM10	1.0 lb/hr	2.2 tons/yr
PM2.5	1.0 lb/hr	2.2 tons/yr
Nitrogen Oxides (as NO_2)	48.1 lb/hr	53.1 tons/yr

Carbon Monoxide	9.4 lb/hr	29.0 tons/yr
Volatile Organic Compounds	2.2 lb/hr	10.3 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 3, 9, 10, 11, 19, 21, 34, 37 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

30. Emission Limits - Emissions from the operation of the engine-generator sets (Ref. Nos. EG245–EG547) shall not exceed the limits specified below:

	Each	Combined
PM	0.5 lb/hr	3.4 tons/yr
PM10	0.6 lb/hr	3.8 tons/yr
PM2.5	0.6 lb/hr	3.8 tons/yr
Nitrogen Oxides (as NO_2)	48.1 lb/hr	94.0 tons/yr
Carbon Monoxide	6.1 lb/hr	50.1 tons/yr
Volatile Organic Compounds	1.2 lb/hr	10.7 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 3, 9, 10, 11, 20, 21, 34, 36, 37 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

31. Emission Limits - Emissions from the operation of the cooling towers (Ref. Nos. CT01-CT04) shall not exceed the limits specified below:

	Each	Combined
PM	0.3 lb/hr	4.8 tons/yr
PM10	0.2 lb/hr	2.7 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 4, 5, 34 and 38.

(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

32. Emission Limits - Emissions from the operation of the cooling towers (Ref. Nos. CT05-CT09) shall not exceed the limits specified below:

	Each	Combined
PM	0.04 lb/hr	0.8 tons/yr
PM10	0.03 lb/hr	0.5 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 4, 6, 34 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

33. Emission Limits - Emissions from the operation of the cooling towers (Ref. Nos. CT10-CT11) shall not exceed the limits specified below:

	Each	Combined
PM	0.4 lb/hr	2.8 tons/yr
PM10	0.2 lb/hr	1.6 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 4, 7, 34 and 38.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

34. Visible Emission Limit - Visible emissions from the data center facility shall not exceed 10% opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed 20% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9 VAC 5-80-1180 and 9 VAC 5-50-260) [September 1, 2023]

35. Emissions Testing - The facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.
(9 VAC 5-50-30 F and 9 VAC 5-80-1180) [September 1, 2023]

INITIAL COMPLIANCE DETERMINATION

36. Stack Test - Initial performance tests shall be conducted for Nitrogen Oxides (as NO_2) and Carbon Monoxide (CO) for thirty-one (31) engines from the engine-generator sets (Ref. Nos. EG77- EG79 and EG245-EG547) to determine compliance with the emission limits contained in Condition 27 and Condition 30. The tests 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. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit. (9 VAC 5-50-30 and 9 VAC 5-80-1200) [June 24, 2024]

37. Visible Emissions Evaluation - Concurrently with the initial performance tests, 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 engine-generator sets selected for initial performance testing. The evaluation 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 Piedmont Regional Office 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 details of the tests are to be arranged with the Piedmont Regional Office. 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 Piedmont Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.

    a. Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average.

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

    (9 VAC 5-50-30 and 9 VAC 5-80-1200) [September 1, 2023]

RECORDS

38. 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 Piedmont Regional Office. These records shall include, but are not limited to:

a. Annual hours of operation of each engine-generator set (Ref. Nos. EG04-EG547), 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.

b. Annual consumption of diesel fuel for each engine-generator set (Ref. Nos. EG04-EG547), as stated in Conditions 12, 13, 14, 15, 16, 17, 18, 19 and 20, 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.

c. All fuel supplier certifications.

d. Engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement for each engine-generator set.

e. The manufacturer's written operating instructions or procedures developed by the owner/operator that are approved by the engine manufacturer for each engine-generator set.

f. Records of the reasons for operation for each engine-generator set (Ref. Nos. EG04-EG547), including, but not limited to, the date, cause of operation, cause of the emergency, the ISO-declared emergency notification, and the hours of operation.

g. Records of monthly total dissolved solids test results for the cooling towers (Ref. Nos. CT01-CT11).

h. Annual average cooling water total dissolved solids records and design cooling water liquid drift records for the cooling towers (Ref. Nos. CT01-CT11).

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

j. Scheduled and unscheduled maintenance and operator training.

k. A log of monitoring device observations as required by Condition 8.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-1180 and 9 VAC 5-50-50) [June 24, 2024]

NOTIFICATIONS

39. Initial Notifications - The permittee shall furnish written notification to the Piedmont Regional Office of:

    a. The actual date on which construction of the engine-generator sets (Ref. Nos. EG146-EG547) commenced within 30 days after such date.

    b. The anticipated start-up date of the engine-generator sets (Ref. Nos. EG77–EG79 and EG146-EG547) postmarked not more than 60 days nor less than 30 days prior to such date.

    c. The actual start-up date of the engine-generator sets (Ref. Nos. EG77–EG79 and EG146-EG547) within 15 days after such date. The actual start-up date shall be the date on which each engine completes manufacturer's trials, but shall be no later than thirty days after the initial start up for manufacturer's trials.

    d. The anticipated date of the performance tests and visible emissions evaluation of the engine-generator sets (Ref. Nos. EG77–EG79 and EG146-EG547) postmarked at least 30 days prior to such date.

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

GENERAL CONDITIONS

40. Permit Invalidation - The permit approval dated June 24, 2024 to construct the project shall become invalid, unless an extension is granted by the DEQ, if:

    a. A program of continuous construction of the engine-generator sets (Ref. Nos. EG77–EG79) is not commenced within 18 months by from September 1, 2023.

    b. A program of continuous construction of the engine-generator sets (Ref. Nos. EG113-EG244) is not commenced within 18 months from October 20, 2022.

    c. A program of continuous construction of the engine-generator sets (Ref. Nos. EG245-EG547) is not commenced within 18 months from September 1, 2023.

    d. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of the phased construction of a new stationary source or project.

    (9 VAC 5-80-1210)

41. Permit Suspension/Revocation - This permit may be suspended or revoked if the permittee:

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

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

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

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

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

    (9 VAC 5-80-1210 G)

42. Right of Entry - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

    a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

    b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

    c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

    d. To sample or test at reasonable times.

    For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
    (9 VAC 5-170-130 and 9 VAC 5-80-1180)

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

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

b. Maintain an inventory of spare parts.

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

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

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9 VAC 5-50-20 E and 9 VAC 5-80-1180 D)

44. Record of Malfunctions - The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.
(9 VAC 5-20-180 J and 9 VAC 5-80-1180 D)

45. Notification for Facility or Control Equipment Malfunction - The permittee shall furnish notification to the Piedmont Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour. Such notification shall be made no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 14 days of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Piedmont Regional Office.
(9 VAC 5-20-180 C and 9 VAC 5-80-1180)

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

47. 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 Piedmont Regional Office of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-1240)

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

SOURCE TESTING REPORT FORMAT

Report Cover

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

Certification

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

Copy of approved test protocol

Summary

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

Source Operation

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

Test Results

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

Appendix

1. *Raw production data
2. *Raw field data
3. *Laboratory reports
4. *Chain of custody records for lab samples
5. *Calibration procedures and results
6. Project participants and titles

7. Observers' names (industry and agency)
8. Related correspondence
9. Standard procedures

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* Not applicable to visible emission evaluations