



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

PIEDMONT REGIONAL OFFICE

4949A Cox Road, Glen Allen, Virginia 23060

(804) 527-5020 Fax (804) 527-5106

www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Michael P. Murphy
Regional Director

September 12, 2013

Mr. Randy Franklin
Peak 10, Inc.
8801 Park Central Drive Suite 200
Richmond, VA 23227

Location: Richmond
Registration No.: 52299

Dear Mr. Franklin:

Attached is a permit to modify and operate a data center in accordance with the provisions of the Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. This amended permit supersedes the permit dated May 6, 2011.

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.

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 August 22, 2013.

This permit approval to modify and operate shall not relieve Peak 10, Inc. of the responsibility to comply with all other local, state, and federal permit regulations. The generators (Reference Nos. 1 and 2) are affected facilities under 40 CFR 63 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (MACT) Subpart ZZZZ and the generator (Reference No. 2) is also an affected facility under 40 CFR 60 New Source Performance Standards (NSPS) Subpart IIII. In summary, the units are required to comply with the federal emission standard and its operating limitations over their useful lives. DEQ advises you to review this regulation to ensure compliance with applicable emission and operational limitations. As the owner/operator, you are also responsible for monitoring, notification, reporting, and recordkeeping requirements. MACT Subpart ZZZZ can be found on the internet at [<http://epa.gov/ttn/atw/rice/ricepg.html>](http://epa.gov/ttn/atw/rice/ricepg.html) and NSPS Subpart IIII can be found at [<http://epa.gov/ttn/atw/nsps/cinsps/cinspspg.html>](http://epa.gov/ttn/atw/nsps/cinsps/cinspspg.html). Initial notifications and any requests pursuant to MACT Subpart ZZZZ and NSPS IIII shall be sent to EPA, Region III at the following address:

Director,
Air Protection Division (3AP00)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

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. 9 VAC 5-170-200 provides that you may request direct consideration of the decision by the Board if the Director of the DEQ made the decision. Please consult the relevant regulations for additional requirements for such requests.

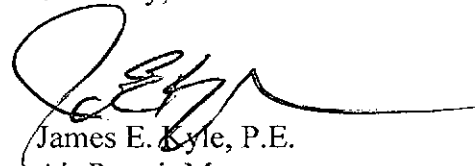
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

David K. Paylor, 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.
Air Permit Manager

JEK/SSO/52299_003_13_NSR

Attachments: Permit

cc: Manager, Data Analysis (electronic file submission)
Manager/Inspector, Air Compliance
Don C. DiCristofaro, CCM /Consultant (email)



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David K. Paylor
Director

Michael P. Murphy
Regional Director

STATIONARY SOURCE PERMIT TO MODIFY AND OPERATE

This permit supersedes the permit issued on May 6, 2011.

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

Peak 10, Inc.
8801 Park Central Drive
Richmond, VA 23227
Registration No.: 52299

is authorized to modify and operate


a data center

located at

Peak 10, Inc.,
8851 - B Park Central Drive, Suite 200
Richmond, VA 23227

in accordance with the Conditions of this permit.

Approved on **September 12, 2013**


James E. Kyle, P.E.
Air Permit Manager

Permit consists of 9 pages.
Permit Conditions 1 to 22.

INTRODUCTION

This permit approval is based on the permit application dated July 17, 2013, November 5, 2010, and July 10, 2009 and supplemental information dated August 15, 2013 and August 22, 2013. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

Words or terms used in this permit 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.

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

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

PROCESS REQUIREMENTS

1. **Equipment List** – Equipment at this facility consists of the following:

Equipment permitted prior to the date of this permit			
Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
1	Emergency Generator, Caterpillar Generator Set Model 3516BDITA manufactured in 2000	2000 kW	NONE
2	Emergency Generator, Caterpillar Generator Set Model 3516BDITA manufactured in 2010	2250 kW	NONE

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit. The above generators (Ref. Nos. 1 and 2) can be operated in the PJM's Emergency Load Response Program. (9 VAC 80-1180 D 3)

2. **Emission Controls** – Visible emissions, particulate emissions, carbon monoxide (CO) emissions, volatile organic compound (VOC) emissions, and nitrogen oxide (NOx) emissions 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 does not increase air emissions.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)
3. **Monitoring Devices** – Each engine-generator set shall be equipped with a non-resettable hour metering device to monitor the operating hours. The non-resettable hour meter used to continuously measure the hours of operation for each engine-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 set is operating.

(9 VAC 5-80-1180 D)

OPERATING LIMITATIONS

4. **Operation of the Engine-Generator Set** - The permittee shall operate and maintain each engine-generator set and control device according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, the permittee may only change those settings that are permitted by the manufacturer and does not increase air emissions.
(9 VAC 5-80-1180)
5. **Emergency Power Generation** – The engine-generator sets (Ref. Nos. 1 and 2) shall only be operated in the following modes:
 - a. In situations that arises 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 nos. 10 and 11.
(9 VAC 5-80-1180)

6. **Fuel** - The approved fuel for the engine-generator sets (Ref. Nos. 1 and 2) 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 may require a permit to modify and operate.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)
7. **Fuel Throughput** - The Caterpillar emergency generator Model 3516 B (Ref. No. 1) shall consume no more than 67,920 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)
8. **Fuel Throughput** - The Caterpillar emergency generator Model 3516 B (Ref. No. 2) shall consume no more than 78,765 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)

9. **Fuel Certification** - The permittee shall obtain a certification from the fuel supplier with each shipment of diesel fuel. Each fuel supplier certification shall include the following:
- a. The name of the fuel supplier;
 - b. The date on which the diesel fuel was received;
 - c. The quantity of diesel fuel delivered in the shipment;
 - 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 number 6. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
(9 VAC 5-80-1180)

EMISSION LIMITS

10. **Emission Limits** - Emissions from the operation of the Caterpillar Model 3516 B emergency generator (Ref. No. 1) shall not exceed the limits specified below:

Nitrogen Oxides (as NO ₂)	59.9 lbs/hr	15.0 tons/yr
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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, 6 and 7.
(9 VAC 5-80-1180)

11. **Emission Limits** - Emissions from the operation of the Caterpillar Model 3516 B emergency generator (Ref. No. 2) shall not exceed the limits specified below:

Nitrogen Oxides (as NO ₂)	68.7 lbs/hr	17.2 tons/yr
Carbon Monoxide	6.5 lbs/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 1, 6 and 8.

(9 VAC 5-80-1180)

12. **Visible Emission Limit** - Visible emissions from **each** engine-generator set (Ref. Nos. 1 and 2) shall not exceed 10 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 20 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)

13. **Emissions Testing** - The facility shall be modified 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)

RECORDS

14. **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 Director, Piedmont Region. These records shall include, but are not limited to:
- a. Annual consumption of diesel fuel for each engine-generator set (Ref. No. 1 or Ref. No. 2), 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. All fuel supplier certifications.
 - c. Scheduled and unscheduled maintenance and operator training.
 - 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. No. 1 or Ref. No. 2), 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. Results of all stack tests and visible emission evaluations.
- h. Scheduled and unscheduled maintenance and operator training.

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)

GENERAL CONDITIONS

15. 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 emission limitations, in the State Implementation Plan in effect at the time an application for this permit is submitted.

(9 VAC 5-80-1210 F)

16. 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)

- 17. 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)

- 18. 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.
(9VAC 5-20-180 J and 9 VAC 5-80-1180 D)

- 19. Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Director, Piedmont Region of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is

discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 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 Director, Piedmont Region. (9 VAC 5-20-180 C and 9 VAC 5-80-1180)

20. **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)
21. **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 Director, Piedmont Region of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-1240)
22. **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)