

11 October 2012

Henry Huppert
Environmental Compliance Officer
Brown University
164 Angell Street, Box 1914
Providence, RI 02912

Dear Mr. Huppert:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your application for a General Permit for an Emergency Generator to be located at the Central Heat Plant on your Providence, Rhode Island campus.

Enclosed is the General Permit issued pursuant to our review of your application (General Permit No. GPEG-139).

If there are any questions concerning this permit, please contact me at 401-222-2808, extension 7430.

Sincerely,

Darren J. Austin
Air Quality Specialist
Office of Air Resources

cc: City of Providence Building Official
Courtney McCracken, PE, Brown University
Christian Cherau, PE, Brown University
Charlotte J. Head, PE

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES

GENERAL PERMIT FOR AN EMERGENCY GENERATOR

BROWN UNIVERSITY

GENERAL PERMIT NO. GPEG-139

Pursuant to the provisions of Air Pollution Control Regulation No. 9, this general permit is issued to:

Brown University

For installation of the following emergency generator:

Caterpillar Generator – Model No. C15 DITA

762 HP, 500ekW, Serial No. C5E03517

Located at: *Central Head Plant*

Providence, RI

This general permit shall be effective from the date of its issuance and shall remain in effect until revoked by or surrendered to the Department. This general permit does not relieve *Brown University* from compliance with applicable state and federal air pollution control rules and regulations. The design, construction and operation of this equipment shall be subject to the attached permit conditions and emission limitations.

Douglas L. McVay, Chief
Office of Air Resources

Date of Issuance

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES**

Permit Conditions and Emission Limitations

BROWN UNIVERSITY

GENERAL PERMIT NO. GPEG-139

A. Emission Limitations

1. Sulfur Dioxide

The sulfur content of any liquid fuel burned in the emergency generator shall not exceed 15 ppm by weight.

2. Carbon Dioxide

The emission rate of carbon dioxide discharged to the atmosphere from the emergency generator shall not exceed 1900 lbs/MWh.

3. Visible emissions from the emergency generator shall not exceed 10% opacity except for a period or periods aggregating no more than three minutes in any one-hour. This visible emission limitation shall not apply during startup of an emergency generator. Startup shall be defined as the first ten minutes of firing following the initiation of firing.

B. Operating Requirements

1. The maximum firing rate for the emergency generator shall not exceed 36.59 gallons per hour.

2. The emergency generator shall not operate more than 500 hours in any 12-month period.

3. The emergency generator shall be used only during emergencies or for maintenance or testing purposes. Emergency means an electric power outage due to a failure of the electrical grid, on-site disaster, local equipment failure, or public service emergencies such as flood, fire, or natural disaster. Emergency shall also mean periods during which ISO New England, or any successor Regional Transmission Organization, directs the implementation of operating procedures for voltage reductions, voluntary load curtailments by customers or automatic or manual load shedding within Rhode Island in response to unusually low frequency, equipment overload, capacity or energy deficiency, unacceptable voltage levels or other such emergency conditions.

4. The emergency generator shall not be operated in conjunction with any voluntary demand-reduction program or any other interruptible power supply arrangement with a utility, other market participant or system operator unless such program is implemented at the same time as ISO New England, or any successor Regional Transmission Organization, directs the implementation of operating procedures for voltage reductions, voluntary load curtailments by customers or automatic or manual load shedding within Rhode Island in response to unusually low frequency, equipment overload, capacity or energy deficiency, unacceptable voltage levels or other such emergency conditions.

C. Continuous Monitoring

1. The emergency generator shall be equipped with a non-resettable elapsed time meter to indicate, in cumulative hours, the elapsed engine operating time for the unit.

D. Fuel Oil Testing

1. Compliance with the diesel fuel sulfur limit shall be determined based on a certification from the fuel supplier. Fuel supplier certifications shall include the following information:
 - a. The name of the fuel supplier;
 - b. The sulfur content of the fuel from which the shipment came or the shipment itself;
 - c. The location of the fuel when the sample was drawn for analysis to determine the sulfur content of the fuel, specifically including whether the fuel was sampled as delivered to Brown University or whether the sample was drawn from fuel in storage at the fuel supplier's facility or another location;
 - d. The method used to determine the sulfur content of the fuel.
2. As an alternative to fuel supplier certification, the owner/operator may elect to sample the fuel prior to combustion. Sampling and analysis shall be conducted for the fuel in the initial tank(s) of fuel to be fired in the engine and after each new shipment of fuel is received. Samples shall be collected from the fuel tank immediately after the fuel tank is filled and before any fuel is combusted.

E. Record Keeping and Reporting

1. The owner/operator shall, on a monthly basis, no later than 5 days after the first of each month, determine and record the hours of operation for the emergency generator for the previous 12-month period.

2. The owner/operator shall notify the Office of Air Resources, in writing, whenever the hours of operation in any 12-month period exceeds 500 hours for the emergency generator.
3. The owner/operator shall notify the Office of Air Resources of any anticipated noncompliance with the terms of this permit or any other applicable air pollution control rules and regulations.
4. The owner/operator shall notify the Office of Air Resources, in writing, of the date of actual start-up of the emergency generator.
5. The owner/operator shall maintain copies of all fuel supplier certifications or fuel oil analysis and these copies shall be made accessible for review by the Office of Air Resources or its authorized representative and EPA.
6. The owner/operator shall notify the Office of Air Resources in writing of any planned physical or operational change to this emergency generator that would:
 - a. Change the representation of the facility in the application.
 - b. Alter the applicability of any state or federal air pollution rules or regulations.
 - c. Result in the violation of any terms or conditions of this permit.

Such notification shall include:

- Information describing the nature of the change.
- Information describing the effect of the change on the emission of any air contaminant.
- The scheduled completion date of the planned change.

Any such change shall be consistent with the appropriate regulation and have the prior approval of the Director.

7. Deviations from permit conditions shall be reported, in writing, within five (5) business days of the deviation, to the Office of Air Resources. Reports shall describe the probable cause of such deviations, and any corrective actions or preventable measures taken.
8. All records required as a condition of this permit shall be maintained for a minimum of five years after the date of each record and shall be made available to representatives of the Office of Air Resources upon request.

F. Other Permit Conditions

1. To the extent consistent with the requirements of this approval and applicable Federal and State laws, the emergency generator shall be designed, constructed and operated in accordance with the representation of the equipment in the permit application.
2. Employees of the Office of Air Resources and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Office of Air Resources.
3. At all times, including periods of startup, shutdown and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the emergency generator in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Office of Air Resources which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the emergency generator.
4. The owner/operator is subject to the requirements of 40 CFR 60, Subpart A (General Provisions) and Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines). Compliance with all applicable provisions therein is required.