##### November 25, 2014

Paul Tintle

Associate Director, SED

Smithsonian Institution

Board of Regents C/O Office of the Secretary

ATTN: System Eng. Division

10th Street and Constitution Avenue NW, MRC 132

Washington, DC 20560

**RE: Permit (#6314-R1) to Operate a Natural Gas Fired Emergency Generator Set at the National Zoological Park**

Dear Mr. Tintle:

Pursuant to sections 200.1 and 200.2 of Title 20 of the District of Columbia Municipal Regulations (20 DCMR), a permit from the District Department of the Environment (the Department) shall be obtained before any person may construct and operate a new stationary source in the District of Columbia. The application of the Smithsonian Institution Board of Regents (the Permittee) to operate a 100 kWe Cummins, model No. GGHH emergency generator set with 131.3 kWm (176 bhp) natural gas fired Cummins Model WSG-1068 engine, at the National Zoological Park, located at 3000 Connecticut Avenue NW, per the renewal application dated April 22, 2013, is hereby approved subject to the following conditions:

I. General Requirements:

a. The emergency generator set shall be maintained and operated in accordance with the air pollution control requirements of 20 DCMR.

b. This permit expires on November 24, 2019 [20 DCMR 200.4]. If continued operation after this date is desired, the owner or operator shall submit a renewal application by August 24, 2019.

c. Operation of equipment under the authority of this permit shall be considered acceptance of its terms and conditions.

d. The Permittee shall allow authorized officials of the District, upon presentation of identification, to:

1. Enter upon the Permittee’s premises where a source or emission unit is located, an emissions related activity is conducted, or where records required by this permit are kept;

2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;

3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor, at reasonable times, any substance or parameter for the purpose of assuring compliance with this permit or any applicable requirement.

e. This permit shall be kept on the premises and produced upon request.

f. Failure to comply with the provisions of this permit may be grounds for suspension or revocation. [20 DCMR 202.2]

g. If not already completed by the time of issuance of this permit, the applicant shall, within 60 days of issuance of this permit, submit a revision to the facility’s pending Chapter 3 (Title V) permit application to include the requirements of this permit in the renewed Title V permit to be subsequently issued.

II. Emission Limitation:

a. Emissions from the unit shall not exceed those in the following table, as measured according to the procedures set forth in 40 CFR 89, Subpart E [20 DCMR 201, 40 CFR 60.4233(e), and 40 CFR 60 Subpart JJJJ, Table 1]:

|  |  |  |
| --- | --- | --- |
| **Pollutant Emission Limits (g/HP-hr)** | | |
| NOx | CO | VOC |
| 2.0 | 4.0 | 1.0 |

b. Visible emissions shall not be emitted into the outdoor atmosphere from this generator, except that discharges not exceeding forty percent (40%) opacity (unaveraged) shall be permitted for two (2) minutes in any sixty (60) minute period and for an aggregate of twelve (12) minutes in any twenty-four hour (24 hr.) period during start-up, cleaning, adjustment of combustion controls, or malfunction of the equipment [20 DCMR 606.1]

c. An emission into the atmosphere of odorous or other air pollutants from any source in any quantity and of any characteristic, and duration which is, or is likely to be injurious to the public health or welfare, or which interferes with the reasonable enjoyment of life or property is prohibited. [20 DCMR 903.1]

III. Operational Limitations:

a. The emergency generator shall not be operated in excess of 500 hours in any

given 12 month period. If operation beyond 500 hours is desired, the owner or operator shall submit an application to amend this permit to comply with the conditions of 20 DCMR 805 and shall obtain the Department’s approval of such application prior to initiating such operation. [20 DCMR 201]

b. With the exceptions specified in Condition III (c), the emergency generator shall be operated only during emergencies as follows [20 DCMR 201]:

1. An electrical power outage due to: a failure of the electrical grid; on-site disaster; local equipment failure; or public service emergencies such as flood, fire, natural disaster, or severe weather conditions (e.g. hurricane, tornado, blizzard, etc.);

* + 1. For a period of up to 15 hours per calendar year when there is a deviation of voltage or frequency from the electrical service provider to the premises of five (5) percent or more below standard voltage or frequency such that the equipment being supported cannot be safely or effectively operated; or

3. When a sudden, unexpected event occurs that, if not immediately attended to, presents a safety or public health hazard, is necessary to protect equipment from damage, or is necessary to avoid imposing an unreasonable financial burden. An emergency includes operations necessitated by non-routine failures of equipment, but it does not include voluntary demand reductions covered by Condition III (f).

c. The emergency generator may be operated for the purpose of maintenance checks and readiness testing and in non-emergency situations for a period not to exceed one hundred (100) hours per calendar year as specified in Conditions III(c)(1) and (2) below. Any such operation shall be considered as part of the 500 hours allowed under Condition III(a) above. [40 CFR 60.4211(f)]

1. The emergency generator may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. [40 CFR 60.4211(f)(2)(i) and DCMR 201]; and

2. The emergency generator may be operated for up fifty (50) hours per calendar year in non-emergency situations. Any such operations shall be counted as part of the 100 hours per calendar year for maintenance and testing as provided in Condition III(c). These 50 hours of non-emergency operations per calendar year cannot be used for peak shaving, or as part of any program to supply power to generate income for the facility as part of a financial arrangement with another entity. All operations prohibited under Condition III(f) are also prohibited under this condition. [40 CFR 60.4211(f)(3) and 20 DCMR 201]

d. The emergency generator shall fire only natural gas per the submitted plan and specifications. [20 DCMR 201]

e. The emergency generator shall be operated and maintained in accordance with the recommendations of the equipment manufacturer. [20 DCMR 201]

f. The emergency generator shall not be operated in conjunction with a voluntary demand-reduction program or any other interruptible power supply arrangement with a utility, other market participant, or system operator. [20 DCMR 201]

g. At all times, including periods of startup, shutdown, and malfunction, the owner shall, to the extent practicable, maintain and operate the unit in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [20 DCMR 201]

IV. Monitoring and Testing Requirements:

a. The owner or operator shall monitor the date, time, duration, and reason for each

emergency generator startup to ensure compliance with Condition III(b), (c) and (f).

b. In order to ensure compliance with Condition III(a), the owner or operator shall monitor the total hours of operation each month with the use of a properly functioning, non-resettable hour metering device. [40 CFR 60.4209(a) and 40 CFR 60.4234(b)]

c. The owner or operator shall conduct and allow the Department access to conduct tests of air pollution emissions from any source as requested. [20 DCMR 502.1]

V. Record Keeping Requirements:

a. The following information shall be recorded, initialed, and maintained in a log at the facility for a period not less than five (5) years [20 DCMR 301.2(c)(2)(B) and 20 DCMR 500.8]:

1. The date, time, duration, and reason for each start-up of the emergency generator, including the following specific information:

i. If the unit is operated due to a deviation in voltage from the utility pursuant to Condition III(b)(2) this shall be specifically noted;

ii. If the unit is operated in non-emergency situations pursuant to Condition III(c), the specific purpose for each operation period must be recorded; and

iii. If the unit is operated for emergency purposes, what classified the operation as emergency.

2. The total hours of operation for each month and the cumulative 12-month rolling period shall be calculated and recorded within 15 days of the end of each calendar month;

3. The total hours of operation for maintenance checks and readiness testing pursuant to Condition III(c) each month, and totaled for each calendar year by January 15 of each year for the previous calendar year;

1. The total hours of operation due to a deviation in voltage from the utility pursuant to Condition III(b)(2) each calendar year, totaled by January 15 of each calendar year for the previous calendar year;
2. Records of the maintenance performed on the unit;
3. Records of the results of any visible emissions monitoring performed;
4. Records of the occurrence and duration of each malfunction of operation; and
5. Records of the actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunction process and air pollution control and monitoring equipment to its normal or usual manner of operation.

b. The owner or operator shall maintain a copy of the emergency generator’s manufacturer’s maintenance and operating recommendations at the facility. [20 DCMR 501]

c. The owner or operator shall maintain a copy of the EPA Certificate of Conformity at the facility at all times. [40 CFR 60.4245(a)(3)]

If you have any questions, please call me at (202) 535-1747 or Abraham T. Hagos at (202) 535-1354.

Sincerely,

Stephen S. Ours, P.E.

Chief, Permitting Branch

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