September 18, 2018

Mr. Gaftie Marlow Jr., Project Manager

U.S. General Services Administration

Saint Elizabeths West Campus

301 7th Street SW, Room 4606

Washington DC 20407

**RE: Permit Nos. 7174-A1, 7175-A1, and 7176-A1 to Construct and Operate Two Identical 3,500 kWe and One 2,500 kWe Diesel-Fired Emergency Generator Sets all with Associated Add-On Emission Systems at Saint Elizabeths West Campus, 2701 Martin Luther King Jr., Ave. SE, Washington, DC**

Dear Mr. Marlow:

Pursuant to sections 200.1 and 200.2 of Title 20 of the District of Columbia Municipal Regulations (20 DCMR), a permit from the Department of Energy and Environment (“the Department”) shall be obtained before any person can construct and operate a stationary source in the District of Columbia. The applications of the U.S. General Services Administration (“the Permittee”) to construct and operate the emergency generator sets all with associated Selective Catalytic Reduction (SCR), Diesel Oxidation Catalyst (DOC), and Diesel Particulate Filter (DPF) systems (hereafter referred to in combination as “add-on emission control systems”) listed in the table below at the Saint Elizabeths West Campus, located at 2701 Martin Luther King Jr., Ave. SE, Washington DC, per the submitted plans and specifications received on December 01, 2017 is hereby approved, subject to the following conditions:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Equipment**  **Location** | **Generator Name** | **Generator Model** | **Generator Output (kWe)** | **Engine Size (hp)** | **Fuel Type** | **Permit Number** |
| Central Utility Plant 2 | Emg Gen 1 | C3500 D6e | 3,500 | 5,051 | No. 2 Fuel Oil | 7174-A1 |
| Central Utility Plant 2 | Emg Gen 2 | C3500 D6e | 3,500 | 5,051 | No. 2 Fuel Oil | 7175-A1 |
| Central Utility Plant 2 Roof | Emg Gen 4 | 2500DQKAN | 2,500 | 3,640 | No. 2 Fuel Oil | 7176-A1 |

I. General Requirements:

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

b. This set of permits will expire on September 17, 2023. If continued operation after this date is desired, the Permittee shall submit applications for renewal by June 17, 2023. [20 DCMR 200.4]

c. Construction or 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 set of permits shall be kept on the premises and produced upon request.

1. Failure to comply with the provisions of these permits may be grounds for suspension or revocation. [20 DCMR 202.2]
2. If not already completed by the date of issuance of this set of permits, by October 10, 2018, the Permittee shall submit a complete application to modify the facility’s Title V operating permit to include the requirements of this set of permits [20 DCMR 301.1(a)(3)].

II. Emission Limitations:

a. During startup[[1]](#footnote-1), emissions from each of the generator sets shall not exceed those found in the following table (Table 1) as measured using the procedures set forth in 40 CFR 89, Subpart E for NMHC, NOx, and CO and 40 CFR 89.112(c) for PM [40 CFR 60.4205(b), 40 CFR 60.4202(a), and 40 CFR 89.112(a)-(c)]:

|  |  |  |
| --- | --- | --- |
| **Table 1: Pollutant Emission Limits (g/kWm-hr) during Startup** | | |
| NMHC+NOx | CO | PM |
| 6.4 | 3.5 | 0.20 |

b. At all times the generator sets are operated, outside of startup periods, emissions shall not exceed those found in the following table (Table 2) as measured using the procedures set forth in 40 CFR 1039, Subpart F [20 DCMR 201]:

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 2: Pollutant Emission Limits (g/kWm-hr) during Steady State Operation** | | | |
| NOx | NMHC | CO | PM |
| 0.67 | 0.19 | 3.5 | 0.03 |

c. Visible emissions shall not be emitted into the outdoor atmosphere from the generators, 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].

*Note that 20 DCMR 606 is subject to an EPA-issued call for a State Implementation Plan (SIP) revision (known as a “SIP call”) requiring the District to revise 20 DCMR 606. See “State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA’s SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction”, 80 Fed. Reg. 33840 (June 12, 2015). It is likely that this federal action will result in changes to the requirements of 20 DCMR 606. Any such changes, once finalized in the DCMR, will supersede the language of Condition II(b) as stated above.*

d. In addition to Condition II(c), exhaust opacity, measured and calculated as set forth in 40 CFR 86, Subpart I, shall not exceed [40 CFR 60.4205(b), 40 CFR 60.4202(a), and 40 CFR 89.113]:

1. 20 percent during the acceleration mode;

2. 15 percent during the lugging mode; and

3. 40 percent during the peaks in either the acceleration or lugging modes. *Note that this condition is streamlined with the requirements of 20 DCMR 606.1.*

e. 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:

* 1. a. Each emergency generator set shall be operated for fewer than 500 hours in any given 12 month period. If operation of 500 hours or more is desired, the Permittee 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.
  2. b. The emergency generator sets shall be programmed to ensure that the add-on emission control systems activate as soon as effective operation can be achieved (i.e. appropriate temperature and other operational parameters have been met). At no time shall any generator set be operated in startup mode (i.e. with inactive add-on emission control systems) for more than nine (9) hours in any 12-month rolling period.

c. Except as specified in Condition III(d), the emergency generator sets shall be operated only during emergencies resulting from electrical power outages 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.). [20 DCMR 201]

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

1. The emergency generator sets 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 generator set engine. [40 CFR 60.4211(f)(2)(i) and 20 DCMR 201]; and

2. Each of the emergency generator sets may be operated for up to fifty (50) hours per calendar year in non-emergency situations, subject to the following conditions [40 CFR 60.4211(f)(3) and 20 DCMR 201]:

1. Any such operation shall be counted as part of the 100 hours per calendar year for maintenance and testing as provided in Condition III(d).
2. 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;
3. All operations prohibited under Condition III(g) are also prohibited under this condition; and
4. All operations of the emergency generator sets resulting from a deviation in voltage or frequency from the electric provider to the premises shall be considered non-emergency operation and counted as part of this 50 hour per calendar year allowance.

e. The emergency generator sets shall fire only No. 2 fuel oil or diesel fuel that contains a maximum sulfur content of 15 ppm (0.0015 percent by weight) and either a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. [40 CFR 60.4207(b)]

f. The emergency generator sets shall be operated and maintained in accordance with the recommendations of the equipment manufacturers. [40 CFR 60.4211(a)(1) and 20 DCMR 201]

g. The emergency generator sets 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]

h. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the units 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 Permittee shall monitor the date, time, duration, and reason for each emergency generator set startup to ensure compliance with Conditions III(a), (c), (d), and (g). [20 DCMR 500.1]

b. In order to ensure compliance with Condition III(a), the Permittee shall monitor the total hours of operation of each unit each month with the use of a properly functioning, non-resettable hour metering device. [40 CFR 60.4209(a) and 40 CFR 60.4214(b)]

c. The Permittee shall monitor and/or test for the sulfur content in diesel fuel obtained for use in the generator engine, to ensure compliance with Condition III(e) of this permit. [20 DCMR 500.1, 502.3, and 502.6]

d. Within 180 days of issuance of this set of permits or installation of the add-on emission control systems for each unit, whichever is later, the Permittee shall perform compliance testing on each unit to determine compliance with the steady state operation emission limits in Condition II(b). Such testing shall be performed in accordance with the test procedures found in 40 CFR 1039, Subpart F. If there are technical reasons why these test procedures cannot reasonably be followed, an alternate testing methodology may be proposed and accepted by the Department in lieu of testing in accordance with Subpart F. Any such alternate methodology shall be designed to capture emissions in operational situations expected to produce at least as high emissions as would be expected when performing testing in accordance with Subpart F.

e. The Permittee shall obtain approval for the testing required pursuant to Condition IV(d) and furnish the Department with a written report of the results of the performance tests and/or compliance tests in accordance with the following requirements [20 DCMR 502]:

1. One (1) original copy of the test protocol shall be submitted to the following address a minimum of thirty (30) days in advance of the proposed test date. The test shall be conducted in accordance with Federal and District requirements.

Chief, Compliance and Enforcement Branch

Air Quality Division

1200 First Street NE, 5th Floor

Washington, DC 20002

1. The test protocol and test date(s) shall be approved by the Department prior to initiating any testing. The Department must have the opportunity to observe the test for the results to be considered for acceptance.
2. The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original copy of the test report shall be submitted to the address in Condition IV(e)(1) above.
3. The final results shall include the emission test report (including raw data from the test) as well as a summary of the test results and a statement of compliance or non-compliance with permit conditions to be considered valid. The summary of results and statement of compliance or non-compliance shall contain the following information:
4. A statement that the Permittee has reviewed the report from the emissions testing firm and agrees with the finding.
5. Permit number(s) and conditions(s) that are the basis for the compliance evaluation.
6. Summary of results with respect to each permit condition.
7. Statement of compliance or non-compliance with each permit condition.

5. The results must demonstrate to the Department’s satisfaction that the emission units are operating in compliance with the applicable regulations and conditions of the permit; if the final report of the test results shows non-compliance the Permittee shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action.

f. In addition to the testing required under Condition IV(d), the Permittee shall conduct and allow the Department access to conduct tests of air pollution emissions from any source as requested. [20 DCMR 502.1]

g. The Permittee shall regularly inspect, properly maintain, and repair the catalytic reduction equipment and auxiliary air pollution control devices to ensure their effective operation by:

1. Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller; and
2. Following operating and maintenance recommendations of the catalyst element manufacturer.
3. The Permittee shall visually confirm and record that the add-on emission control systems have activated within an hour of the generator set coming online each time the generator set is started. Such a visual confirmation is not required if the generator set operates for less than one hour during that instance of operation. If the add-on emission control systems have not activated after an hour of operation, the Permittee shall inspect the system at least once every fifteen (15) minutes of further operation to ensure that the add-on emission control systems activate as required.
4. The Permittee shall monitor the hours of operation during startup mode (i.e. with inactive add-on emission control systems) for each generator set to ensure compliance with the hourly limitation in Condition III(b).

V. Record Keeping Requirements:

a. For each generator set, 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 302.1(c)(2)(B) and 20 DCMR 500.8]

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

i. If the unit is operated in non-emergency situations pursuant to Condition III(d)(2),

the specific purpose for each operation period must be recorded; and

ii. 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 for the previous month and the 12-month period ending at the end of that month;

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

4. The total hours of operation each calendar year for non-emergency purposes pursuant to Condition III(d)(2), totaled by January 15 of each calendar year for the previous calendar year;

5. Records of the maintenance performed on the unit, including maintenance performed on the add-on emission control systems *[Note that these records must be sufficient to document that the Permittee is complying with the requirements of Conditions III(f) and (h) and IV(g)]*;

6. Records of the results of any visible emissions monitoring performed;

7. Records of the occurrence and duration of each malfunction of operation of the generator set or the add-on emission control systems;

8. Records of the actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation;

9. Fuel usage records maintained on a monthly and annual total basis for use in reporting fuel use and emissions from the facility, including equipment covered by these permits, pursuant to the requirements of the facility’s Title V permit;

10. To document proper operation of the add-on emission control systems and compliance with Condition III(b), the Permittee shall record, maintain and make readily available the following for each instance of operation of the generator set:

i. A record of the load level being monitored by the engine controller over time;

ii. A record of the temperature profile showing the temperature in the converter and downstream of it, as they vary with time;

iii. A clear indication of the time urea injection begins;

iv. A profile of the NOx emissions concentration over time;

v. A log of the dosing value and reactant flow during urea injection; and

vi. Records of all monitoring performed in accordance with Condition IV(h);

11. The Permittee shall maintain a 12-month rolling log of the hours of operation of each unit during startup mode to document compliance with Condition III(b); and

12. The Permittee shall ensure that both the SNQ controller log files and the Excel format files are uploaded regularly to avoid overwriting and are available for inspection at any time.

b. The Permittee shall maintain a copy of each emergency generator’s manufacturer’s maintenance and operating recommendations, as well as the add-on emission control equipment manufacturer’s maintenance and operating recommendations, at the facility. [20 DCMR 500.1]

c. For each delivery of diesel fuel, the Permittee shall maintain one of the following:

1. A fuel delivery receipt containing the date, fuel type, and amount of the delivery and certification from the fuel supplier that the fuel delivered was tested in accordance with an appropriate ASTM method (specified in the certification) and met the requirements of Condition III(e); or

2. A fuel delivery receipt and documentation of sampling and analysis containing the following information:

i. The fuel oil type and the ASTM method used to determine the type (see the definition of distillate oil in 40 CFR 60.41c for appropriate ASTM methods);

ii. The weight percent sulfur of the fuel oil as determined using ASTM test method D-4294 or D-5453 or other method approved in advance by the Department;

iii. The date and time the sample was taken;

iv. The name, address, and telephone number of the laboratory that analyzed the sample; and

v. The test method used to determine the sulfur content.

1. The Permittee shall maintain a copy of the EPA Certificate of Conformity for each unit at the facility at all times. [20 DCMR 500.1]

If you have any questions, please call me at (202) 535-1747 or John Nwoke at (202) 724-7778.

Sincerely,

Stephen S. Ours, P.E.

Chief, Permitting Branch

SSO:JCN

1. For purposes of these permits, startup shall be defined as the period of time from the time the engine is turned on to the time the add-on emission control systems activate. [↑](#footnote-ref-1)