July 2, 2019

Mr. Thomas P. Jacobus, General Manager

Washington Aqueduct

U.S. Army Corps of Engineers, Baltimore District

5900 MacArthur Boulevard NW

Washington DC 20016-2514

**RE: Permit Nos. 6334-R2 through 6336-R2 to Operate Three Dual Fuel-Fired (Natural Gas /No. 2 Fuel Oil) Boilers at Dalecarlia Water Treatment Plant, 5900 MacArthur Blvd. NW, Washington, DC**

Dear Mr. Jacobus:

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. Army Corps of Engineers, Washington Aqueduct (“the Permittee”) to operate the three (3) Hurst dual fuel-fired Scotch boilers, listed below, located at the Dalecarlia Water Treatment Plant (WTP) in Washington, DC have been reviewed:

| **Equipment**  **Location** | **Emission Unit**  **ID** | **Model Number** | **Serial**  **Number** | **Natural Gas /No. 2 Fuel Oil Rating (MMBTU/hr)** | **Permit Number** |
| --- | --- | --- | --- | --- | --- |
| Dalecarlia WTP  5900 MacArthur Blvd. NW  Washington, DC | Hurst Boiler #1 | S4-X-125-15 | S625-15-27 | 5.24/5.24 | 6334-R2 |
| Dalecarlia WTP  5900 MacArthur Blvd. NW  Washington, DC | Hurst Boiler #2 | S4-X-125-15 | S625-15-28 | 5.24/5.24 | 6335-R2 |
| Dalecarlia WTP  5900 MacArthur Blvd. NW  Washington, DC | Hurst Boiler #3 | S4-X-125-15 | S625-15-26 | 5.24/5.24 | 6336-R2 |

Based on the plans and specifications as detailed in the air permit applications received on August 21, 2018 and dated July 30, 2018, the applications are hereby approved, and the operation of the boilers are permitted, subject to the following conditions:

I. General Requirements:

* 1. This approval is issued pursuant to the air pollution control requirements of the applicable sections of 20 DCMR for the construction and operation of the heating boilers.

b. This set of permits will expire on July 1, 2024. If continued operation after this date is desired, the Permittee shall submit applications for renewal by March 31, 2024. [20 DCMR 200.4]

1. Operation of equipment under the authority of this set of permits shall be considered acceptance of its terms and conditions.
2. 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.

1. This set of permits, which supersedes Permit Nos. 6334-R1, 6335-R1 and 6336-R1, shall be kept on the premises and produced upon request.
2. Failure to comply with the provisions of these permits may be grounds for suspension or revocation. [20 DCMR 202.2]
3. Emergency situations shall be handled in accordance with the provisions of 20 DCMR 302.7(a) through (c).

II. Emission Limitations:

* 1. Each of the boilers (identified as Hurst Boiler #1, Hurst Boiler #2, and Hurst Boiler #3) shall not emit pollutants in excess of those specified in the following table [20 DCMR 201]:

| **Pollutant** | **Short-Term Limit**  **(Natural Gas) (lb/hr)** | **Short-Term Limit**  **(No. 2 Fuel oil) (lb/hr)** |
| --- | --- | --- |
| Carbon Monoxide (CO) | 0.441 | 0.187 |
| Oxides of Nitrogen (NOx) | 0.525 | 0.748 |
| Total Particulate Matter (PM Total)1 | 0.040 | 0.123 |
| Sulfur Dioxide (SO2) | 0.003 | 0.269 |
| Volatile Organic Compounds (VOC) | 0.029 | 0.029 |

1PM Total includes both filterable and condensable fractions.

* 1. b. Visible emissions shall not be emitted into the outdoor atmosphere from the boilers, 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.*

1. Total suspended particulate matter (TSP) emissions from the each of the boilers shall not be greater than 0.12 pounds per million BTU. [20 DCMR 600.1]. *Note that, unless other credible evidence of a violation, such as test results required under Condition IV(b), are identified, compliance with Condition III(a) of this permit will be considered compliance with this condition.*

d. 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. The primary fuel for use in the boilers shall be natural gas. [20 DCMR 201]

b. The sole alternative fuel for the boilers shall be No. 2 fuel oil. The Permittee shall purchase only No. 2 fuel oil containing no greater than 0.0015% sulfur by weight for use in the unit. [20 DCMR 201 and 20 DCMR 801.3]

c. This approval is valid for the specific activity cited in the application submitted to this office. Any deviation from the specific activity is a violation of this permit document.

1. The boilers shall be operated at all times in a manner consistent with the applicable manufacturer’s specifications for the boiler. [20 DCMR 201]
2. The Permittee shall perform tune-ups on each unit biennially, for each fuel that was burned during the 12-month period prior to the tune-up, unless such burning occurred only as a result of testing requirements in this permit. Tune-ups must be conducted no more than 25 months after the previous tune-up. [40 CFR 63.11201(b), 63.11196(a)(1), and 63.11223(a)]
3. In order to demonstrate continuous compliance, each tune-up shall be performed to meet the following criteria: [40 CFR 63.11223(b)]
   * 1. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 36 months).
     2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer’s specifications, if available.
     3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection).
     4. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer’s specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.
     5. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be made using a portable carbon monoxide analyzer.
     6. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup.

g. At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate each boiler 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. If performance testing of any of these boilers is required in accordance with Condition IV(b), the Permittee shall conduct performance testing on the boilers to determine compliance with Condition II(a) (except SO2), (b) and/or (c) (or as otherwise directed by the Department) and shall furnish the Department with a written report of the results of such performance test in accordance with the following requirements [20 DCMR 502]:

1. One (1) original 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

Department of Energy and Environment

Air Quality Division

1200 First Street NE, 5th Floor

Washington DC 20002

2. 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.

3. The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original test report shall be submitted to the address in Condition IV(a)(1) above.

4. The final report of the results shall include the emissions 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:

A. A statement that the Permittee has reviewed the report from the emissions testing firm and agrees with the findings.

B. Permit number(s) and condition(s) which are the basis for the compliance evaluation.

C. Summary of results with respect to the permit condition.

D. Statement of compliance or non-compliance with each permit condition.

5. The results must demonstrate to the Department’s satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this 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.

b. 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]

c. At least once per quarter when operating on natural gas and once per week when operating on No. 2 fuel oil, during operation of each boiler, the Permittee shall conduct visual observations of the emissions from each boiler. If no operations are occurring for a given boiler during a given week, this shall be so noted. If emissions are visible, the Permittee shall make arrangements for prompt visible emissions testing by a person certified in accordance with EPA Reference Method 9 (40 CFR 60, Appendix A). Such a test shall consist of a minimum of 30 minutes of opacity observations for the boiler in question and shall be performed while firing the same fuel as was in use when the visible emissions were observed.

d. Regardless of whether or not emissions are observed pursuant to Condition IV(c) of this permit, the Permittee shall conduct a minimum of one visible emissions test of each boiler each year for each fuel burned since the last visible emissions test required under this permit condition. If the only combustion of a given fuel burned since the last test occurred during periodic testing required by this permit, no visible emission test for that fuel will be required under this condition. Such a test program shall consist of a minimum of 30 minutes of opacity observations of each boiler firing each fuel and shall be performed by a person certified in accordance with EPA Reference Method 9 (40 CFR 60, Appendix A) [20 DCMR 502.1].

e. The Permittee shall monitor and/or test fuel oil as necessary to show compliance with Conditions III(b) and V(b) in accordance with appropriate ASTM methods. [20 DCMR 502.6]

V. Record Keeping and Reporting Requirements:

The Permittee shall maintain the following records for a period of not less than five (5) years from the date of each test, monitoring, sample measurement, report, application, or other activity: [20 DCMR 500.2 and 500.8 and 40 CFR 63.10(b)]

a. The Permittee shall keep records of the results of all emissions testing required for each boiler pursuant to Conditions IV(a) and (b) of this permit;

b. For each delivery of No. 2 fuel oil or 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 (a); or

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

A. The fuel oil type;

B. The concentration or weight percent of sulfur in the fuel;

C. The date and time the sample was taken;

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

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

c. The Permittee shall maintain records of the number of hours each boiler is operated using each approved fuel each month. These data shall be maintained in a rolling 12-month sum format. [20 DCMR 500.2]

d. The Permittee shall maintain records of the amount of each fuel type used each month in the boilers. These data shall be maintained in a rolling 12-month sum format. [20 DCMR 500.2]

e. The Permittee shall maintain records of all visible emissions monitoring performed pursuant to Condition IV(c), including notes indicating when no observations were performed as a result of no operations of a given boiler on a given fuel that quarter or week, as applicable. These records shall be maintained in an organized fashion, shall include the identity of the person performing the monitoring, and shall be readily available for inspection by the Department;

f. The Permittee shall maintain records of all Method 9 visible emissions testing performed pursuant to Conditions IV(c) and (d). These records shall also include the identity of the person performing the visible emissions testing and documentation of his/her Method 9 certification. These records shall include documentation indicating whether the results show compliance with Condition II(b);

g. The Permittee shall maintain onsite and submit, if requested by the EPA Administrator or the Department, a biennial report containing the information in paragraphs V(g)(1) through (3) of this section.

1. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.

2. A description of any corrective actions taken as a part of the tune-up of the boiler.

3. The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler.

h. If not already completed at the time of issuance of this permit, the Permittee shall immediately submit an “Initial Notification of Applicability” to the EPA Administrator with respect to the applicability of 40 CFR 63, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources as required by 40 CFR 63.11225(a)(4). *Note that the deadline established by the rule for this submittal is January 20, 2014.*

i. The Permittee shall prepare, by March 1 of each year that follows the year of the biennial tune-up required by Condition III(e), a biennial compliance certification report for the previous two-calendar year period, that contains the information specified in Conditions V(i)(1) through (3) below. The Permittee shall submit the report to the Department and/or the EPA Administrator upon request and by March 15 of every reporting year if the source experienced any instances described in Condition V(i)(3) during the two-year reporting period. [40 CFR 63.11225(b)]:

Company name and address;

Statement by a responsible official, with the official’s name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of 40 CFR 63, Subpart JJJJJJ.

If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

j. The Permittee must keep a copy of each notification and report that was prepared and/or submitted to comply with 40 CFR 63, Subpart JJJJJJ and this section and all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted. [40 CFR 63.11225(c)(1) and 20 DCMR 500.1]

k. The Permittee must keep records identifying each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer’s specifications to which the boiler was tuned to document compliance with the requirements of Condition III(e) and (f). [40 CFR 63.11225(c)(2)]

l. The Permittee must keep records of occurrence and duration of each malfunction of each boiler, or of any associated air pollution control and monitoring equipment. [40 CFR 63.11225(c)(4)]

m. The Permittee must keep records of all actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in 40 CFR 63.11225(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. [40 CFR 63.11225(c)(5)]

n. Reports shall be submitted to the following addresses for the Department and the EPA Administrator, as applicable in the specific reporting requirement permit condition:

EPA Region III

Director, Air Protection Division

1650 Arch Street

Philadelphia PA 19103

and

Chief, Compliance and Enforcement Branch

Air Quality Division

Department of Energy and Environment

1200 First Street NE, 5th Floor

Washington DC 20002

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

Sincerely,

Stephen S. Ours, P.E.

Chief, Permitting Branch

SSO:JCN