October 20, 2015

Mr. David R. Small, CEO

United Medical Center

1310 Southern Avenue SE

Washington, DC 20032

**RE: Permit (#7031) to Construct and Operate a 24.323/24.382 MMBtu per Hour Dual Fuel-Fired (Natural Gas/No. 2 Fuel Oil) Boiler (Boiler #1) at United Medical Center**

Dear Mr. Small:

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 application of Not for Profit Hospital Corporation / United Medical Center (the Permittee) to construct and operate one (1) dual fuel, 24.323 MMBtu per hour (natural gas)/24.382 MMBtu per hour(No. 2 fuel oil/diesel) heat input (HHV basis) boiler, Model ICB-LN (4-PASS) with low NOx burners and flue gas recirculation, at the facility’s steam plant area, located at 1310 Southern Avenue SE, Washington, DC, has been reviewed.

Based on the plans and specifications as detailed in the air permit application submittal received on July 1, 2015, as revised by the email submission from James B. Dyer of IC Thomasson Associates, Inc. on September 9, 2015, the application is hereby approved, and the construction and operation of the boiler is permitted, subject to the following conditions:

I. General Requirements:

* 1. The boiler shall be constructed, operated, and maintained in accordance with the applicable sections of 20 DCMR.

b. This permit will expire on October 19, 2020. If continued operation after this date is desired, the owner or operator shall submit an application for renewal by July 19, 2020. [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.

1. 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 permit shall be kept on the premises and produced upon request.
2. Failure to comply with the provisions of this permit may be grounds for suspension or revocation. [20 DCMR 202.2]
3. Within six (6) months after issuance of this permit, the Permittee shall submit a complete Chapter 3 (Title V) permit application to cover all stationary air pollutant-emitting equipment at the site (including insignificant sources). As an alternative to this application, the Permittee may submit justification that the facility does not have the potential to emit in excess of any of the major source thresholds for pollutants in the District of Columbia by December 31, 2015. If such a justification is accepted by the Department, the requirement to submit a Chapter 3 permit application may be waived.

h. In addition to the Chapter 3 application required pursuant to Condition I(g), the Permittee shall submit Chapter 2 applications for all equipment subject to 20 DCMR 200, that do not have a current, valid, Chapter 2 permit, no later than December 31, 2015.

II. Emission Limitations:

* 1. The boiler 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** **(Diesel Fuel Oil) (lb/hr)** |
| Carbon Monoxide (CO) | 0.91 | 0.906 |
| Oxides of Nitrogen (NOx) | 0.85 | 2.68 |
| Total Particulate Matter (PM Total)\* | 0.179 | 0.334 |
| Sulfur Dioxide (SO2) | 0.014 | 1.124 |

\*PM Total includes both filterable and condensable fractions.

* 1. b. Visible emissions shall not be emitted into the outdoor atmosphere from the boiler, 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]
1. Particulate matter emissions from the boiler shall not be greater than 0.08 pounds per million BTU. [20 DCMR 600.1]
2. 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]
3. NOx and CO emissions shall not exceed those achieved with the performance of annual combustion adjustments on the boiler. To show compliance with this condition, the Permittee shall, each calendar year, perform adjustments of the combustion processes of the boiler with the following characteristic [20 DCMR 805.8(a) and (b)]:
	* 1. Inspection, adjustment, cleaning or replacement of fuel burning equipment, including the burners and moving parts necessary for proper operation as specified by the manufacturer;
		2. Inspection of the flame pattern or characteristics and adjustments necessary to minimize total emissions of NOx and , to the extent practicable, minimize emissions of CO;
		3. Inspection of the air-to-fuel ratio control system and adjustments necessary to ensure proper calibration and operation as specified by the manufacturer; and
		4. Adjustments shall be made such that the maximum emission rate for any contaminant does not exceed the maximum allowable emission rate as set forth in this section.

III. Operational Limitations:

* 1. a. The primary fuel for the boiler shall be natural gas. [20 DCMR 201].

b. The boiler shall operate on No. 2 fuel oil or diesel only for the following reasons: [20 DCMR 201, 40 CFR 63.11195(e) and 40 CFR 63.11237]

1. During periods of gas supply emergencies;

2. During periods of gas curtailment; and

3. For periodic testing on liquid fuel not to exceed a combined total of 48 hours during any calendar year.

* 1. The No. 2 fuel oil or diesel fuel used in the boiler shall have a sulfur content less than 0.05% (500 ppm) by weight. [20 DCMR 201, 20 DCMR 801, 40 CFR 60.42c(d)]
	2. The boiler shall be operated at all times in a manner consistent with the manufacturer’s specifications for the equipment. [20 DCMR 201]
	3. The boiler shall not burn more than 125,000 gallons of No. 2 fuel oil/diesel in any given 12-month rolling period. [20 DCMR 201]

f. At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the 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. By April 17, 2016, the Permittee shall conduct performance testing on the boiler using each of the fuels (natural gas and No. 2 fuel oil), to determine compliance with Conditions II(a) (except SO2), (b), and (c) 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 and one (1) 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

2. The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Company shall finalize the test date with the assigned inspector in the Compliance and Enforcement Branch. 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 and one (1) copy of the 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 owner or operator 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 owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action.

b. 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]

c. At least once per week during operation of the boiler using oil and at least once per month during operation of the boiler using natural gas, the Permittee shall conduct visual observations of the emissions from the 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 the boiler each year for each fuel burned that year. [20 DCMR 502]

1. 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).

2. Prior to such a test, the Permittee shall notify the Compliance and Enforcement Branch of the scheduled date of the test by one of the following methods:

i. The Permittee shall submit a letter via postal mail to the address in Condition IV(a)(1), postmarked at least fifteen (15) days prior to the scheduled date of the test;

ii. The Permittee shall drop off a letter at the Department’s office, addressed to the Chief of the Compliance and Enforcement Branch of the Air Quality Division at least ten (10) days prior to the scheduled date of the test; or

iii. The Permittee shall submit an email to the Chief of the Compliance and Enforcement Branch at least ten (10) days prior to the scheduled date of the test. The appropriate email address can be obtained by calling the Air Quality Division number at (202) 535-2250.

e. Unless more frequent testing is specified elsewhere in this permit, the Permittee shall sample and test the fuel oil burned in the boiler at least once each calendar quarter or at the time of each fuel delivery, whichever is less frequent. For each sample, the Permittee must provide: [20 DCMR 502]

1. 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);

2. 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;

3. The date and time the sample was taken;

4. The name, address, and telephone number of the laboratory that analyzed the

 sample; and

5. The type of test or test method performed.

In lieu of sampling and testing fuel oil each quarter for each of these data, the Permittee may obtain any or all of these data from the fuel oil supplier at the time of delivery and submit fuel receipts and fuel supplier certifications for all fuel deliveries that provide all of the above quality of fuel data (or those for which sampling and testing was not performed at the time of delivery) as well as the name of the fuel oil supplier, the date of delivery, and the sulfur content of the oil.

Note that the sulfur content data obtained from the fuel supplier must be the results of specific tests of the fuel at hand or the most recent representative fuel analysis from the fuel terminal prior to the fuel supplier obtaining the fuel for delivery to the Permittee, if such terminal analyses are performed on at least a monthly basis. General fuel specifications are not acceptable for this datum.

Terminal specifications (with references to appropriate ASTM methods as defined above) may be used to document the fuel oil type if the fuel supplier provides written certification that this was the material purchased from the terminal and delivered to the facility. If this method of determining the fuel oil type is used, the Department may opt to require occasional supplemental sampling and testing of the fuel oil to confirm these certifications.

If any of these data cannot be obtained from the fuel supplier, it is the responsibility of the Permittee to sample the fuel and have it analyzed to obtain the required data.

V. Record Keeping and Reporting Requirements:

a. The Permittee shall keep records of the results of all emissions testing required for the

 boiler pursuant to Conditions IV(a) and (b) of this permit for a period of not less than five (5) years. [20 DCMR 302.1(c)(2)(B) and 20 DCMR 500.8]

b. The Permittee shall keep records of the results of all fuel sulfur testing and fuel supplier certifications obtained pursuant to Condition IV(e) for a period of not less than five (5) years. [20 DCMR 302.1(c)(2)(B) and 20 DCMR 500.8]

c. The Permittee shall maintain records of all visible emissions monitoring performed pursuant to Condition IV(c), for a period of not less than five (5) years, including notes indicating when no observations were performed as a result of no operations of the boiler that week. 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 District. [20 DCMR 302.1(c)(2)(B) and 20 DCMR 500.8]

d. The Permittee shall maintain records of all Method 9 visible emissions testing performed pursuant to Conditions IV(c) and (d) for a period of not less than five (5) years. These records shall 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 Conditions II(b) and (c). [20 DCMR 302.1(c)(2)(B) and 20 DCMR 500.8]

e. The Permittee shall maintain records of all instances of boiler operation using No. 2 fuel oil, including the reason for operation using that fuel and the number of hours the boiler is operated using that fuel each day. These data shall be maintained for a period of not less than five (5) years. [20 DCMR 302.1(c)(2)(B), 20 DCMR 500.2 and 20 DCMR 500.8]

f. The Permittee shall maintain records of the amount of each fuel used each month in the boiler. These data shall be maintained in a rolling twelve month sum format for a period of not less than five (5) years. [20 DCMR 302.1(c)(2)(B), 20 DCMR 500.2 and 20 DCMR 500.8]

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