

GOVERNMENT OF THE DISTRICT OF COLUMBIA

District Department of the Environment



**CHAPTER 2 OPERATION PERMIT MEMORANDUM**

TO: File

THROUGH: Stephen S. Ours, P.E.   
Chief, Permitting Branch

FROM: Abraham T. Hagos  For ATH  
Environmental Engineer

SUBJECT: **Gallaudet University  
Permit No. 6943 to Construct and Operate Boilers #1**

DATE: December 18, 2014

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**BACKGROUND INFORMATION**

A permit application to construct and operate one (1) 42.00 MM Btu per hour natural gas and No. 2 fuel oil fired boiler at the Gallaudet University facility, located at 800 Florida Avenue NE, was received by the Air Quality Division (AQD) on September 11, 2014. Additional supplemental information was received by AQD, dated October 17, 2014 and October 29, 2014.

The permit action will be published in the DC Register and on DDOE's website on December 26, 2014. Public comments for the permit action will be solicited through January 26, 2015.

The Gallaudet University has not requested that any of the materials submitted with this application be held confidential.

**REGULATORY REVIEW**

**Chapter 2, Section 200: General Permit Requirements:**

The Gallaudet University is an air pollution source for criteria and other air pollutants. The applicant is requesting a permit to construct fuel burning equipment unit greater than 5 MMBTU/hr heat input. Thus a Chapter 2 permit is required.



## **TECHNICAL SUPPORT MEMORANDUM**

**Gallaudet University**

**Permit (#6943) to Construct and Operate a 42.00 MMBTU/hr Boiler (Boiler #1)**

Page 2

### **Chapter 2, Section 209: Permit Requirements For Minor New Source Review:**

Effective January 1, 2014, the requirements of this section are applicable to any source required to obtain a chapter 2 permit to construct a new stationary source, modify an existing stationary source, or install or modify an air pollution control device on a stationary source that results in an increase of potential to emit rate equal to or greater than five tons per year (5 TPY) from an individual unit of any of the criteria pollutants. The boiler to be installed at Gallaudet has a potential to emit 22 tons per year of NO<sub>x</sub> if operated exclusively on No. 2 fuel oil. Therefore, Gallaudet is subject to the requirements of 20 DCMR 209.3.

Based on the information submitted by the applicant, the boiler to be installed meets the best available control technology requirement for NO<sub>x</sub> as required by the regulation. Gallaudet is proposing to install a boiler with the latest microprocessor based controls such as Fireye Nexus, O<sub>2</sub> Trim control, parallel positioning servo control valves and FGR piping. These controls are designed to limit emissions and maximize the reduction of pollutants.

### **Chapter 3, Section 301: Operating Permit Requirements**

Gallaudet University facility is a major source subject to and will need an operating permit in accordance with 20 DCMR 300.1 for the new source upon completion of construction of the unit. According to the regulation, Gallaudet University must apply for an amendment to an existing Chapter 3 operating permit or must submit an amendment to any pending Chapter 3 operating permit application to include the requirements of this permit within 12 months of Chapter 23 becoming applicable, which occurs upon initiation of operation. In this case, because an application is already pending and construction is planned promptly after the permit is issued, while the permit application is also currently actively being processed, only three months have been provided to the applicant to update their pending Title V application. This requirement is contained in Condition I(g) of the permit.

### **Chapter 5, Section 500: Source Monitoring and Testing Requirements**

Gallaudet University will be required to maintain written records of the amount of emissions from the boiler in accordance with 20 DCMR 500.2 and must submit the information to the District in accordance with 20 DCMR 500.2. These requirements have been established in Conditions V(g) and (h) of the permit.

Additionally, emission testing and fuel oil testing have been required pursuant to 20 DCMR 502 in Conditions IV(a) and (f) of the permit.

## **TECHNICAL SUPPORT MEMORANDUM**

**Gallaudet University**

**Permit (#6943) to Construct and Operate a 42.00 MMBTU/hr Boiler (Boiler #1)**

Page 3

### **Chapter 6, Section 606: Visible Emissions**

The visible emissions limitations of 20 DCMR 606.1 are applicable to the unit. Visible emissions shall not be emitted into the outdoor atmosphere from the operation of the this unit; provided, that discharges not exceeding forty percent (40%) opacity (unaveraged) shall be permitted for two 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, or malfunction of equipment. This requirement is contained in Condition II(b) of the permit. Specific testing requirements related to this regulation are also included in the permit.

### **Chapter 9, Section 903: Odorous or Other Nuisance Air Pollutants**

“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]” is applicable to all sources. This requirement is contained in Condition II(d) of the Boiler #1 permit..

### **40 CFR Part 60, Subpart Dc: Standard of Performance for Small Industrial, Commercial, Institutional Steam Generating Units**

The back-up fuel for the boiler shall be #2 fuel oil containing no more than 0.5% sulfur by weight [40 CFR 60.42c(d)]. However, the applicant indicated in the application that the facility will be using fuel oil with a weight percent sulfur of 0.0015%. Therefore, a limit of 0.0015% sulfur by weight has been included in Condition III(b) of the permit.

Additionally, the opacity limit of 40 CFR 60.43c(c) has been included in Condition II(c) of the permit. Because the unit will have to comply with a stringent sulfur in fuel requirement, other particulate matter standards contained in Subpart Dc are not applicable. Related performance testing requirements required pursuant to 40 CFR 60.8 have been included in Condition IV(b) of the permit.

### **NESHAP Subpart JJJJJ: Area Source Boiler MACT**

“Gas fired boilers” with #2 fuel oil as a back-up fuel, as defined at 40 CFR 63.11237 are not subject to the NESHAP Subpart JJJJJ area source boiler rule per 40 CFR 63.11195(e). To meet this requirement, the back-up fuel must only be used during gas curtailment, gas supply interruption, startups, or periodic testing. Note that curtailment due to participation in an interruptible gas supply contract is covered by this exception. To ensure that the boiler is operated to meet the definition of “gas-fired boiler”, Condition III(c) has been added to the permit, along with associated record keeping requirements in Condition V(f).

**TECHNICAL SUPPORT MEMORANDUM**

**Gallaudet University**

**Permit (#6943) to Construct and Operate a 42.00 MMBTU/hr Boiler (Boiler #1)**

Page 4

**RECOMMENDATIONS**

The proposed project and attached permit comply with all applicable federal and District air pollution control laws and regulations.

Public comments for the permit action will be solicited from December 26, 2014 through January 26, 2015. AQD will resolve any comments received before issuing the final permit, and if no comments are received, I recommend that permit (#6943) be issued in accordance with 20 DCMR 200.1 and 200.2.