

GOVERNMENT OF THE DISTRICT OF COLUMBIA

District Department of the Environment



CHAPTER 2 TECHNICAL SUPPORT MEMORANDUM

TO: File

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

FROM: Abraham T. Hagos *ATH*
Environmental Engineer

SUBJECT: **Gallaudet University**
Permit to Construct and Operate Emergency Generator and Boilers
#2 and #3

DATE: April 5, 2013

BACKGROUND INFORMATION

A permit application to construct and operate one (1) 130 kW natural gas fired emergency generator, one (1) 33.48 MM Btu per hour natural gas and No. 2 fuel oil fired boiler and one (1) 10.04 MM Btu per hour natural gas and No. 2 fuel oil fired boiler at the Gallaudet University facility, located at 800 Florida Avenue, was received by the Air Quality Division (AQD) on September 11, 2012. Additional supplemental information was also received by AQD, dated January 22, 2013.

During the FY2012 full compliance evaluation on-site inspection, the DDOE inspector identified that Gallaudet University had constructed and operated one (1) emergency generator and one (1) portable boiler without proper permits from AQD. The temporary portable boiler is intended for use until Gallaudet University replaces boilers 2 & 3 which were at the end of their life cycle and had been removed. Gallaudet University was issued a notice of infraction (NOI) for construction and operation of the units. Gallaudet University paid the penalty and took action to return to compliance. Thus on September 11, 2012, they submitted permit applications to construct and operate an emergency generator and boilers 2 & 3 to AQD. They also applied for a permit for the temporary boiler, but AQD decided that, since the temporary boiler would be replaced by the two new boilers (#2 and #3), it did not make sense to issue a permit for the temporary boiler at this late date. There were significant deficiencies in the September 22, 2012 submittal, therefore, at the request of the Department, the facility submitted a new set of applications on January 22, 2013.



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The permit action will be published in the DC Register and on DDOE's website on April 5, 2013. Public comments for the permit action will be solicited through May 6, 2013.

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:

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

Chapter 3, Section 301: Operating Permit Requirements:

The 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 sources upon completion of construction the cogeneration. The Gallaudet University must comply with this requirement within 12 months of the issuance of the permits to operate the boilers and emergency generator covered by these permits, and shall apply for an amendment to an existing Chapter 3 operating permit or shall amend any pending Chapter 3 operating permit application to include the requirements of these permits. This requirement is contained in Condition I(g) of the permits.

20 DCMR Chapter 5: Source Monitoring and Testing:

Gallaudet University must maintain written records of the amount of emissions of the pollutants specified in Conditions II(a) and (b) from boilers 2 & 3 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 permits.

Additionally, emission testing and fuel oil testing has been required pursuant to 20 DCMR 502 in Conditions IV(a) and (f) of the Boiler #2 permit and Conditions IV(a) and (e) of the Boiler #3 permit.

Chapter 6, Section 606: Visible Emissions

The visible emissions limitations of 20 DCMR 606.1 are applicable to all three units. Visible emissions shall not be emitted into the outdoor atmosphere from the operation of the these units; provided, that discharges not exceeding forty percent (40%) opacity (unaveraged) shall be permitted for two minutes in any sixty (60) minute period and for

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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 permits. Specific testing requirements related to this regulation are also included in the boiler permits.

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(c) of the emergency generator and Boiler #3 permits and Condition II(d) of the Boiler #2 permit.

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

This regulation is not applicable to the emergency generator.

The back-up fuel for the boilers shall be oil containing no more than 0.5% sulfur by weight [40 CFR 60.42c(d)]. However, the application indicates 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 boiler permits.

Additionally, the opacity limit of 40 CFR 60.43c(c) has been included in Condition II(c) of the permit for Boiler #2. 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 Boiler #2 permit. Due to the smaller size of Boiler #3, this requirement is not applicable to that unit.

40 CFR 60, Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

This regulation is applicable to the natural gas fired emergency generator only as it is the only *internal* combustion unit of the three. In the generator permit, the emission standards found in Table 1 of this regulation are found in Condition II(a). Additionally, the other applicable requirements found in this regulation are included in the permit.

NESHAP Subpart JJJJJ: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

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“Gas-fired boilers” with #2 fuel oil as a back-up fuel, as defined at 40 CFR 63.1237 are not subject to the NESHAP Subpart JJJJJ area source boiler rule per 40 CFR 63.11195(e). To ensure that the boilers are operated to meet the definition of “gas-fired boiler”, Condition III(c) has been added to the boiler permits, along with associated record keeping requirements in Condition V(f) (Boiler #2) and Condition V(e) (Boiler #3).

This regulation is not applicable to the generator.

RECOMMENDATIONS

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

Public comments for the permit action will be solicited from April 5 through May 6, 2013. AQD will resolve any comments received before issuing the final permits. If no comments are received, I recommend that permits (#6647, #6648 and #6649) be issued in accordance with 20 DCMR 200.1 and 200.2.