CHAPTER 2 TECHNICAL MEMORANDUM

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

FROM: John C. Nwoke
Environmental Engineer

SUBJECT: The George Washington University
Two Shenkman Hall Dual Fuel-fired Hot Water Boilers and Three South Hall Natural Gas-fired Hot Water Boilers
Permits (Nos. 6688-R1 and 6689-R1) to Operate Two 9.73 MMBtu/hr Natural Gas/No. 2 Fuel Oil Hot Water Boilers, Located at 616 23rd St. NW Washington, DC
Permits (Nos. 6696-R1, 6697-R1, and 6698-R1) to Operate Three 6 MMBtu/hr Natural Gas Hot Water Boilers at 2135 F St. NW, Washington, DC

DATE: August 16, 2018

BACKGROUND INFORMATION

On February 20, 2018 the Air Quality Division (AQD) received two sets of Chapter 2 permit renewal applications to operate two (2) 9.73 MMBtu/hr. dual fuel-fired hot water boilers and three (3) 6 MMBtu/hr. natural gas-fired hot water boilers. The boilers were permitted on May 15, 2013, but the permits expired on May 14, 2018. To ensure continued operation of the boilers the George Washington (GW) submitted the renewal applications in compliance with DOEE's "General Requirements: I.b"

The three 6 MMBtu/hr natural gas-fired boilers at South Hall, and the two 9.73 MMBtu/hr dual fuel-fired boilers at Shenkman Hall (formerly Ivory Tower) have not been modified or changed since their initial permits were issued in May 2013. However, with this permit renewal applications, GW requested, for the Shenkman Hall boilers, a limitation on the operation of the units on No. 2 Fuel Oil to only be used in cases of primary gaseous fuel interruption/curtailment, plus up to 48 hours per calendar year for periodic testing, maintenance, or operator training on liquid fuel, to avoid applicability of 40 CFR 63, Subpart JJJJJJ.

The publication of these permit actions is planned for August 24, 2018 in the D. C. Register. Public comment for the permit action will be solicited through September 24, 2018.

The George Washington University has not requested that any aspects of the application be held confidential.

ISSUES

There are no known issues with the proposed project.

REGULATORY REVIEW

Both the federal and District of Columbia regulations and applicable requirements have not changed since the original permits were issued. The only exception is that GW requested that the Shenkman Hall boilers be considered "gas-fired boilers" in order to be exempted from the requirements of 40 CFR 63 Subpart JJJJJJ. Therefore it is unnecessary to repeat the regulatory review that was previously discussed with the issuance of the initial permits. Instead only the regulations with revised applicability are discussed in this memo.

20 DCMR 805 – Reasonably Available Control Technology for Major Stationary Sources of the Oxides of Nitrogen

The facility is a major source of NOx, having the potential to emit greater than 25 tons per year. This equipment is a part of that major stationary source. As such, this regulation applies pursuant to 20 DCMR 805.1(a)(4). The Department has traditionally considered annual combustion adjustments to meet the requirements of this regulation for boilers smaller than 20 MMBTU/hr, similar to those larger than 20 MMBTU/hr. As such, annual combustion adjustment requirements have been added to the permits.

40 CFR 63 – National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources:

This facility does not emit or have a potential to emit 10 tons per year of a single hazardous air pollutant (HAP) or 25 tons per year of any combination of HAPs. Consequently, no major source maximum achievable control technology (MACT) standards apply; the facility is considered an area source of HAP emissions.

40 CFR 63, Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources

The boilers operate primarily on natural gas and No. 2 fuel oil as secondary fuel. In the application, the applicant indicated that they wanted to take limits on the use of this secondary fuel so as to avoid the applicability of Subpart JJJJJJ by meeting the definition of a "gas-fired boiler" per 40 CFR 63.11195(e). As such, Conditions III(b) and (c) have been written to require operations of the units to meet this definition. The requirements of 40 CFR 63, Subpart JJJJJJ are otherwise not included in the permits for these units.

The natural gas-fired boilers at South Hall are not subject to Subpart JJJJJJ pursuant to 40 CFR 63.11195(e) because they burn only gaseous fuel (natural gas). Thus, 40 CFR 63 Subpart JJJJJJ is not applicable and the requirements have not been included in Permit Nos. 6696-R1, 6697-R1 and 6698-R1.

All previously discussed all other regulatory requirements remain unchanged from the previously issued permits and will not be discussed further.

RECOMMENDATIONS

Subject to receiving no adverse public comments, I recommend that the final permits be issued to the George Washington University, following completion of the public review period. If comments are received during the public review period, they will be addressed before any final action is taken on the permit applications.

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