

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

**FACT SHEET AND STATEMENT OF BASIS
FOR PROPOSED PERMITTING ACTION
UNDER 20 DCMR 300 (TITLE V-OPERATING PERMIT PROGRAM)**

This "Fact Sheet and Statement of Basis" has been prepared pursuant to 20 DCMR 303.1(c) and 40 CFR 70.7(a)(5).

PERMIT NO. 031-R2

APPLICANT AND PERMITTEE:

Department of Behavioral Health
1100 Alabama Avenue SE
Washington DC 20032

FACILITY LOCATION:

Saint Elizabeths Hospital - East Campus
1100 Alabama Avenue SE
Washington DC 20032

RESPONSIBLE OFFICIAL:

Mark Chastang, Chief Executive Officer

FACILITY DESCRIPTION:

Saint Elizabeths Hospital - East Campus is a mental health facility operated by the District of Columbia Department of Behavioral Health. The East Campus facility provides heating, cooling and emergency power needs to support the hospital's operation. The facility is covered under Standard Industrial Classification (SIC) code 8063 and North American Industrial Classification System (NAICS) code 622210. This facility includes emission units that are capable of operating twenty-four (24) hours per day, seven (7) days per week, and fifty-two (52) weeks per year. The units consist of: two (2) 6.0 MMBtu/hr dual-fuel boilers and two (2) 2,000 kWe diesel-fired emergency generator sets. Miscellaneous/insignificant units include two (2) 1.0 MMBTU/hr dual fuel-fired hot water heaters, two (2) 0.6 MMBtu/hr dual fuel-fired hot water heaters, two (2) 8,000-gallon underground storage tanks, miscellaneous natural gas-fired kitchen equipment, and one (1) wet cooling tower.

EMISSIONS SUMMARY

The facility reported the following potential facility-wide emissions in the Title V permit application:

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FACILITY-WIDE EMISSIONS SUMMARY	
Criteria Pollutants	Potential Emissions (tons per year)
Oxides of Sulfur (SO _x)	0.16
Oxides of Nitrogen (NO _x)	51.86
Total Particulate Matter, including condensables (PM Total)	2.88
Volatile Organic Compounds (VOC)	1.64
Carbon Monoxide (CO)	16.27
Total Hazardous Air Pollutants (Total HAP)	0.865
Lead (Pb)	0.000602

BASIS OF 20 DCMR CHAPTER 3 (TITLE V) APPLICABILITY:

Saint Elizabeths Hospital - East Campus has the potential to emit 51.86 tons per year (TPY) of nitrogen oxides (NO_x). This value exceeds the major source threshold in the District of Columbia of 25 TPY of NO_x. As such, pursuant to 20 DCMR 300.1(a), the source is subject to Chapter 3 and must obtain an operating permit in accordance with that regulation and Title V of the federal Clean Air Act.

LEGAL AND FACTUAL BASIS FOR DRAFT PERMIT CONDITIONS:

The conditions contained in the Title V operating permit are based on underlying requirements of 20 DCMR as well as various federal regulations promulgated pursuant to the federal Clean Air Act. The regulations that are the basis of each condition are cited in the permit, except that conditions added to make another condition, with a direct underlying regulation, enforceable as a practical matter may, in some cases, not have a specific citation. These latter, un-cited conditions generally consist of monitoring, record keeping, and reporting requirements authorized under 20 DCMR 500.1.

The permit has been developed to incorporate the requirements of all applicable requirements as defined in 20 DCMR 399.1 along with additional conditions necessary to make all such requirements enforceable as a practical matter.

Any condition of the draft Title V Permit that is enforceable by the District but is not federally-enforceable is identified in the Title V permit as such with an asterisk.

It should also be noted that this permit is being issued pursuant to the District's authority under 20 DCMR Chapter 2 as well as Chapter 3. When the permit is issued for public review, the public notice will reflect this fact.

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REGULATORY REVIEW:

This facility has been found to be subject to the requirements of the following regulations (except as specified in notes and discussion below):

Federal and District Enforceable:

- 20 DCMR Chapter 1 - General Rules
- 20 DCMR Chapter 2 - General and Non-Attainment Area Permits
- 20 DCMR Chapter 3 - Operating Permits and Acid Rain Programs
- 20 DCMR 500 - Records and Reports
- 20 DCMR 502 - Sampling, Tests, and Measurements
- 20 DCMR 600 - Fuel-Burning Particulate Emission
- 20 DCMR 604 - Open Burning
- 20 DCMR 605 - Control of Fugitive Dust
- 20 DCMR 606 - Visible Emissions
- 20 DCMR 774 - Architectural and Industrial Maintenance Coatings
- 20 DCMR 800 - Control of Asbestos
- 20 DCMR 801 - Sulfur Contents of Fuel Oils
- 20 DCMR 805 –Reasonably Available Control Technology for Major Stationary Sources of the Oxides of Nitrogen
- 40 CFR 51.212, 52.12, 52.30, 60.11, and 61.12 - Credible Evidence
- 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (NESHAP for RICE)
- 40 CFR 63, Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources
- 40 CFR 82 - Protection of Stratospheric Ozone (Federally enforceable only except through Title V) (*Note: AQD did not make a positive determination that this regulation was applicable to the facility, but included it as a standard requirement in the permit.*)

District Enforceable Only:

- 20 DCMR 402 - Chemical Accident Prevention (*Note: AQD did not make a positive determination that this regulation was applicable to the facility, but included it as a standard requirement in the permit.*)
- 20 DCMR 900 - Onroad Engine Idling and Nonroad Diesel Engine Idling
- 20 DCMR 901 - Vehicular Exhaust Emissions
- 20 DCMR 902 - Lead Content of Gasoline
- 20 DCMR 903 - Odorous or Other Nuisance Air Pollutants

Discussion of Specific Regulations:

20 DCMR Chapter 2 – General and Non-Attainment Area Permits:

The pollutant-emitting equipment at the facility (except some insignificant activities listed in

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Condition IV of the permit) have been subject to permitting requirements under 20 DCMR 200. All significant emissions units were included in the previous Title V permit (issued June 27, 2014), which was issued pursuant to both Chapter 2 and Chapter 3 authority. This permit action is a combined Chapter 2 and Chapter 3 permitting action and updates requirements for equipment under the authority of 20 DCMR 201.

No new Chapter 2 permits have been issued since Title V Permit No. 031-R1 was issued on June 27, 2014.

20 DCMR Chapter 3 – Operating Permits and Acid Rain Programs:

This regulation is applicable because the facility has the potential to emit greater than the major source threshold for NO_x, as discussed above. This permitting action is to issue a permit renewal under the authority of this regulation. All identified applicable requirements have included in the permit.

20 DCMR Chapter 5 – Source Monitoring and Testing

Numerous monitoring and testing requirements have been placed in the permit to ensure that it is enforceable as a practical matter. Many of these conditions have been placed in the permit pursuant to Sections 500 and 502 authority.

20 DCMR Chapter 6 – Particulates

Several sections of Chapter 6 are applicable to this facility. Section 600 is applicable to the boilers, water heaters, and emergency generators and appropriate conditions have been included in the permit. Sections 604 (Open Burning) and 605 (Control of Fugitive Dust) are standard requirements included in all Title V permits. Section 606 covers visible emissions requirements. Specifically, 20 DCMR 606.1 is applicable to all emission units at the facility.

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

NO_x RACT is applicable to this facility pursuant to 20 DCMR 805.1(a) because it is a major source of NO_x. NO_x RACT is specifically applicable to the 6 MMBTU/hr boilers at the facility because they are part of a major stationary source and are therefore covered by 20 DCMR 805.1(a)(4). No specific RACT level is defined in the regulation for this type of equipment, but AQD has previously considered annual combustion tuning pursuant to 20 DCMR 805.8 to meet the requirements of this regulation for similar units. The relevant requirements have been included in the permit.

40 CFR 60. Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units:

Combustion Units: Boilers and Water Heaters: SEH-B1 and SEH-B2 (6 MMBtu/hr); HW-SEH1 and HW-SEH2 (1 MMBtu/hr); HW-SEH3 and HW-SEH4 (0.6 MM Btu/hr)

New Source Performance Standards (NSPS) do not apply to the boilers and water heaters as the following NSPS analysis and applicability determination indicate:

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Applicability of NSPS Subpart Dc is based on unit size and age. Both criteria must be true for Subpart Dc to be applicable.

Reference citation: 40 CFR 60.40 – Subpart Dc

Test No. 1- Size Limitation

Each of the above listed emission units has heat input less than 10 million Btu per hour (based on the LHV of fuel oil # 2). The sizes are less than the ten (10) million Btu per hour threshold. The units do not pass the size test. [40 CFR 60.40 – subpart Dc]

Test No. 2 – Age Limitation

The 6 MMBtu/hr boilers were installed in 2008 and the others in 2010. Clearly the units were constructed after June 9, 1989. The units pass the age test, thus NSPS would be applicable except for the size test discussed above.

Since Test No. 1 and No. 2 must be true for applicability, it follows that NSPS is not applicable to the boilers or water heaters under Subpart Dc, hence the requirements were excluded from the permit.

40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI-ICE)

NSPS Subpart IIII applicability for the generators was considered for this facility. Based on the date of applicability (July 11, 2005), Subpart IIII is applicable to the two Mitsubishi compression ignition internal combustions engines (CIICE) because they were manufactured on October 30, 2007 (based on engine data acquired from a site visit prior to issuance of the 2014 Title V permit). This date is after April 1, 2006. The units were constructed in 2007 which is after July 11, 2005, thus NSPS Subpart IIII is applicable. The requirements of this subpart have been incorporated into Condition III(b) of the permit.

40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

This subpart applies to volatile organic liquid (VOL) storage tanks constructed, reconstructed, or modified after July 23, 1984, with a capacity equal to or greater than 75 m³ (about 19, 813 gallons). However, tanks greater than 151 m³ which store liquid with a true vapor pressure less than 3.5 kPa and tanks greater than 75 m³ but less than 151 m³ that store liquid with a true vapor pressure less than 15 kPa, are exempted under 40 CFR 60.100b(b). The two 8,000 gallon diesel/No. 2 fuel oil storage tanks at Saint Elizabeths Hospital – East Campus were constructed after July 23, 1984, but each of them has a capacity less than 75 m³ or 151 m³ and the stored liquid does not constitute a volatile organic liquid based on the definition of petroleum liquids (see 40 CFR 60.111(b)). For the above reasons, Subpart Kb does not apply to the underground storage tanks at Saint Elizabeths Hospital – East Campus, and its conditions have not been included in the permit.

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40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (NESHAP for RICE) located in an Area Source of HAPS

Subpart ZZZZ of 40 CFR 63 regulates hazardous air pollutants (HAPs) such as acetaldehyde, acrolein, benzene, toluene, xylene, cadmium, chromium, lead, etc, through surrogate compounds such as formaldehyde, carbon monoxide (CO) and/or volatile organic compounds (VOC).

A facility that emits or has the potential to emit 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs, is considered a major source. Any source that is not a major source is an area source. Because this facility does not have the potential to emit more than 10 tons/year of a single HAP or an aggregate of more than 25 tons of total HAPs, it is not a major source. It is rather an area source. Therefore the area source MACT for Reciprocating Internal Combustion Engines (RICE) is applicable to the two emergency engines at the facility as discussed below.

Subpart ZZZZ is applicable to existing, new or reconstructed SI and CI engines. The part of Subpart ZZZZ that is applicable depends on the date of commencement of construction of the particular engine. Based on 40 CFR 63.6590(a)(2)(iii), engines whose construction or reconstruction commenced after June 12, 2006 are considered new stationary internal combustion engines. For these engines, and pursuant to 40 CFR 63.6590(c), no requirements other than those imposed by 40 CFR 60, Subpart IIII or Subpart JJJJ. These circumstances apply to the two CI-ICE-powered emergency generator sets addressed in Condition III(b) of the permit. Condition III(b) only includes the requirements of 40 CFR 60, Subpart IIII, since this is all that is required under Subpart ZZZZ.

40 CFR 63, Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

Saint Elizabeths Hospital – East Campus operates under the NAICS code 62 as a healthcare institution to which this rule applies. Certain institutions are exempted from the requirements of subpart JJJJJ pursuant to 40 CFR 63.11195 and 40 CFR 63.11237, because the boilers in these facilities are considered residential boilers. Residential boilers, pursuant to 40 CFR 63.11237, service a dwelling with four or fewer families or apartments. Saint Elizabeths Hospital – East Campus, as a healthcare facility does not typically service a dwelling as noted above, consequently the boilers in a hospital are not considered residential boilers under this subpart.

This facility's emission units include dual fuel-fired boilers and hot water heaters that are subject to Subpart JJJJJ, because the units fit the definition of affected sources pursuant to 40 CFR 63.11194. The water heater definition requires that a water heater storage capacity not exceed 120 U.S. gallons. The storage capacity of the 0.6 million Btu per hour water heaters is 500 gallons, and that of the 1.0 million Btu per hour water heaters is 750 gallons. Both of these values exceed the 120 U.S. gallons cut-off threshold. Since the 120 gallons cut-off criteria is independent of the power input criteria, the examination of the latter criteria is necessary to determine if the water heaters are subject to Subpart JJJJJ. The heat input of each of the water heaters is less than the cut-off threshold of 1.6 million Btu per hour. Therefore the water heaters meet the hot water heater definition under Subpart JJJJJ, and are exempted pursuant to 40 CFR

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63.11195. The boilers and water heaters do not have to comply with the notification, work practice standards, emission reduction measures and management practices pursuant to 40 CFR 63.11201. It should be noted that this interpretation (that the 120 gallon and 1.6 MMBTU/hr triggers are independent and should each be evaluated independently) was confirmed in a conference call with EPA on May 15, 2013.

This facility does not emit or have a potential to emit 10 tons per year of a single HAP or 25 tons per year of any combination of HAPs. Consequently, the Major Source MACT does not apply (40 CFR 63, Subpart DDDDD), hence the facility defaults to an area source of HAP emissions. This subpart applies to existing and new oil-fired boilers alike. Specifically, for the units covered by this rule, the facility is required to submit an initial notification of applicability to the EPA and perform biennial boiler tune-ups. A one-time energy assessment is not required as the largest boilers covered by the permit have heat input ratings below 10 MMBTU/hr. None of the boilers at the site (except exempt hot water heaters) are considered “new” under Subpart JJJJJ because they all commenced construction or reconstruction before June 4, 2010. All initial notifications were due by January 20, 2014. These and other related requirements have been included in this permit.

Compliance Assurance Monitoring (CAM) [40 CFR 64]:

Compliance Assurance Monitoring Plan (CAM) requirements do not apply to any pollutant-specific emission units at the facility. None of the units in this facility rely on control devices for compliance with the emission limitations. There is no need for this facility to install control devices as defined by 40 CFR 64. CAM does not apply.

Greenhouse Gas (GHG) Requirements:

Because Chapter 3 (Title V) was triggered by other pollutants, no evaluation was made to determine if the facility would trigger Title V applicability under the GHG Tailoring Rule. No modifications have been made to the source that would ordinarily trigger PSD applicability under the GHG Tailoring Rule. Other than this requirement, there are no other applicable requirements related to GHGs at this time, therefore none were included in the permit.

ENFORCEMENT HISTORY:

According to EPA’s Enforcement and Compliance History Online (ECHO) database, there have been no enforcement actions taken against the facility in the last five years for air quality violations.

COMMENT PERIOD:

Beginning Date: December 28, 2018

Ending Date: January 28, 2019

All written comments should be addressed to the following individual and office:

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Stephen S. Ours, P.E.
Chief, Permitting Branch
Department of Energy and Environment
Air Quality Division
1200 First Street NE, 5th Floor
Washington, DC 20002

PROCEDURE FOR REQUESTING PUBLIC HEARING:

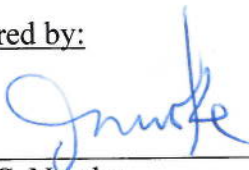
During public comment period any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The District shall grant such a request if it is deemed appropriate. The venue, date, and time for any public hearing shall be announced in the D.C. Register and on the Department's website.

POINT OF CONTACT FOR INQUIRIES:

John C. Nwoke
Environmental Engineer
Department of Energy and Environment
Air Quality Division
1200 First Street NE, 5th Floor
Washington, DC 20002
(202) 724-7778

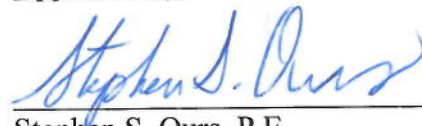
REVIEWS:

Prepared by:



John C. Nwoke
Environmental Engineer

Approved by:



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

JCN/SSO

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