

GOVERNMENT OF THE DISTRICT OF COLUMBIA

District Department of the Environment

Air Quality Division



**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-R1

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

FACILITY DESCRIPTION:

Saint Elizabeths Hospital - East Campus (SEHEC) 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. 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; two (2) 1.0 MMB dual-fuel hot water heaters; two (2) 0.6 MMBtu/hr dual-fuel hot water heaters; two (2) 2000 kW emergency generators and two (2) 8,000-gallon underground storage tanks. Additional equipment include: natural gas kitchen stoves and fryers and one (1) wet cooling tower.

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EMISSIONS SUMMARY:

PLANTWIDE EMISSIONS SUMMARY [TONS PER YEAR]		
Criteria Pollutants	Actual Emissions (2011)	Potential Emissions
Sulfur Dioxide (SO ₂)	0.002	0.163
Nitrogen Oxides (NO _x)	0.793	49.02
Particulate Matter (TSP)	0.381	2.80
Volatile Organic Compounds (VOC)	0.030	1.46
Carbon Monoxide (CO)	0.350	15.60
Lead (Pb)	1.43E-04	6.52E-04

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

Saint Elizabeths Hospital-East Campus (SEHEC) has the potential to emit 49.02 tons per year (TPY) of nitrogen oxides (NO_x), 0.163 TPY of sulfur dioxide (SO₂), 2.80 TPY of particulate matter (PM), 1.46 TPY of volatile organic compounds (VOC), 15.60 TPY of carbon monoxide, and 6.52E-04 TPY of lead. Due to this facility's potential to emit over 25 TPY of NO_x, Saint Elizabeths Hospital - East Campus is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 20 DCMR 300. Twenty-five (25) tons per year or more of nitrogen oxides or volatile organic compounds emissions are applicability criteria for a major source status. The nitrogen oxide emissions of this facility therefore exceed 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.

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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.

REGULATORY REVIEW:

This facility has been found to be subject to the requirements of the following regulations (except as specifically discussed 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
- 40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (NESHAP for RICE)
- 40 CFR 82, Subpart G - 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.*)
- 40 CFR 82, Subpart H – Halon Emissions Reduction (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.*)
- 40 CFR 63, Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources
- 40 CFR 61.12 – Credible Evidence

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 - Engine Idling.

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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:

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 6J. 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 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.

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 are due by January 20, 2014. These and other related requirements have been included in this 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/monitors 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 consider 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 this facility.

Based on the current Title V permit application filing and a site visit to the facility on February 22, 2011, there are only two “new” emergency generators at the facility and no “existing” emergency generators. Subpart ZZZZ considers emergency generators constructed after June 12, 2006 as new; otherwise they are considered existing.

Subpart ZZZZ is applicable to new or reconstructed SI and CI engines. However, this subpart defers its requirements to the New Source Performance Standards, 40 CFR Part 60 Subpart IIII.

Note that there were previously existing emergency generators at this facility, but they have all since been decommissioned and are no longer permitted to operate.

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

Compliance Assurance Monitoring Plan (CAM) requirements do not apply to this facility because none of the units in this facility rely on control devices for compliance with the particulate matter (PM) limitations. By combusting natural gas or No. 2 fuel oil, Saint Elizabeth Hospital – East Campus is deemed to have complied with the PM limitations (unless testing results or other credible evidence of violations of the standards is identified). Facility inspection reveals Saint Elizabeths Hospital – East Campus uses low NO_x burners, but this equipment is not considered a control device under CAM. There is no need for this facility to install control devices as defined by 40 CFR 64. CAM does not apply.

New Source Performance Standards (NSPS) [40 CFR 60]:

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

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following NSPS analysis and applicability determination indicate:

Applicability for NSPS is based on unit size and age. Both criteria must be true for applicability of 40 CFR 60.40c – subpart Dc

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.

NSPS for Internal Combustion Engines – Subpart IIII

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 site visit). 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 the permit.

Chapter 2 Permits:

The requirements of the following permit(s) issued under the authority of 20 DCMR Chapter 2 have been incorporated into the Title V permit:

- Permit Nos. 6515 and 6516 were issued on June 14, 2012 for the emergency generators.
- Permit Nos. 6517-A1 and 6518-A1 were issued on June 21, 2012 for the 6 MMBtu/hr boilers.

The remaining emission units are not subject to Chapter 2 permitting because they burn natural gas or distillate fuel and are external combustion type equipment with a capacity of 5 MMBtu/hr or fewer.

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COMMENT PERIOD:

Beginning Date: May 23, 2014

Ending Date: June 23, 2014

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

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

PROCEDURE FOR REQUESTING PUBLIC HEARING:

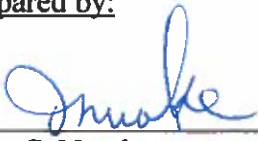
During public comment period any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the 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 District Register and a daily newspaper.

POINT OF CONTACT FOR INQUIRIES:

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REVIEWS:

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