

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. 040

APPLICANT AND PERMITTEE:

Smithsonian Institution/Board of Regents
1000 Jefferson Drive, SW
Washington, DC 20560

FACILITY LOCATION:

National Museum of the American Indian
4th & Independence Avenue, SW
Washington, DC 20560

FACILITY DESCRIPTION:

The Smithsonian Institution/Board of Regents operates the National Museum of the American Indian facility, located at 4th Street and Independence Avenue SW, Washington, DC.

The primary emission sources are boilers, an emergency generator, a paint booth and some miscellaneous equipment.

The Permittee is covered under Standard Industrial Classification (SIC) Code 8412 and North American Industrial Classification Code (NAICS) 712110 which cover museums.

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. Excepting miscellaneous/insignificant sources at the facility, the emission units consist of three (3) 8.165 MMBTU/hr. boilers, one (1) 1,250 kW emergency generator set and one (1) paint booth.



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EMISSIONS SUMMARY:

Based on the calculations in the August 13, 2012 revised permit application, with the following revisions, potential emissions for the facility are as listed in the following table:

Revisions:

1. Sulfur dioxide emissions have been increased to assume 0.2% sulfur in fuel oil/diesel as allowed by the permit, rather than the 0.063% sulfur as used in the permit application; and
2. All emissions from the three 2.52 MMBTU/hr Fulton boilers have been adjusted to assume operation year-round rather than just for seven months, as the applicant has not requested a limit on operations for those units.

Plantwide Emissions Summary (tons per year)	
Pollutant	Potential Emissions*
Sulfur Dioxide (SO ₂)	7.81
Oxides of Nitrogen (NO _x)	22.24
Total Particulate Matter (PM Total)	1.83
Volatile Organic Compounds (VOCs)	1.94
Carbon Monoxide (CO)	13.21

* Note that these potential emission calculations include the aforementioned significant equipment as well as three small 2.52 MMBTU/hr insignificant boilers and welding operations located at the facility. Also note that emissions of VOCs from the paint booth were estimated based on a tripling of historic coating usage as it is very difficult to estimate true potential to emit for this type of operation.

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

The National Museum of the American Indian would have the potential to emit more than 25 tons per year (tpy) of oxides of nitrogen (NO_x) if each of the three 8.165 MMBTU per hour boilers were to operate 8,760 hours per year firing #2 fuel oil or diesel fuel. However, the source requested a limit of 144 hours of operation per 12-month rolling period using #2 fuel oil or diesel for each of the three 8.165 MMBTU per hour boilers to avoid Non-Attainment New Source Review applicability at the time the Chapter 2 permits were issued. With this limit of operation, the plant-wide potential to emit for NO_x remained below the 25 ton per year major source threshold at approximately 22.24 tons per year.

This kind of source would normally qualify as a synthetic minor, but the District of Columbia does not currently have a synthetic minor program. Because the District has no synthetic minor permitting program, the Air Quality Division ("AQD") of the District Department of the Environment ("DDOE" or "the Department") is utilizing the Title V operating permit program as a vehicle for limiting the facility's operation so as to not trigger Non-Attainment New Source Review and to avoid the need to acquire emission offsets and installation of Lowest Achievable Emission Rate (LAER) controls.

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Based on the operating restrictions taken in this permit, the NO_x potential emissions of this facility are somewhat below the major source threshold in the District of 25 tons per year of NO_x. As stated earlier, the facility's Title V operating permit requirement is not based on the 25 ton per year of NO_x criterion, but is as set forth in the preceding discussion. As such, pursuant to Chapter 2 permit conditions and to a lesser extent, 20 DCMR 300.1(b), 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.

It should 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.

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.

REGULATORY REVIEW:

This facility has been found to be subject to the requirements of the following regulations except as identified in the regulation-specific discussions 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 and performance testing

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- 20 DCMR 604 - Open Burning
- 20 DCMR 605 - Control of Fugitive Dust
- 20 DCMR 606 - Visible Emissions
- 20 DCMR 773-778 – Architectural and Industrial Maintenance Coatings
- 20 DCMR 801 - Sulfur Content of Fuel Oils
- 40 CFR 63, Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources
- 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 61.12 – Credible Evidence

District Enforceable Only:

- 20 DCMR 900 - Engine idling
- 20 DCMR 901 - Vehicular exhaust emissions
- 20 DCMR 902 - Lead Content of Gasoline
- 20 DCMR 903 - Odorous or other nuisance air pollutants

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:

1. Permit No. 6138-R1-A, issued January 3, 2013 to operate a 1,250 kW diesel fired emergency generator set; and
2. Permit Nos. 6270, 6271 and 6272 to operate three identical 8.165 MMBTU/hour dual fuel (natural gas and No. 2 fuel oil) boilers. Note that these permits were issued October 8, 2010 and have since expired. The Permittee submitted renewal applications for these permits which were received on June 6, 2013, but it was decided to address the renewal in the Title V permit rather than processing separate Chapter 2 permit renewals.

Additionally, the National Museum of the American Indian has one (1) non-auto body paint booth that is subject to the requirement to obtain a Chapter 2 permit, but no such permit has been issued to the facility for the paint booth to date. Since no such permit has been previously obtained by the facility, the Title V permit will be used to address both Chapter 2 and Chapter 3 permitting requirements for this equipment. The requirements of 20 DCMR Chapter 2 have been incorporated into the Title V permit.

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Chapter 7: Volatile Organic Compounds and Hazardous Air Pollutants

The requirements of 20 DCMR 700 were included in the permit. Because the facility will not be performing activities regulated by other sections of Chapter 7, such as mobile equipment repair and refinishing, most activities occurring in this unit will be regulated under this section.

20 DCMR 708 could be applicable to the paint booth, but since revisions of Chapter 7 took place affecting this section and due to questions regarding the practical enforceability of this section as revised, AQD has decided not to include the requirements of 20 DCMR 708 in the permit.

The requirements of 20 DCMR 718 are not applicable to this paint booth as the facility is not coating mobile equipment. As such, this section has not been addressed in the Title V permit.

Although the permittee did not specify the use of any adhesives, sealants, adhesive primers, or sealant primers, Condition III(c) (2)(B) was written to ensure that no activities trigger the requirements of 20 DCMR 743-749 (commonly known as the “adhesives and sealants rule”).

20 DCMR 801: Sulfur Content of Fuel Oils

This regulation is applicable to the boilers at the facility, limiting fuel sulfur contents to 1% sulfur by weight. However, in the Title V application, the potential to emit of the equipment was based the sulfur content not exceeding 0.2% by weight. The Title V permit application referenced the Chapter 2 permit application. As such, based on this request, and pursuant to the District’s Chapter 2 authority, streamlined permit requirements limiting the fuel sulfur contents to 0.2% by weight were included in the permit. Compliance with this more stringent requirement will ensure compliance with the 20 DCMR 801 requirement as well.

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

Because the NO_x emissions of this facility have been limited below major source threshold, this regulation is not applicable. However, if additional units are added, increasing potential emissions above the major source threshold, this regulation will become applicable.

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

This NSPS is not applicable to the units at this facility because all boilers are smaller than 10 MMBTU/hr on a heat input basis.

40 CFR 63 Subpart HHHHHH-National Emission Standards for Hazardous Air Pollutions: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources: This NESHAP

standard does not apply to this specific paint booth. Based on the extremely limited use of the spray paint gun, using only coatings not containing the target HAPs, and the other types of uses for the equipment (the use of spray guns is limited to wooden items only), the requirements of this NESHAP are not applicable. Requirements have been added to Conditions III(c)(2)(A) and

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(E) of the Title V permit to ensure that the facility does not trigger this NESHAP standard.

40 CFR 60, Subpart IIII – Standards of Performance for Internal Combustion Engines: The 1,250 kW internal combustion engine is not subject to this subpart because the internal combustion engine is an emergency engine manufactured and installed in 2004, prior to the various model year and construction date triggers in the rule.

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

This is the subpart that deals with the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers in an Area Source. The three boilers greater than 5 mm Btu per hour and the three boilers less than 5 mm Btu per hour at this facility are existing boilers and are permitted to burn natural gas and No. 2 fuel oil. The applicant did not indicate that fuel oil is used only during gas interruptions in the 2011 application. However, in a revised 2012 application and subsequent comments during permit development, the applicant did so indicate. Therefore, the requirements of this NESHAP have not been included in the permit. Instead, Condition III(b)(2)(C) establishes limits to ensure that the NESHAP is not triggered for the larger boilers and Condition IV(c)(6)(iv) establishes similar limits for the smaller boilers.

40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants:

Reciprocating Internal Combustion Engines (RICE): This NESHAP standard does not apply to this specific internal combustion engine. The internal combustion engine is operated for emergency purposes only. It is an existing institutional emergency RICE with limits in the permit prohibiting participation in demand response programs and prohibiting operation for more than 15 hours per calendar year when there is a substantial deviation of voltage or frequency from the electrical provider to the premises of 5 percent or more below standard voltage or frequency. This exempts the unit from applicability pursuant to 40 CFR 63.6590(f)(3).

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 trigger PSD applicability under the GHG Tailoring Rule (which, it appears has been overturned by the U.S. Supreme Court in any case). Other than this requirement, there are no other applicable requirements related to GHGs at this time, therefore none were included in the permit.

COMPLIANCE HISTORY:

In 2009, AQD became aware of the boilers and generator at the site. They had been installed in 2002 at the time of construction of the museum, but had never obtained permits. AQD listed them as a high priority violator pursuant to EPA policy. No enforcement action was issued at

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that time, but permitting efforts began. In 2012, EPA performed an inspection along with an AQD inspector and identified an additional issue in that the facility also had a paint booth that had been installed without a permit. EPA took over the case and resolved it. No enforcement action is listed in the EPA Enforcement and Compliance History Online (ECHO) database at the time of this writing.

COMMENT PERIOD:

Beginning Date: August 29, 2014

Ending Date: September 29, 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 the 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:

Abraham T. Hagos
Environmental Engineer
District Department of the Environment
Air Quality Division
1200 First Street NE, 5th Floor
Washington, DC 20002
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REVIEWS:

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