

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

CHAPTER 2 TECHNICAL SUPPORT MEMORANDUM

TO: File

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

FROM: Thomas Olmstead *SSO FOR TO*
Environmental Engineer

SUBJECT: **Smithsonian Institution, National Museum of Natural History
Permit No. 6903-R1 to Operate One (1) Non-Auto Body Paint Spray Booth**

DATE: January 19, 2021

BACKGROUND INFORMATION

A permit application to operate one non-automotive paint spray booth at the National Museum of Natural History, 10th Street and Constitution Avenue NW, was received by the Air Quality Division (“AQD”) of the Department of Energy and Environment (“DOEE” or “the Department”) on July 10, 2020. The applicant is the Smithsonian Institution.

The applicant has not requested that any of the information submitted to the Department be held confidential pursuant to 20 DCMR 106.

TECHNICAL INFORMATION

The paint booth to be permitted is a DeVilbiss cross-draft booth.

Based on the emission calculations provided by the facility, this paint booth has the potential to emit 0.04 tons per year (TPY) of VOC and <0.01 TPY of particulate matter.

REGULATORY REVIEW

In developing this permit, the following regulations were evaluated for applicability.

20 DCMR Chapter 2, Section 200: General Permit Requirements

Pursuant to 20 DCMR 200.1 and 200.2, because the equipment is a stationary source that has the potential to emit air pollutants, a permit from the Department must be obtained to install and operate the equipment.

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20 DCMR Chapter 2, Section 204: Permit Requirements for Sources Affecting Non-Attainment Areas

Because the facility is not significantly increasing emissions as a result of the paint booth (the potential to emit VOCs of 0.04 TPY is well below the 25 TPY value meeting the definition of “significant”), the requirements of this section are not applicable.

20 DCMR Chapter 2, Section 205: New Source Performance Standards

There are no NSPS subparts applicable to the paint booth.

20 DCMR Chapter 2, Section 209: Permit Requirements for Non-Major Stationary Sources (Minor New Source Review)

The potential emissions VOCs (0.04 TPY) is well below the 5 TPY threshold for applicability of this regulation. Similarly, the potential emissions of all HAPs, combined (0.0 TPY) are well below the threshold for applicability of this regulation. As such, the requirements of this regulation are not applicable.

20 DCMR Chapter 6, Section 606: Visible Emissions

The visible emissions limitations of 20 DCMR 606 are applicable to this facility. Proper operation of the equipment would preclude any visible emissions from being emitted into the outdoor atmosphere from the operation of the paint/spray booth and other equipment at the facility. This more stringent requirement (required by 20 DCMR 201) is contained in Condition II(c).

20 DCMR 700 – Miscellaneous Volatile Organic Compounds (VOCs):

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. Many of the monitoring and record keeping requirements in the permit are designed to document compliance with this section.

20 DCMR 714 – Control Techniques Guidelines (CTGs):

20 DCMR 714 is not applicable to the paint booth since the source does not operate any of the source categories (Miscellaneous Metal Product and Plastic Parts Surface Coatings, Large Appliance Coatings, and Metal Furniture Coatings) specified in 20 DCMR 714.

20 DCMR 715 – Major Source and Case-By-Case Reasonably Available Control Technology (RACT):

20 DCMR 715 is not applicable to the paint booth since the source does not have theoretical potential plant-wide emissions greater than or equal to twenty-five tons per year (25 tpy).

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20 DCMR 770 – Miscellaneous Industrial Solvent Cleaning Operations:

Pursuant to 20 DCMR 770.9(h), products used to clean resin, coating, ink, and adhesive mixing, molding, and application equipment, are not subject to 20 DCMR 770. Therefore, 20 DCMR 770 is not applicable to the paint booth.

20 DCMR 771 – Miscellaneous Cleaning and VOC Materials Handling Standards:

20 DCMR 771 is not applicable to the paint booth because the paint booth does not apply coatings, inks, or adhesives to flexible packaging nor is the unit subject to 20 DCMR 770 as discussed above. Therefore, 20 DCMR 771 is not applicable to this unit.

20 DCMR 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. It can be found in Condition II(b) of the permit.

40 CFR 60, Subpart EE – New Source Performance Standard for Surface Coating of Metal Furniture:

This facility is not a “metal furniture surface coating operation”. It is unlikely that any metal furniture is ever painted in this booth, but the applicant did not rule out that no single piece of metal furniture would ever be painted in the booth. Nothing in the rule itself appears to specifically rule out small scale painting of metal furniture of this type, except that the definition of “surface coating operation” in 40 CFR 60.311 refers to a “surface coating line”, which does not exist in this application. Additionally, an applicability determination in EPA’s online “Applicability Determination Index” (Control Number 9700019, dated November 29, 1994), which responded to an inquiry about a facility that reconditions used furniture, but is primarily engaged in other activities indicates: “If the services of the facility involve touch-up or clean-up operations, it is not covered by Subpart EE. However, if the facility is configured and operated in the same way as a production facility (i.e., the operation is a continuous process transporting furniture with a conveyor belt) it is subject to Subpart EE.”

Based on this analysis, AQD has determined that 40 CFR 60, Subpart EE does not apply to the painting activities at this facility.

40 CFR 63, Subpart HHHHHH – National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources:

This subpart does not apply to this facility because the paint booth does not perform: 1) paint stripping operations that involve the use of chemical strippers that contain methylene chloride (MeCl), Chemical Abstract Service number 75092, in paint removal processes; 2) Autobody refinishing operations that encompass motor vehicle and mobile equipment spray-applied surface coating operations; or 3) Spray application of coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), collectively referred to as the target

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HAP to any part or product made of metal or plastic, or combinations of metal and plastic that are not motor vehicles or mobile equipment. Therefore, 40 CFR 63, Subpart HHHHHH is not applicable to this unit. Conditions have been added to the permit to ensure that these activities do not occur in the unit in the future. See Conditions III(a), III(c), and III(f)(1) and associated monitoring and record keeping requirements.

40 CFR 64 – Compliance Assurance Monitoring (CAM)

This regulation is not applicable to this equipment pursuant to 40 CFR 64.2. In order for 40 CFR 64 to be applicable, the unit must be subject to an emission limitation or standard, use a control device to achieve compliance with it, and pre-control device emissions from the unit must exceed the major source threshold for the controlled pollutant. In this case, no control device is used to achieve compliance. Therefore, 40 CFR 64 is not applicable.

RECOMMENDATIONS

The application to operate the paint booth and the attached operating permit comply with all applicable federal and District air pollution control laws and regulations.

The application and draft permit will be posted for public review in the D.C. Register and on the DOEE website on January 29, 2021 and will be available for public comment through March 1, 2021. If no public comments are received, it is recommended that permit No. 6903-R1 be issued. If adverse comments are submitted or a hearing is requested, AQD will consider all comments before determining whether it is appropriate to issue the permit as drafted.

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