CHAPTER 2 TECHNICAL MEMORANDUM

TO: File

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

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FROM: Olivia Achuko
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For OA

SUBJECT: Washington Metropolitan Area Transit Authority (WMATA)
Bladensburg Bus Facility
Permit No. 7359 to Construct and Operate an Automotive Paint Spray Booth

DATE: January 2, 2024

BACKGROUND INFORMATION

A permit application to construct and operate a new paint spray booth at the Washington Metropolitan Area Transit Authority **(**WMATA) Bladensburg Bus Facility, located at 2250 26th Street, NE, Washington, DC, was received by the Air Quality Division (AQD) on July 24, 2023. WMATA is an interstate compact agency and is not required to submit a Certificate of Clean Hands. The application fee payment was received on July 31, 2023.

The facility is a new source under the Department of Energy and Environment's "Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations Regulations" (20 DCMR 718). Any automobile refinishing facility that starts operation after February 9, 2016 is a new source under this regulation. The Bladensburg bus facility was a major source with numerous auto painting and refinishing equipment but was recently dismantled for reconstruction of the entire facility. WMATA Bladensburg Bus Facility submitted an application for installation of an auto body paint shop at this location in July 2023. Therefore, this will be considered a new source under the regulation.

This permit action will be published in the DC Register on January 12, 2024. Public comments for the permit action will be solicited through February 12, 2024.

The applicant has not requested that any of the materials submitted with this application be held confidential.

TECHNICAL INFORMATION

The equipment at this site includes a cross-draft bus-sized paint booth for miscellaneous parts, touch-up and other coating operations. Activities at the facility will also include sanding and priming. There will be no use of methylene chloride (MeCl) at this facility. The company uses

high volume low pressure (HVLP) spray guns. Spray gun cleaning is done by various methods authorized under 20 DCMR 718.

This facility is also a new source[1] under 40 CFR 63 Subpart HHHHHH which applies to sources constructed after September 17, 2007. The applicant indicated a facility start-up date to be determined upon construction permit issuance.

In addition to the painting operation, WMATA intends to install and operate two natural gas-fired heaters (3.78 MMBTU/hr heat input capacity each) for use in drying of coatings. While these units do not require separate Chapter 2 permits, pursuant to 20 DCMR 200.14, they are considered to be part of the painting operation, therefore, the requirements applicable to those units are also being incorporated into this permit.

It is difficult to accurately estimate emissions from an automotive paint spray booth due to the variations of coatings, job sizes, etc. that occur in a typical auto body paint shop. However, in order to determine a reasonable estimate for the purposes of this evaluation, AQD referenced EPA's "Technical Support Document for Potential to Emit Guidance memo. Documentation of Emission Calculations" [Tim Smith, USEPA/OAQPS, April 1998]. Using an average VOC content of 3.5 pounds per gallon, this document estimates 4.8 pounds of VOCs could be emitted per average job. This document also estimates that a single paint booth could be used for no more than 25 jobs per week. Based on these estimates, AQD calculated potential emissions from the single paint booth of 3.12 tons per year (TPY) of VOCs. WMATA performed an analysis of the potential to emit from the booth and used this same value, but also added emissions from the small natural gas-fired heaters. See Table 10 of Attachment F of the application on page 650. The following table reflects a summary of the estimated emissions provided by WMATA.

	Maximum Annual Emissions
Pollutant	(tons/yr)
Total Particulate Matter (PM Total)	0.25
Sulfur Oxides (SOx)	0.02
Nitrogen Oxides (NOx)	3.25
Volatile Organic Compounds (VOC)	3.30
Carbon Monoxide (CO)	2.73
Total Hazardous Air Pollutants (HAPs)	0.06

[1] Note that the facility was previously engaged in painting operations prior to the demolition of the old equipment, so there might be an argument that this project constitutes reconstruction of the source per the definition of "reconstruction" in 40 CFR 63.2. However, since the requirements for reconstructed sources are to meet the requirements for new sources, AQD will not address this possible argument, and will apply the new source requirements.

REGULATORY REVIEW

20 DCMR Chapter 2, Section 200: General Permit Requirements
An automotive spray paint booth is a potential air pollution source because most automotive paints, coating, and solvents contain volatile organic compounds that are emitted upon use. Thus, a Chapter 2 permit is required before construction. The two 3.78 MMBTU/hr heaters associated with the paint booth, by virtue of having heat input ratings less 5 MMBTU/hr, are not subject to the requirement to obtain separate permits, as specified in 20 DCMR 200.14. However, AQD considers them to be part of the painting operation, and therefore the requirements applicable to those units have been incorporated into this permit.

20 DCMR Chapter 6, Section 600: Fuel-Burning Particulate Emission
This regulation applies to the natural gas-fired heaters. Condition II(j) incorporates the emission standard. Note that the permit condition refers to total suspended particulate matter (TSP), while the regulation only refers to particulate matter. The permit has been written to specify TSP for clarity as the regulation was written at a time when particulate matter referred to TSP only.

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 operation. However, pursuant to 20 DCMR 606.2, there are limited circumstances when visible emissions, up to 20% opacity, would be permitted from the fuel burning equipment (the heaters). These limits are reflected in Condition II(i) of the permit. Other requirements from 20 DCMR 606, including maintenance, staff training, and record keeping are found throughout the permit, in some cases streamlined with more specific requirements from 20 DCMR 718 and/or 40 CFR 63, Subpart HHHHHH.

20 DCMR Chapter 7: Volatile Organic Compound (VOC) Emissions Reduction
The requirements of 20 DCMR 700 were not included in the permit as they are not applicable to sources to which 20 DCMR 718 is applicable.

The facility is regulated under 20 DCMR 718, which is the District of Columbia's primary regulation for controlling air emissions from automotive painting operations. The requirements of this regulation have been included in the permit.

This memorandum will not cover all the detailed requirements of this regulation as they are extensive and make up the majority of the permit. However, highlights of the regulatory requirements include the following:

- Limits on allowable VOC content in coatings and solvents [Conditions II(b) and (c)];
- Limits on the coating methods and spray guns allowed [Conditions III(a) and (d) and related conditions];

- Emission point (stack) discharge height and exhaust velocity requirements [Condition III(c)] (primarily intended to reduce odor at ground level);
- Paint booth and filter specifications [Condition III(e)]; and
- Housekeeping and training requirements [Condition III(f)].

For all of these, appropriate monitoring, testing, and record keeping requirements have been included in the permit to ensure that compliance status can be determined.

20 DCMR Chapter 9, Section 903: Odorous or Other Nuisance Air Pollutants-
20 DCMR 903.1 contains the following requirement: "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", which applies to all sources. It is therefore included as Condition II(h) of the permit.

A substantial revision to this regulation went into effect on August 4, 2023. Among other requirements, this revision required that the facility submit an odor control plan (OCP), meeting the requirements of 20 DCMR 903.5, for this equipment. This plan was received on October 11, 2023 and, pursuant to 20 DCMR 903.6, approved by letter by AQD on December 29, 2023. Pursuant to 20 DCMR 903.8, WMATA must implement the OCP upon commencement of operation of the paint spray booth. This requirement is included in Condition III(i) of the permit.

In the future, in accordance with 20 DCMR § 903.13(a), if DOEE determines that the OCP is inadequate to prevent violations of 20 DCMR § 903.1, DOEE may require WMATA to modify the OCP in accordance with the procedures under 20 DCMR § 903.7. This is specified in Condition III(j) of the permit.

Record keeping and reporting requirements related to the OCP are also included in Conditions V(j) and VI(f) of the permit.

20 DCMR Chapter 14, Section 1409: Emission Standards for Hazardous Air Pollutants for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources
This regulation adopts 40 CFR 63, Subpart HHHHHH by reference. Please see the discussion of 40 CFR 63, Subpart HHHHHH below in "Other Regulations".

Other Regulations:
40 CFR 63, Subpart HHHHHH, "National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources" (also known as the "Auto Body NESHAP") is applicable to the facility. The rule applies to all motor vehicle and mobile equipment surface coating operations that paint with hazardous air pollutants (HAPs), including the collision repair industry. Many of the operational requirements of this regulation

are similar to those of 20 DCMR 718. In some cases, 20 DCMR 718 references 40 CFR 63, Subpart HHHHHH.

To address the applicability of this regulation, it is indicated in the application that chemical paint strippers containing methylene chloride are not used at the site. Thus, the requirements for paint stripping are generally not applicable in this case. Condition II(a) of the permit was developed to ensure that no methylene chloride containing strippers are used at the facility.

The paint spray booth must meet the design requirements of 40 CFR 63.11173(e)(2)(ii). These requirements were included in the permit as Condition III(e)(3).

Condition III(e)(1) was written to allow the facility to use only exhaust filters with 98% or higher capture efficiency per 40 CFR 63.11173(e)(2)(i).

Condition III(a) of the permit was written to ensure compliance with the paint application technique specifications in both 20 DCMR 718.11 and 40 CFR 63.11173(e)(3). Similarly, the spray gun requirements of Condition III(d) were written to ensure compliance with 40 CFR 63.11173(e)(4) and 20 DCMR 718.15.

The training requirements of 40 CFR 63.11173(e)(1), (f), and (g)(3) were included in the permit as Condition III(g).

All applicable recordkeeping requirements were included in Condition V of the permit. It should be noted that all records will be required to be kept for five years, rather than three per 20 DCMR 500.8, due to the more stringent five-year requirement in 40 CFR 63.11178, the similar requirement in 20 DCMR 718.23, and the difficulty of having two different document retention policies for different sets of records.

The notification and reporting requirements of 40 CFR 63, Subpart HHHHHH are contained in Conditions VI(a), (b), and (c).

RECOMMENDATIONS

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

Public comments for the permit action will be solicited from January 12, 2024 through February 12, 2024. AQD will resolve any comments received before taking any final action on the permit. If no adverse comments are received, I recommend that permit No. 7359 be issued in accordance with 20 DCMR 200.2 promptly upon the completion of the public review period.

SSO/NOA