


GOVERNMENT OF THE DISTRICT OF COLUMBIA

Department of Energy and Environment

CHAPTER 2 TECHNICAL MEMORANDUM

TO: File

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

FROM: Emily Chimiak 
Environmental Engineer

**SUBJECT: Goodwill First Inc
Permit No. 6819-R1
Permit to Operate an Automotive Paint Spray Booth at 3001 Earl PI NE**

DATE: June 28, 2017

BACKGROUND INFORMATION

A permit application to construct and operate an existing paint spray booth at Goodwill First Inc, located at 3001 Earl PI NE, Washington, DC 20018 was received by the Air Quality Division (AQD) on June 6, 2016 and revised June 16, 2017. The applicant indicated no emission control device (carbon filters, carbon beds, thermal oxidizers, etc.) beyond the required particulate matter filter. The application is for a semi drop down cross flow Global Finishing Solutions, Model No.: SMG- 1409NSB-23-S-S spray booth provided by the distributor, B & R Associates.

AQD has determined that the facility is an existing source under the District of Columbia's newly promulgated (final December 1, 2016) "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 (and its predecessor emergency rulemaking); all others are considered to be existing. This facility started operation as an auto body paint shop in 2014.

The permit action will be published in the DC Register on July 7, 2017. Public comments for the permit action will be solicited through August 7, 2017.

This permit will replace and update existing permit number 6819.

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

TECHNICAL INFORMATION

The equipment at this site includes one semi drop down cross flow Global Finishing Solutions, Model No.: SMG- 1409NSB-23-S-S spray booth provided by the distributor, B & R Associates.

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The spray booth is used for full body painting, miscellaneous parts painting, touch-up painting, sanding, and priming. Methylene chloride (MeCl) will not be used at this facility. The company uses high volume low pressure (HVLP) spray guns. Cleaning methods include an unatomized discharge of cleaning solvent into a paint waste container that is kept closed when not in use to clean spray guns, and disassembly of the spray gun and cleaning in a vat that is kept closed when not in use. The applicant indicated that the emissions exit at 18 feet above ground and 5 feet above the roof, with a flow of exhaust air that is in a vertical orientation and unimpeded. The applicant indicated that they use no emission control device (carbon filters, carbon beds, thermal oxidizers, etc.) beyond the required particulate matter filter.

This facility is a new source under 40 CFR 63 Subpart HHHHHH, which is also applicable because it was constructed after September 17, 2007. The effective date for this subpart is January 10, 2011. The applicant indicated a facility start-up year as a paint shop of 2014 and current owner start year, also of 2014.

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 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 of VOCs.

REGULATORY REVIEW

20 DCMR Chapter 2, Section 200: General Permit Requirements:

An auto body spray paint booth is a potential air pollution source because most auto body paints, coatings, and solvents contain volatile organic compounds that are emitted upon use. Thus a Chapter 2 permit is required.

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(i).

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 when 20 DCMR 718 is applicable.

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The facility is regulated under the newly revised 20 DCMR 718 which is the District'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

"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. This requirement is contained in Condition II(h) of the permit. Many of the other conditions of the permit, especially many of those brought into the permit pursuant to 20 DCMR 718 are intended, at least in part, to reduce detectable odors. Should odors be problematic despite these requirements, Condition I(g), included in the permit pursuant to 20 DCMR 718.18, allows the Department to require the installation of additional control devices as necessary to ensure compliance.

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.

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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 record keeping 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) through (e).

RECOMMENDATIONS

The application to operate the automotive paint spray booth facility and the attached 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 July 7, 2017 through August 7, 2017. 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. 6819-R1 be issued in accordance with 20 DCMR 200.2 promptly upon the completion of the public review period.

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