



GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Department of Energy and Environment

TECHNICAL SUPPORT MEMORANDUM

TO: File

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

FROM: John C. Nwoke   
Environmental Engineer

SUBJECT: **Challenger Cab LLC**  
**Permit No. 6616-R1 to Operate an Automotive Paint Spray Booth at 2626**  
**Evarts Street NE**

DATE: April 15, 2019

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**BACKGROUND INFORMATION**

A permit renewal application to operate a paint spray booth at Challenger Cab LLC, located at 2626 Evarts Street NE, Washington DC 20018 was received by the Air Quality Division (AQD) on December 24, 2015. An updated application was received June 2, 2016. The application was reviewed and the paint booth, including its stack design specifications were found to meet the requirements of 20 DCMR 718. Additionally, the carbon filter language and the higher stack height requirements incorporated into the previously issued permit (No. 6616, issued September 6, 2013) have been included in the draft renewal Permit No. 6616-R1. The equipment being addressed with this permitting action is a Power Model Series Spray-Tech spray booth.

AQD has determined that the facility is an existing source under the Department of Energy and Environment'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. Challenger Cab, LLC started operation as an auto body paint shop at the location prior to that date.

The original start-up date of the facility as a surface coating operation is unclear. The application indicates that it started up in March 2013. An earlier application, received May 7, 2012, indicates that the "facility start-up date" was June 1, 2011. A comment received from a neighbor, dated August 14, 2012, corroborates this latter date, indicating that the stack was installed sometime in the middle of 2011. It is likely that this 2011 date reflects when the current paint booth was installed, but there is little information about the site before that date. It is possible that painting occurred at the site before that time, either with an older booth, or without a booth. The current owners do not know that level of history of the facility.

Because the original start-up date of the facility as a surface coating operation is unclear, it is not possible to conclusively determine if the facility is an existing or new source with respect to 40

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CFR 63, Subpart HHHHHH (see 40 CFR 63.11171). However, because compliance deadlines have passed for both situations, an initial notification was previously submitted, and standards are otherwise the same for both situations, it is not necessary to make this determination conclusively.

The proposed permit action will be published in the DC Register on April 26, 2019. Public comments for the permit action will be solicited through Tuesday, May 28, 2019 (Monday, May 27 is a public holiday). A public hearing will be held on May 28, 2019 as well.

Challenger Cab LLC has not requested that any of the materials submitted with this application be held confidential.

### **TECHNICAL INFORMATION**

The equipment at this site includes one standard side down draft paint booth, a Power Model Series Spray-Tech spray booth.

The operation involves surface coating equipment, sanding, and priming, as well as paint mixing and gun cleaning stations. There will be no use of methylene chloride (MeCl) at this facility. The company uses high volume low pressure (HVLV) spray guns. The spray guns are cleaned by disassembly of the spray gun and cleaning in a vat that is kept closed when not in use. The facility performs numerous sizes of jobs from full body jobs to small application touch-up jobs.

At the time of the original permit application submittal (received May 7, 2012), the stack configuration did not comply with subsequently established requirements of 20 DCMR 718.19 (promulgated December 9, 2016) because it did not discharge vertically upward and it may not have been vented at least five feet above the roof level. Due in part to AQD's consultations with the facility, followed by other compliance measures, the facility's current stack design complies with the standards in 20 DCMR 718.19.

As discussed above, AQD has not been able to confirm the original start-up date of the facility as a surface coating operation, thus it is unclear if the facility is a new or existing source under 40 CFR 63, Subpart HHHHHH. However, either way, the compliance date is well past and the facility must be compliant with all aspects of the regulation.

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

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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 automotive paint spray booth is a potential air pollution source because most automotive 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.

The facility is regulated under the newly (December 2016) 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) *Note that a higher than standard stack height has been required consistent with what was established in the previous permit to address historic odor issues from the site.*;
- 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.

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Also, due to historic odor issues at the site, in the previously issued permit, a requirement to use filters that contain activated carbon to control odors was added to the permit. At the time, it was added pursuant to authority under 20 DCMR 201. After then 2016 revision to 20 DCMR 718, Section 718.18 became relevant to this requirement as well, and as such, is cited in Condition III(e)(3).

#### **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. Special requirements related to stack height [see Condition III(c)(1)] and carbon filters [See Condition III(e)(3)] have been included to assist with odor 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 Part 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. As discussed above, the compliance date is passed, so the facility is fully subject to the requirements of the rule. 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). This requirement was included in the permit as Condition III(e)(4).

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).

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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) 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) and (b). It should be noted that the Initial Notification requirements in 40 CFR 63.11175(a) have not been included in the permit as the Department previously determined that they had been met. For a similar reason the Notification of Compliance Status requirement found in 40 CFR 63.11175(b) has also been excluded from the permit language.

### **RECOMMENDATIONS**

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

Public comments for the permit action will be solicited from April 26, 2019 through May 28, 2019. A public hearing will be held on May 28, 2019. 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. 6616-R1 be issued in accordance with 20 DCMR 200.2 promptly upon the completion of the public review period.

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