



**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: **Murphy's Auto Body Inc. (dba Murphy's Auto Body)**  
**Permit Nos. 7058 and 7177 to Operate Automotive Paint Spray Booths PB-A**  
**and PB-B at 1708 Good Hope Road SE**

DATE: December 15, 2017

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**BACKGROUND INFORMATION**

A permit application to operate an automotive paint spray booth at Murphy's Auto Body, Inc. (Murphy's Auto Body), located at 1710 Good Hope Road SE, Washington DC 20020 was received by the Air Quality Division (AQD) on August 31, 2015. On May 17, 2016 an update to this application was received from the applicant, Christopher Murphy. The update was necessary because the applicant intended to construct and install a new spray painting operation compliant with 20 DCMR 718. Further review of the updated application showed that the application was unsigned and did not include the legal name of the facility. Additionally, it had an updated address of 1708 Good Hope Road SE, Washington DC 20020. The applicant owns both of these contiguous and adjacent properties, but the office had moved from one part of the facility to the other, hence the change in the main address of the facility.

Through several telephone discussions with Mr. Murphy, it was noted that the equipment for which an application was made initially had been replaced with a brand new type of paint spray booth, an Ameri-Cure/Aqua Max model. Additionally, it was clarified that the facility maintained two paint spray booths, rather than one. Mr. Murphy had thought that one application form was required per facility, as opposed to one form per booth.

As a result of these changes, Mr. Murphy was asked to update the May 17, 2016 update to the application with the necessary corrections. Mr. Murphy came to DOEE offices on June 2, 2017 to submit the necessary information. However, on July 10, 2017 Mr. Nwoke visited the facility to assess the compliance status of the stack outlet for this spray booth. Mr. Nwoke confirmed that the stack outlet of one of the new units was not compliant with 20 DCMR 718.19 and consequently Mr. Murphy was required to install a compliant stack outlet. The installation was completed on November 22, 2017.

As a result of this history, the paint booths have been assigned two no-consecutive permit numbers, No. 7058 for booth PB-A and No. 7177 for booth PB-B.

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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. This company started operation as an auto body paint shop at the location in June 1997.

Because the facility was actively engaged in surface coating prior to September 17, 2007, pursuant to 20 DCMR 63.11171, the facility is considered an existing source with respect to 40 CFR 63, Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources.

The permit action will be published in the DC Register on December 22, 2017. Public comments for the permit action will be solicited through January 22, 2018.

Murphy's Auto Body, Inc. has not requested that any of the materials submitted with this application be held confidential.

### **TECHNICAL INFORMATION**

The equipment at this site includes two standard size down draft Ameri-Cure/Aqua Max paint booths. The operation involves surface coating equipment, sanding, priming, and possibly chemical stripping equipment, 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 (HVLP) spray guns. The spray gun cleaning method used is a fully enclosed spray gun cleaning system 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 July 10, 2017 site visit, the stack configuration of one booth did not comply with 20 DCMR 718.19 because it did not discharge vertically upward and it may not have vented the exhaust at least five feet above the roof level. Following the site visit, the Department requested that the facility submit a plan to replace the existing stack outlet, which they did. On November 22, 2017, the new design that complies with 20 DCMR 718.19 was completed. The facility notified the Department of the installation of the compliant stack outlet via an email to Mr. Nwoke on November 24, 2017.

This facility is an existing source under 40 CFR 63, therefore the compliance date for 40 CFR 63, Subpart HHHHHH was January 10, 2011.

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

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“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. Because there are two paint booths at the facility that will have an equal potential to emit, the total facility-wide potential to emit has been estimated to be 6.24 tons per year of VOCs.

### **REGULATORY REVIEW**

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

An automotive 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 for each unit.

#### 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 Compounds and Hazardous Air Pollutants

The requirements of 20 DCMR 700 were not included in the permits as they are not applicable when 20 DCMR 718 is applicable.

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)].

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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 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. The compliance date of January 10, 2011 is effective immediately since facility is an existing source. 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 meets the requirements of 40 CFR 63.11173(e)(2)(ii). This requirement was included in the permits 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 permits 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.

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

All applicable record keeping requirements were included in Condition V of the permits. It should be noted that 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 (c).

**RECOMMENDATIONS**

The applications to operate the two paint spray booths and the attached combined operating permit document comply with all applicable federal and District air pollution control laws and regulations.

Public comments for the combined permit action will be solicited from December 22, 2017 through January 22, 2018. AQD will resolve any comments received before taking any final action on the permits. If no adverse comments are received, I recommend that permit Nos. 7058 and 7177 be issued in accordance with 20 DCMR 200.2 promptly upon the completion of the public review period.

SSO:JCN

