

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: Olivia Achuko *SSO For OA*  
Environmental Engineer

SUBJECT: **Architect of the Capitol, Botanic Garden Production Facility  
Permit No. 5957-R3 to Operate One Non-Automotive Paint Spray Booth**

DATE: March 25, 2021

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**BACKGROUND INFORMATION**

A renewal permit application to operate one non-automotive paint spray booth at the U.S. Botanic Garden Production Facility, 4700 Shepherd Parkway, SW, was received by the Air Quality Division (“AQD”) of the Department of Energy and Environment (“DOEE” or “the Department”) on December 29, 2020. The application fee was paid on March 9, 2021. The applicant is the Architect of the Capitol.

The applicant has not requested that any of the information submitted to the Department be held confidential pursuant to 20 DCMR 101.

**TECHNICAL INFORMATION**

The paint booth to be permitted is a DeVilbiss/Proclean cross-draft model. The paint booth operations involve manual application of paints using brushes and spray cans. High Volume Low Pressure (HVLP) spray guns are available but are seldom used. The majority of the work includes painting wood furniture (approximately 90% of the work) but also includes miscellaneous activities such as painting displays and metal items. No chemical stripping operations occur at this location. Condition III(a) prohibits the use of chemical strippers that contains methyl chloride if any chemical stripping were to occur.

The paint booth is equipped with a filter with a removal efficiency of 99%. A fan associated with the filter is turned on manually when the painting operations start. Paint booth personnel keep daily usage logs for the paints used and keep logs of the filter replacement frequency.

Based on the emission calculations provided by the facility, this paint booth has the potential to emit less than five (5) tons per year of criteria pollutant or hazardous air pollutants (HAPs).

## **CHAPTER 2 TECHNICAL MEMORANDUM**

**Architect of the Capitol, Botanic Garden Production Facility**

**Permit No. 5957-R3 to Operate One Non-Automotive Paint Spray Booth**

March 25, 2021

Page 2

### **REGULATORY REVIEW**

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

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

The paint spray booth is a potential air pollution source and a stationary source. The paints contain volatile organic compounds and paint overspray can be released as particulate matter, thus a permit from the Department must be obtained to install and operate the equipment.

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

This is an existing unit, thus no new review is required under this regulation. This regulation would not have been triggered with the installation of this equipment because the potential to emit (PTE) VOCs from the unit (without considering the 15 lb/day limit in 20 DCMR 700) is approximately 8.9 tons per year. The particulate matter PTE is much lower.

#### 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)

This unit was installed prior to January 1, 2014, thus this regulation is 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.

## **CHAPTER 2 TECHNICAL MEMORANDUM**

**Architect of the Capitol, Botanic Garden Production Facility**

**Permit No. 5957-R3 to Operate One Non-Automotive Paint Spray Booth**

March 25, 2021

Page 3

### 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).

### 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”. The activities at this facility include the use of spray guns as well as manual applications using rollers and paint brushes to apply paint on metal, plastic, and wood products. Minimal, if any, metal furniture is painted in this booth. The definition of “surface coating operation” in 40 CFR 60.311 refers to a “surface coating line”, which does not exist in this application. “Since the services of the facility involve touch-up or clean-up operations, it is not covered by Subpart EE.

In addition, the facility documents its exemption from this regulation by showing that it uses less than 3,842 liters of coating (as applied) per year (see 40 CFR 60.310(c)). This has been incorporated into the permit in Condition III(j). Monitoring is required per Condition IV(h), and records must be kept under Condition V(b).

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 paint stripping operations that involve the use of chemical strippers that contain methylene chloride

## **CHAPTER 2 TECHNICAL MEMORANDUM**

### **Architect of the Capitol, Botanic Garden Production Facility**

### **Permit No. 5957-R3 to Operate One Non-Automotive Paint Spray Booth**

March 25, 2021

Page 4

(MeCl), Chemical Abstract Service number 75092, in paint removal processes; Autobody refinishing operations that encompass motor vehicle and mobile equipment spray-applied surface coating operations; Spray application of coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), collectively referred to as the target 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, pre-control emissions do not exceed the major source threshold for any pollutant. 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 April 2, 2021 and will be available for public comment through May 3, 2021. If no public comments are received, it is recommended that permit No. 5957-R3 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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