

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

CHAPTER 2 TECHNICAL SUPPORT MEMORANDUM

TO: File

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

FROM: Olivia Achuko *NOA* 9/2/26
Environmental Engineer

**SUBJECT: Architect of the Capitol, Botanic Garden Production Facility
Permit No. 5957-R4 to Operate One Non-Automotive Paint Spray Booth**

DATE: September 2, 2026

BACKGROUND INFORMATION

On March 21, 2026, the Air Quality Division (“AQD”) of the Department of Energy and Environment (“DOEE” or “the Department”) received an application from the Architect of the Capitol, U.S. Botanic Garden Production Facility located at 4700 Shepherd Parkway, SW to operate an existing non-automotive paint spray booth. The potential to emit (PTE) table submitted with the application showed a very high value for HAP. When the source was contacted, a replacement calculation was submitted on August 25, 2026, reducing the maximum coating application rate to a more realistic maximum value. The application fee was paid on June 11, 2026.

The paint booth is a DeVilbiss/Proclean cross-draft model DFRL 12109-125 unit. The paint booth operations involve manual application of paints using brushes and spray cans. High Volume Low Pressure (HVLV) 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 contain methyl chloride if any chemical stripping were to occur.

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 DFRL 12109-125 unit. Based on the emission calculations provided by the facility, without the federally enforceable restrictions found in 20 DCMR 700.2, this paint booth has the potential to emit 12.3 TPY of VOC

CHAPTER 2 TECHNICAL MEMORANDUM

Architect of the Capitol, Botanic Garden Production Facility

Permit No. 5957-R4 to Operate One Non-Automotive Paint Spray Booth

September 2, 2026

Page 2

and 6.7 TPY of hazardous air pollutants (HAP). This potential to emit calculation is based on continuous operation of the paint booth, operating 24 hours per day, 365 days per year, using the highest-emitting coating used in recent records. However, this is expected to far exceed actual emissions. With the limits imposed by 20 DCMR 700.2, the potential to emit both VOCs and HAPs is 2.7 TPY.

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.

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, coatings, adhesives, sealants, and solvents used or potentially used in the booth 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: Non-attainment New Source Review:

The requirements of 20 DCMR 204 apply to the construction of any new major stationary source or any major modification at an existing major stationary source in an area designated as nonattainment under § 107(d)(1)(A)(i) of the CAA. No construction or modification is proposed at this time; this application is a renewal of an existing permit. Additionally, the PTE for VOC is below 25 tons per year (tpy), and PM₁₀ is below 15 tpy. Therefore, the original installation of the equipment was not subject to the requirements of 20 DCMR 204, nor is it subject at this time. Therefore, no related requirements were placed in the permit.

20 DCMR Chapter 2, Section 205: New Source Performance Standards

Codified in 40 CFR Part 60 and incorporated by reference in 20 DCMR 205, New Source Performance Standards (NSPS) are established by the Environmental Protection Agency (EPA) to limit emissions from new, modified or reconstructed sources in applicable source categories. There are no NSPS subparts applicable to this paint booth.

20 DCMR Chapter 2, Section 209: Permit Requirements for Non-Major Stationary Sources (Minor New Source Review)

The requirements of 20 DCMR 209 apply to the construction of a new source or modification to an existing stationary source that increases the PTE of select pollutants by more than five (5) tons per year, on a unit-by-unit basis. This unit was installed prior to January 1, 2014, and no modification is being proposed, thus this regulation is not applicable.

CHAPTER 2 TECHNICAL MEMORANDUM

Architect of the Capitol, Botanic Garden Production Facility

Permit No. 5957-R4 to Operate One Non-Automotive Paint Spray Booth

September 2, 2026

Page 3

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).

Additionally, this regulation establishes certain operational, maintenance, and training requirements which have been incorporated into Conditions III(i), (j), and (k). Record keeping requirements are incorporated into Conditions V(j), (k), and (l).

20 DCMR 700 – Miscellaneous Volatile Organic Compounds (VOCs):

The requirements of 20 DCMR 700.1 and 700.2 limit aggregate VOC emissions to less than 3 lb/hr and 15 lb/day for emission units not subject to any other specific regulation under 20 DCMR Chapter 7, unless emission controls for VOCs have been installed, is applicable. No such controls have been installed. Therefore, the paint spray booth is subject to the requirements of 20 DCMR 700.2, as incorporated in Condition II(a) of the permit.

Appropriate monitoring, testing, and record keeping requirements have been included in the permit to ensure that compliance status with these requirements can be determined.

20 DCMR Chapter 7, Section 708: Non-photochemically Reactive Solvents

Section 708 requires that users of non-photochemically reactive solvents if not subject to other sections of Chapter 7 shall comply with 20 DCMR 708.2. The rule limits aggregate non-photochemically reactive solvent emissions to less than 8 lb/hr and 40 lb/day. This requirement was placed in Condition II(d) of the permit should AOC use non-photochemically reactive solvents in conjunction with the operation of the paint spray booth. Subsequent requirements establish monitoring and record keeping requirements to ensure compliance.

20 DCMR 714 – Control Techniques Guidelines (CTGs):

20 DCMR 714 is not applicable to the paint booth since the source does not operate any Miscellaneous Metal Product and Plastic Parts Surface Coatings, Large Appliance Coatings, and Metal Furniture Coatings specified in 20 DCMR 714.

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 Chapter 7, Sections 743 through 749: Adhesives and Sealants

These sections apply to the use of adhesives, sealants, adhesive primers, and sealant primers. AOC could use these products, in small quantities, in conjunction with the paint spray booth operations and therefore is expected to comply with the applicable requirements of 20 DCMR

CHAPTER 2 TECHNICAL MEMORANDUM

Architect of the Capitol, Botanic Garden Production Facility

Permit No. 5957-R4 to Operate One Non-Automotive Paint Spray Booth

September 2, 2026

Page 4

743 through 749 as included in Condition III(b) of this permit, with subsequent sections requiring associated monitoring and record keeping.

20 DCMR Chapter 7, Section 770 – Miscellaneous Industrial Solvent Cleaning Operations:

With some exceptions listed in 20 DCMR 770.9, this section applies to any person who:

- (a) Uses any industrial cleaning solvent in a solvent cleaning operation in or on the premises of a factory or a shop as part of a manufacturing, production, or repairing process where the facility emits at least fifteen pounds (15 lb.) of VOC emissions in any one (1) day from all solvent cleaning operations shall be subject to this section through § 770.10(a);
- (b) Sells, supplies, offers for sale, or manufactures any industrial cleaning solvent for use in the District of Columbia shall be subject to this section through § 770.10(a); or
- (c) Uses any industrial cleaning solvent in a solvent cleaning operation in or on the premises of a factory or a shop as part of a manufacturing, production, or repairing process where the facility emits less than fifteen pounds (15 lb.) of VOC emissions in any one (1) day from all solvent cleaning operations shall be subject to § 770.10(b).

Potentially relevant exceptions in 20 DCMR 770.9 are as follows:

- 1. Cleaning and surface preparation operations subject to Condition III(b);
- 2. Products used to strip cured inks, coatings, and adhesives;
- 3. Cleaning products used for janitorial purposes, including graffiti remover products;
- 4. Products used to clean resin, coating, ink, and adhesive mixing, molding, and application equipment; and
- 5. Cleaning and surface preparation operations related to application of coatings subject to regulation under 20 DCMR 773 to 778 (AIM) to the extent the coatings are used as architectural and industrial maintenance coatings.

It is not expected that this applicant will use large amounts of solvents covered by this section, but it is possible that such solvents will be used. As such, Condition II(e) of the permit was added to limit emissions from such use to below 15 pounds per day, facility wide. Monitoring and record keeping requirements were added to Conditions IV(j) and V(c), respectively.

20 DCMR 7, Section 771 – Miscellaneous Industrial Solvent, Miscellaneous Cleaning and VOC Materials Handling:

The requirements of 20 DCMR 771 apply to any person subject to 20 DCMR 770 as well as any person that uses any process that applies coatings, inks, or adhesives to flexible packaging where

CHAPTER 2 TECHNICAL MEMORANDUM

Architect of the Capitol, Botanic Garden Production Facility

Permit No. 5957-R4 to Operate One Non-Automotive Paint Spray Booth

September 2, 2026

Page 5

the facility emits less than fifteen pounds (15 lb.) of VOC emissions in any one (1) day before consideration of controls from all processes involved in applying coatings, inks, or adhesives to flexible packaging, including related clean-up activities. The first of these criteria has the potential to apply, as discussed above in the section discussing 20 DCMR 770. As a result, the housekeeping requirements of 20 DCMR 771.3 are found in Condition III(h). Record keeping requirements have been included sufficient to show compliance with the requirements of 20 DCMR 771.4(a) in permit Condition V(c).

20 DCMR Chapter 7, Section 773 through 778: Architectural and Maintenance Coatings:

The requirements of these rules apply to "any person who supplies, sells, offers for sale, manufactures, applies, blends, repackages, or solicits the application of any architectural coating on or after January 1, 2005, within the District of Columbia, except as specified in 20 DCMR 775. The applicant states that the coatings that will be applied by SOB Paint Spray Booth do not meet the definition of an "architectural coating" pursuant to 20 DCMR 799. Based on this assertion, no requirements were placed in the permit.

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(b) of the permit.

This regulation was updated substantially on August 4, 2023. The main updates related to adding requirements for certain facilities to prepare, submit to the Department for approval, and implement odor control plans (OCPs). However, non-automotive paint spray booths are not included in the categories of sources that are required to submit OCPs, unless ordered to do so by the Department under certain circumstances. The Department has not issued such an order in this case. As such, the new OCP requirements do not apply to this facility at this time.

However, one addition to the regulation, 20 DCMR 903.13(b), which adds an affirmative defense provision, does apply to the facility. As such, the provision has been added to the permit as a part of Condition II(b).

It is additionally noted in the permit that 20 DCMR 903 is District-enforceable only. This is because it has not been incorporated into the District's State Implementation Plan (SIP) found at 40 CFR 52, Subpart J.

Federal Regulations:

Federal Regulations will be discussed however, those regulations that are not applicable will be only briefly mentioned with most focus on the applicable regulations.

CHAPTER 2 TECHNICAL MEMORANDUM

Architect of the Capitol, Botanic Garden Production Facility

Permit No. 5957-R4 to Operate One Non-Automotive Paint Spray Booth

September 2, 2026

Page 6

40 CFR Part 60: New Source Performance Standards

The New Source Performance Standards (NSPS) are established by the Environmental Protection Agency (EPA) to limit emissions from new, modified, or reconstructed sources in applicable source categories. The requirements of many of these regulations are incorporated by reference in 20 DCMR 205.2. Specific subparts are discussed below.

40 CFR Part 60, Subpart EE - Standards of Performance for Surface Coating of Metal Furniture

The requirement of this regulation is codified in 40 CFR § 60.310 through 40 CFR § 60.316. Pursuant to 40 CFR § 60.310. This regulation applies to each "metal furniture surface coating operation in which organic coatings are applied" and construction, modification, or reconstruction occurs after November 28, 1980.

While the paint booth operation is primarily focused on coating wood products such as desks and cabinets, the AOC has indicated that occasional coating of miscellaneous metal items may also occur at this facility. To ensure that the requirements of 40 CFR 63, Subpart EE are not triggered, the facility remains subject to the applicable operational limits, monitoring and testing, and record-keeping requirements of Condition III(l), Condition IV(h), and Condition V(b) of the permit. Condition III(l) limits total use of coatings on metal furniture to a level (3,842 liters or 1,015 gallons) that will ensure that this regulation is not triggered.

40 CFR Part 60, Subpart MM - Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations

Pursuant to 40 CFR § 60.390, this regulation applies to affected facilities in automobile or light-duty truck assembly plant. The proposed equipment is a non-automotive paint spray booth operation and is not used to apply coatings to vehicles. This regulation, codified in 40 CFR § 60.390 through 40 CFR § 60.398, applies to automotive paint spray booths and is not applicable to a non-automotive paint spray booth. Therefore, the equipment is not subject to the requirements of 40 CFR Part 60, Subpart MM, thus the requirements of this subpart are not included in the permit.

Other Non-Applicable NSPS Regulations

40 CFR Part 60 includes several other performance standards that apply to coating operations- viz: Subpart RR -Pressure Sensitive Tape and Label Surface Coating; Subpart SS – Large Appliance Surface Coating, and Subpart TT- Metal Coil Surface Coating. The proposed project is not expected to include activities covered by these source categories. There are no compliance requirements in the permit covering Subparts RR, SS and TT.

40 CFR Part 63: National Emission Standards for Hazardous Air Pollutants (NESHAPs)

Title 20, Chapter 14 of District of Columbia Municipal Regulations adopts certain National Emission Standards for Hazardous Air Pollutants (NESHAPs) by reference. The District regulations codify this reference in 20 DCMR 1409.1. The proposed project is not expected to emit hazardous air pollutants at rates exceeding the major source thresholds (10 tons/year or less of any individual HAPs or 25 tons/year of a combination of all HAPs).

CHAPTER 2 TECHNICAL MEMORANDUM

Architect of the Capitol, Botanic Garden Production Facility

Permit No. 5957-R4 to Operate One Non-Automotive Paint Spray Booth

September 2, 2026

Page 7

In addition to those discussed in more detail below, 40 CFR Part 63 includes several other performance standards that apply to coating operations, Subparts II, III through NNNN etc., but that would not apply to the proposed project because they do not apply to the types of operations proposed for this site. As a result, the requirements in these subparts do not apply to this equipment and the permit contains no related requirements.

40 CFR Part 63, Subpart JJ -National Emission Standards for Wood Furniture Manufacturing Operations

This regulation, codified in 40 CFR § 63.800 through 40 CFR § 63.819, is applicable to a facility that is engaged in the manufacture of wood furniture or wood furniture components and that is located at a plant site that is a major source. The proposed paint spray booth operation is not located at a major source of HAPs. Therefore, this subpart does not apply, and no related requirements were placed in the permit.

40 CFR Part 63, Subpart MMMM - National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products

This regulation, codified in 40 CFR § 63.3880 through 40 CFR § 63.3981, applies to activities located at a major source of HAPs. Additionally, pursuant to 40 CFR § 63.3881, the affected facilities described in 40 CFR § 63.3881(a) and (b) do not include the non-automotive paint booth operation covered by this permit. Consequently, the equipment is not subject to the requirements of 40 CFR Part 63, Subpart MMMM and related requirements were not included in the permit.

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 (MeCl), Chemical Abstract Service number 75092, in paint removal processes, or 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, no control device is used to achieve compliance. Therefore, 40 CFR 64 is not applicable.

CHAPTER 2 TECHNICAL MEMORANDUM

Architect of the Capitol, Botanic Garden Production Facility

Permit No. 5957-R4 to Operate One Non-Automotive Paint Spray Booth

September 2, 2026

Page 8

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 September 18, 2026 and will be available for public comment through October 19, 2026. If no public comments are received, it is recommended that permit No. 5957-R4 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.

SSO:OA