

**SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL DISTRICT**

**Guideline for Expedited Application Review (GEAR 12ab)
Motor Vehicle and Mobile Equipment Coating Operations with a Paint Booth, with or
without a Booth Heater**

Approved By: _____ Signed _____ Brian Clements Director of Permit Services	Date: <u>August 10, 2023</u>
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Purpose: To outline procedures for the expedited processing of Authority to Construct (ATC) applications for motor vehicle and mobile equipment coating operations with a paint booth with or without a booth heater.

I. Applicability:

This policy applies to Permit Services' actions relating to and dealing with the permitting of motor vehicle and mobile equipment refinishing operations with a heated paint booth.

II. Permit Application and Supplementary Forms:

The applicant must complete and submit an ATC application form along with a Coating and Painting Operations Supplemental Form.

III. Application Priority Processing:

The applications will be processed on an expedited basis if a complete application, including supplemental information, and correct filing fees for each permit unit are submitted. Final action on all projects will occur within thirty days after the submittal of the complete package.

In order to meet the expedited time frame, the engineer assigned for preliminary review will be automatically assigned the final review and may simultaneously submit the preliminary and final engineering evaluations for review to a lead engineer.

The lead engineer may review the evaluation and suggest corrections for the assigned engineer to address. Once corrections to the evaluation are complete, the lead engineer will sign and mail the final ATC and invoice.

The priority processing will be pre-empted if:

- The application is subject to any public noticing requirements, including school notice per CH&SC 42301.6 (within 1000 feet of any K-12 school), or
- The equipment fails to meet the current Best Available Control Technology (BACT), Toxics Best Available Control Technology (T-BACT), Health Risk Analysis (HRA), or Ambient Air Quality Analysis (AAQA), or
- The application is part of a stationary source project where issuance of the permit will affect the outcome of the stationary source project.

IV. Preliminary Review:

The preliminary review engineer will ensure that all the necessary information needed to deem the application complete has been submitted. To meet the expedited time frame, the engineer assigned for preliminary review will deem the project complete within fourteen days of the date the application was received. The project will then be automatically assigned for final review to the same engineer, who will prepare the application review and finalize the project within thirty days of the application being deemed complete. If the applicant submits a “complete” Authority to Construct application package, a Completeness Letter will not be sent unless requested by the applicant. The engineer shall provide the applicant with an estimate for the processing time and associated hourly fees. This estimate may be provided by email or telephone and shall be noted in the telephone record log for the project.

Upon completion of the application review, the engineer shall submit the application review and draft ATC permit to the lead engineer for review.

V. Application Review:

The use of this standard Application Review will ensure:

- A. That the proposed project complies with the District’s BACT requirements as specified in the District’s current BACT Clearinghouse.
- B. That the proposed project does not trigger offset requirements.
- C. That the permit has enforceable daily emission limitations (DELs)
- D. That the proposed project complies with all applicable prohibitory rules.

VI. Standard Evaluation Guidelines and Regulations:

A. *Standard Evaluation Guidelines*

The following outlines the standard review for motor vehicle coating operations. The preliminary review and HRA should be completed first so that the appropriate information for the project can then be used throughout the evaluation. The following guidelines should be considered when processing the GEAR.

1. Project location, SIC code and equipment description:

For new facilities, the reviewing engineer will verify that the applicant has provided billing information, billing address, site address and contact information and that this information has been correctly entered into PAS. The reviewing engineer will verify if SIC code 7532 for automotive paint shops is the appropriate SIC code for the proposed automotive refinishing operation and will update the facility's details window in PAS with the appropriate SIC code.

When creating a new ATC in PAS, the following standard equipment description will be used based on the applicant's proposed project.

Equipment Description:

The equipment description is dependent on the type of coating operation proposed by the applicant. Refer to the specific generic application reviews for the type of coating operation proposed.

{If the booth heater requires a permit:}

X-XXXX-XX-XX: MOTOR VEHICLE AND MOBILE EQUIPMENT COATING OPERATION WITH A PAINT SPRAY BOOTH WITH DRY EXHAUST FILTERS AND A X.X MMBTU/HR {NATURAL GAS-FIRED OR LPG-FIRED} BOOTH HEATER

{If the booth heater is permit exempt:}

X-XXXX-XX-XX: MOTOR VEHICLE AND MOBILE EQUIPMENT COATING OPERATION WITH A PAINT SPRAY BOOTH WITH DRY EXHAUST FILTERS AND A PERMIT EXEMPT {NATURAL GAS-FIRED OR LPG-FIRED} BOOTH HEATER (LESS THAN 20.0 MMBTU/DAY HEAT INPUT)

2. Emission Control Technology Evaluation:

Only PM₁₀ and VOC are emitted from the priming and top coating operation. PM₁₀ emissions from the priming operation will be controlled by the use of High Volume, Low Pressure (HVL) spray equipment. For the top coating operation, the applicant has proposed to use a paint spray booth with a dry exhaust filter system for PM₁₀ control, HVL spray equipment for PM₁₀ and VOC control. The paint spray booth with a dry exhaust filter system will control PM₁₀ emissions by filtering air from inside the paint booth before it is exhausted to the atmosphere. The HVL spray equipment will control PM₁₀ and VOC emissions by having more paint transferred to the desired surfaces than traditional painting equipment. The applicant will be required to use solvents that comply with the VOC content limits as specified in District Rule 4612 for the cleaning of the application equipment. The booth heater will be natural gas or LPG-fired.

3. Calculations:

a. Assumptions

Common assumptions and unit conversion factors used in emissions calculations must be listed under the calculations section of the review. The operating schedule is generally 24 hrs/day and 365 day/year.

b. Emission Factors

Coating Operation:

- PM₁₀ emission factor (EF) for color coating (worst case) is 5.5 lb/gal, assuming all particulate matter (PM) emissions are PM₁₀ (STAPPA/ALAPCO Vol. 2, pg. 14-4, 5/30/91).
- PM₁₀ EF for primer (worst case) is 3.0 lb/gal, assuming all PM emissions are PM₁₀ (STAPPA/ALAPCO Vol. 2, pg. 14-4, 5/30/91).
- Average primer VOC content is 2.1 lb/gal (District Rule 4612 limit).

Booth Heater:

Burner Emission Factors		
Operation	Emission Rate	Source
Natural gas combustion in the heater	0.10 lb-NO _x /MMBtu	AP-42, Table 1.4-1 & -2 (7/98)
	0.00285 lb-SO _x /MMBtu	APR-1720 (12/01)
	0.0076 lb-PM ₁₀ /MMBtu	AP-42, Table 1.4-1 & -2 (7/98)
	0.084 lb-CO/MMBtu	AP-42, Table 1.4-1 & -2 (7/98)
	0.0055 lb-VOC/MMBtu	AP-42, Table 1.4-1 & -2 (7/98)

Burner Emission Factors		
Operation	Emission Rate	Source
LPG combustion in the heater	0.15 lb-NO _x /MMBtu	AP-42, Table 1.5-1 (10/96)
	0.0164 lb-SO _x /MMBtu	AP-42, Table 1.5-1 (10/96), see calculation below
	0.0044 lb-PM ₁₀ /MMBtu	AP-42, Table 1.5-1 (10/96)
	0.021 lb-CO/MMBtu	AP-42, Table 1.5-1 (10/96)
	0.0055 lb-VOC/MMBtu	AP-42, Table 1.5-1 (10/96)

LPG Combustion SO_x Emission Factor Calculation:

Sulfur EF = 0.1 S lb/1,000 gal, with S in grain/100 scf (AP-42, Table 1.5-1, 10/96)
Sulfur EF = 0.1 x (15 grain/100 scf) = 1.5 lb/1,000 gal
Sulfur EF = 1.5 lb/1,000 gal ÷ 0.0915 MMBtu/gal
Sulfur EF = 0.0164 lb-SO_x/MMBtu

B. Motor Vehicle Coating Regulations

Rule 4612 - Motor Vehicle and Mobile Equipment Coating Operations

The purpose of this rule is to limit volatile organic compound (VOC) emissions from coatings associated with the coatings of motor vehicles, mobile equipment, and associated parts and components. It also limits the VOC emissions from the organic solvent cleaning, storage, and disposal associated with such operations.

Section 5.1 requires that no person shall apply to any motor vehicle, mobile equipment, or associated parts and components, any coating with a VOC regulatory content, as calculated pursuant to Section 3.45.1, in excess of the applicable limits in Table 1, except as provided in Section 5.3. These limits are presented in the following table:

Table 1 - Rule 4612 Coating VOC Limits	
Coating Category	VOC Regulatory Limit, as applied, in grams/liter (pounds per gallon)
	VOC Limits
Adhesion Promoter	540 (4.5)
Clear Coating	250 (2.1)
Color Coating	420 (3.5)
Multi-Color Coating	680 (5.7)
Pretreatment Coating	660 (5.5)
Primer	250 (2.1)
Primer Sealer	250 (2.1)
Single-Stage Coating	340 (2.8)
Temporary Protective Coating	60 (0.5)
Truck Bed Liner Coating	310 (2.6)
Underbody Coating	430 (3.6)
Uniform Finish Coating	540 (4.5)
Any other coating type	250 (2.1)

Section 5.7 requires that except for underbody coatings, graphic arts operations, truck bed liner coatings, or any coating use of less than one (1.0) fluid ounce (29.6 milliliters), no person shall apply any coating to any motor vehicle, mobile equipment, or associated parts and components unless one of the following application methods is used:

5.7.1 Brush, dip, or roller.

5.7.2 Electrostatic spray.

5.7.3 High-Volume Low-Pressure (HVLP) spray equipment:

5.7.3.1 HVLP spray equipment shall be operated in accordance with the manufacturer's recommendations.

5.7.3.2 A person shall not sell or offer for sale for use within the SJVAB any HVLP spray gun without a permanent marking denoting the maximum inlet air pressure in psig at which the gun will operate within the parameters specified in Section 3.0.

5.7.4 Use of a spray gun not permanently marked HVLP. If a spray gun is used, the operator must demonstrate that the gun meets the HVLP definition in Section 3.21 in design and use. A satisfactory demonstration must be based on the manufacturer's published technical material on the design of the gun and by a demonstration of the operation of the gun using an air pressure tip gauge designed specifically for the gun in use.

5.7.5 Any other coating application method that is capable of achieving at least 65 percent transfer efficiency, as determined per Section 6.8.8. Written approval from the APCO shall be obtained for each alternative method prior to use.

Section 5.8 organic solvent cleaning requirements are as follows:

5.8.1 For solvent cleaning operations other than for bug and tar removal, a person shall not use solvents that have VOC content greater than 25 grams VOC per liter of cleaning material, as calculated using the equation listed in Section 3.45.3.

5.8.2 For bug and tar removal, a person shall not use any material other than bug and tar remover regulated under the Consumer Products Regulation (California Code of Regulations Section 94507 et seq.).

5.8.3 In lieu of complying with Sections 5.8.1 and 5.8.2, a person may control VOC emissions from solvent cleaning with an APCO-approved VOC emission control system for the solvent cleaning operation that meets the requirements of Section 5.3.

Section 5.9 requires that a person shall store or dispose of fresh or spent solvents, waste solvent cleaning materials such as cloth, paper, etc., coatings, adhesives, catalysts, and thinners in closed, non-absorbent and non-leaking containers. The containers shall

remain closed at all times except when depositing or removing the contents of the containers or when the container is empty.

Section 6.0 administrative requirements are as follows:

6.1 Compliance Statement Requirement

6.1.1 For each individual automotive coating or automotive coating component, the manufacturer and repackager shall include the following information on product data sheets, or an equivalent medium:

6.1.1.1 The VOC Actual for Coatings and VOC Regulatory for Coatings, expressed in grams per liter, calculated pursuant to Section 3.45;

6.1.1.2 The weight percentage of volatiles, water, and exempt compounds;

6.1.1.3 The volume percentage of water and exempt compounds; and

6.1.1.4 The density of the material (in grams per liter).

6.1.2 For each individual ready to spray mixture (based on the manufacturer's and repackager's stated mix ratio), the manufacturer and repackager shall include the following information on product data sheets, or an equivalent medium:

6.1.2.1 The VOC Actual for Coatings and VOC Regulatory for Coatings, expressed in grams per liter, calculated pursuant to Section 3.45;

6.1.2.2 The weight percentage of volatiles, water, and exempt compounds;

6.1.2.3 The volume percentage of water and exempt compounds; and

6.1.2.4 The density of the material (in grams per liter).

Section 6.2 requires the manufacturer and repackager of automotive coatings or automotive coating components shall include on all containers the applicable use category(ies), and the VOC Actual for Coatings and VOC Regulatory for Coatings, as supplied, expressed in grams per liter.

Section 6.3 requires records required by this rule shall be retained on site for a period of five years, the records shall be made available on site to the APCO, ARB, or EPA, and the records shall be submitted to the APCO, ARB, or EPA upon request.

Section 6.4 states any person who uses coatings subject to this rule shall maintain records on a daily basis, and have available at all times, on site, the following:

- 6.4.1 A current list of all coatings used that are subject to this rule. This list shall include the following information for each coating:
 - 6.4.1.1 Material name and manufacturer;
 - 6.4.1.2 Application method;
 - 6.4.1.3 Coating type (as listed in Section 5.1) and mix ratio specific to the coating;
 - 6.4.1.4 VOC Actual for Coatings and VOC Regulatory for Coatings, as applied, calculated pursuant to Section 3.45; and
 - 6.4.1.5 Quantity of each type of coating used.
- 6.4.2 Current manufacturer specification sheets, material safety data sheets, technical data sheets, or air quality data sheets, which list the VOC Actual for Coatings and VOC Regulatory for Coatings of each ready-to-spray coating (based on the manufacturer's state mix ratio) and automotive coating components.
- 6.4.3 Purchase records identifying the coating type (as listed in Section 5.1), name, and volume of coatings.

Section 6.5 requires an operator using solvents for cleaning shall keep the following records:

- 6.5.1 Keep a copy of the manufacturer's product data sheet or material safety data sheet of the solvents used for organic solvent cleaning activities.
- 6.5.2 Maintain a current list of solvents that are being used for organic solvent cleaning activities. The list shall include the following information:
 - 6.5.2.1 The name of the solvent and its manufacturer's name.
 - 6.5.2.2 The VOC content of the solvent expressed in grams per liter or lb/gallon.
 - 6.5.2.3 When the solvent is a mixture of different materials that are blended by the person, the mix ratio of the batch shall be recorded and the VOC content of the batch shall be calculated and recorded in order to determine compliance with the specified limits of VOC content.
- 6.5.3 The quantity of solvent used for solvent cleaning activities.

40 CFR Part 63 Subpart HHHHHH

The requirements of 40 CFR Part 63, Subpart HHHHHH (National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources) are applicable to facilities that operate an area source of HAP as defined in paragraph (b) of this section, including sources that are part of a tribal, local, State, or Federal facility and you perform one or more of the activities in paragraphs (a)(1) through (3) of this section:

(a)

- (1) Perform paint stripping using MeCl for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates.
 - (2) Perform spray application of coatings, as defined in §63.11180, to motor vehicles and mobile equipment including operations that are located in stationary structures at fixed locations, and mobile repair and refinishing operations that travel to the customer's location, except spray coating applications that meet the definition of facility maintenance in §63.11180. However, if you are the owner or operator of a motor vehicle or mobile equipment surface coating operation, you may petition the Administrator for an exemption from this subpart if you can demonstrate, to the satisfaction of the Administrator, that you spray apply no coatings that contain the target HAP, as defined in §63.11180. Petitions must include a description of the coatings that you spray apply and your certification that you do not spray apply any coatings containing the target HAP. If circumstances change such that you intend to spray apply coatings containing the target HAP, you must submit the initial notification required by 63.11175 and comply with the requirements of this subpart.
 - (3) Perform spray application of coatings that contain the target HAP, as defined in §63.11180, to a plastic and/or metal substrate on a part or product, except spray coating applications that meet the definition of facility maintenance or space vehicle in §63.11180.
- (b) An area source of HAP is a source of HAP that is not a major source of HAP, is not located at a major source, and is not part of a major source of HAP emissions. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year, or emit any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year.

A *Target HAP per §63.11180* are compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd).

C. California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. Consistent with these requirements, the San Joaquin Valley Air Pollution Control District (District) has adopted procedures and guidelines for implementing CEQA. The District's Environmental Review Guidelines (ERG) establishes procedures for avoiding unnecessary delay during the District's permitting process while ensuring that significant environmental impacts are

thoroughly and consistently addressed. The ERG includes policies and procedures to be followed when processing permits for projects that are exempt under CEQA.

The State Legislature granted a number of exemptions from CEQA, including projects that require only ministerial approval. Based upon analysis of its own laws and consideration of CEQA provisions, the District has identified a limited number of District permitting activities considered to be ministerial approvals. As set forth in §4.2.1 of the ERG, projects permitted consistent with the District's Guidelines for Expedited Application Review (GEAR) are standard application reviews in which little or no discretion is used in issuing Authority to Construct (ATC) documents. Thus, issuance of such ATCs is ministerial and not subject to CEQA provisions.

D. Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit are based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

As described above, the project requires only ministerial approval, and is exempt from the provisions of CEQA. As such, an Indemnification Agreement or a Letter of Credit will not be required for this project in the absence of expressed public concern.

VII. Authority to Construct Conditions

To ensure uniformity, a standard set of conditions will be used as a base for all applications (see ATC Conditions at end of the attached application review). Additional conditions may be necessary on a site-specific basis due to New Source Review requirements or health risk assessment.

VIII. Updates

This GEAR will be updated as necessary to accommodate any changes in prohibitory rules, changes in the BACT Clearinghouse, or changes in cost information for the top-down BACT Analysis.

Attachment I
Application Review

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Motor Vehicle and Mobile Equipment Coating Operation **with a Heated Paint Booth**

Facility Name: _____ Date: _____
Mailing Address: _____ Engineer: _____
Lead Engineer: _____

Contact Person: _____
Telephone: _____
E-Mail: _____
Application #: X-XXXX-X-X
Project #: X-XXXXXXXX
Deemed Complete: _____

Note: This document only constitutes as a GEAR if used for motor vehicle coating operations with paint booth (with or without a booth heater) at non-major source facilities. The engineer will need to work with the applicant to ensure the proposed usage rates reflect not-to-exceed limits both inside and outside the booth.

I. Proposal

The primary business of this **existing / new** facility is the **repairing and painting of motor vehicles and mobile equipment**. The facility is applying for an Authority to Construct (ATC) for a motor vehicle and mobile equipment painting operation with a heated paint spray booth.

In order to allow priming outside of the paint booth, PM₁₀ emissions from priming outside the booth will be limited to 2.0 lb/day.

{If equipped with a booth heater that requires a permit:}

The paint booth is equipped with a **X.X** MMBtu/hr **{natural gas-fired or LPG-fired}** booth heater.

{If equipped with a booth heater that is permit exempt (please note the heater rating is not specified)}

The paint booth is equipped with a permit exempt **{natural gas-fired or LPG-fired}** booth heater. See discussion of permit exemption of heater in Section VII Rule 2020 compliance discussion.

II. Applicable Rules

{If booth heater is permit exempt, use the rules below. If no booth heater proposed, use the rules below and omit Rule 2020.}

Rule 2020 Exemptions (12/18/14)
Rule 2201 New and Modified Stationary Source Review Rule (4/20/23)
Rule 2410 Prevention of Significant Deterioration (6/16/11)
Rule 2520 Federally Mandated Operating Permits (8/15/19)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4612 Motor Vehicle and Mobile Equipment Coating Operations (10/21/10)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:
CEQA Guidelines

{If booth heater requires a permit, use the rules below.}

Rule 2201 New and Modified Stationary Source Review Rule (4/20/23)
Rule 2410 Prevention of Significant Deterioration (6/16/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4301 Fuel Burning Equipment (12/17/92)
Rule 4309 Dryers, Dehydrators, and Ovens (12/15/2005)
Rule 4612 Motor Vehicle and Mobile Equipment Coating Operations (10/21/10)
Rule 4801 Sulfur Compounds (12/17/1992)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:
CEQA Guidelines

III. Project Location

Indicate the actual location of this project including the street address. Verify whether or not the equipment is or will be located within 1,000 feet of the nearest outer boundary of a K-12 school. State this in the EE.

The facility is located at [1990 E Gettysburg in Fresno, CA](#). The equipment **is not** located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 **is not** applicable to this project.

IV. Process Description

This paint spray booth will be used solely for automotive body repair and refinishing. The paint spray operation occurs in two stages: automotive body preparation (including application of primer and sanding) and application of topcoat. At this facility, auto body prep work, including the application of primer (which includes primer pretreatment, surfacer, and sealer) may take place outside of the paint spray booth. The application of the topcoat will take place inside of the paint spray booth. The mobile equipment coating operation has a booth heater where the coated parts are dried by the {natural gas-fired or LPG-fired} booth heater.

The applicant has proposed the following maximum usage rates for coatings:

{Note: PLEASE communicate with applicant that proposed daily and annual usage is a not-to-exceed maximum, and confirm that the applicant understands this and what it means}

{ Add or remove rows as needed. }

Outside-Booth Coating Product Usage		
Coating Product	Usage (gal/day)	Usage (gal/year)
Primer	2.7	270

In-Booth Coating Product Usage		
Coating Product	Usage (gal/day)	Usage (gal/year)
Color	2	200
Clear	3	300
Multi-Color	0.5	50

V. Equipment Listing

One XX' L X XX' W X XX' H paint spray booth
 XX hp exhaust fan
 Dry/Water/Oil-wash filter system
 Approved HVLP spray gun(s) or electrostatic spray gun(s)
 ## hp electric air compressor

{If the booth heater requires a permit:}

X-XXXX-X-X: MOTOR VEHICLE AND MOBILE EQUIPMENT COATING OPERATION WITH A PAINT SPRAY BOOTH WITH DRY EXHAUST FILTERS AND A X.X MMBTU/HR {NATURAL GAS-FIRED OR LPG-FIRED} BOOTH HEATER

{If the booth heater is permit exempt:}

X-XXXX-X-X: MOTOR VEHICLE AND MOBILE EQUIPMENT COATING OPERATION WITH A PAINT SPRAY BOOTH WITH DRY EXHAUST FILTERS AND A PERMIT EXEMPT {NATURAL GAS-FIRED OR LPG-FIRED} BOOTH HEATER (LESS THAN 20.0 MMBTU/DAY HEAT INPUT)

{Note: If the booth is open-faced, specify "OPEN-FACED PAINT SPRAY BOOTH"}

VI. Emission Control Technology Evaluation

Only PM₁₀ and VOC are emitted from the coating operation. PM₁₀ and VOC emissions from the coating operation will be controlled by the use of High Volume, Low Pressure (HVLP) spray equipment and the applicant has proposed to use a paint spray booth with a dry exhaust filter system. The paint spray booth with a dry exhaust filter system will control PM₁₀ emissions by filtering air from inside the paint booth before it is exhausted to the atmosphere. The HVLP spray equipment will control PM₁₀ and VOC emissions by having more paint transferred to the desired surfaces than traditional painting equipment. The applicant will be required to use coatings that comply with the VOC content limits of District Rule 4612 and solvents that comply with the VOC content limits as specified in District Rule 4603 for the cleaning of the application equipment.

{If the booth is open-faced, include the flow verification discussion below. Otherwise, delete}

Design verification that the open-faced booth will perform as an enclosed booth is performed below.

- the exhaust airflow is X,XXX ft³/min (per applicant)
- surface area of apertures: = XX.X ft²

Air Velocity = X,XXX ft³/min ÷ XX.X ft² = XXX ft/min

With an air flow velocity across an open-faced spray booth is greater than 100 ft/min, it is expected that no particulate matter will escape through the apertures of the spray booth (ref. AP-40, p 863). Therefore, this open-faced spray booth is considered to be equivalent to a closed spray booth.

VII. General Calculations

Assumptions

- HVLP gun transfer efficiency (TE) is 75% (per STAPPA/ALAPCO Vol. 2, pg. 14-7, 5/30/91).
- Dry exhaust filter removal efficiency (RE) is 95% (March 26, 2006 Memorandum to EPA, 'Review of Spray Booth Filter Information for the Area Source Motor Vehicle and Mobile Equipment Refinishing National Emission Standards for Hazardous Air Pollutants (NESHAP)').
- Daily PM₁₀ emissions from priming outside of the paint booth will be limited to 2.0 lb/day (District Practice).

- To streamline emissions calculations, PM_{2.5} emissions are assumed to be equal to PM₁₀ emissions. Specific PM_{2.5} emissions calculations will only be performed if needed to determine if a project is a Federal Major Modification for PM_{2.5}.
- Other assumptions will be stated as they are made

Emission Factors

- VOC emissions factors will be calculated based on the VOC contents of coatings and solvents proposed by the applicant, or based on the limits of Rule 4612.
- PM₁₀ emission factor (EF) for coatings (worst case) is 5.5 lb/gal, assuming all particulate matter (PM) emissions are PM₁₀ (STAPPA/ALAPCO Vol. 2, pg. 14-4, 5/30/91).
- PM₁₀ EF for primer (worst case) is 3.0 lb/gal, assuming all PM emissions are PM₁₀ (STAPPA/ALAPCO Vol. 2, pg. 14-4, 5/30/91).
- Primer VOC content is 2.1 lb/gal (District Rule 4612 limit).

Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new unit at this facility, the daily and annual pre-project emissions are zero for all criteria pollutants.

PE1 = 0.0 lb/day = 0 lb/year

2. Post Project Potential to Emit (PE2)

*{If the booth heater requires a permit, include all calculations in **SECTION A** and delete **SECTION B**. If the booth heater is permit exempt (or not proposed), delete **SECTION A** and go to **SECTION B**.}*

{SECTION A: The booth heater requires a PERMIT}

a. Daily PE2 (lb/day)

Emissions from the X.X MMBtu/hr {natural gas-fired or LPG-fired} booth heater (PE2_{Booth Heater}):

Daily PE2 from the booth heater is calculated using the following equation and summarized in the table below.

PE2_{Booth Heater} (lb/day) = EF (lb/MMBtu) x Heater Rating (MMBtu/hr) x Operation (hr/day)

*{If the booth heater is fired on natural gas use the following table:
(After entering the data in columns highlight the last column and press F9.)}*

Daily PE2 Natural Gas-Fired Booth Heater				
Pollutant	EF (lb/MMBtu)	Heater Rating (MMBtu/hr)	Daily Operation (hr/day)	PE2 (lb/day)
NO _x	0.1	1.0	24	2.4
SO _x	0.00285	1.0	24	0.1
PM ₁₀	0.0076	1.0	24	0.2
CO	0.084	1.0	24	2.0
VOC	0.0055	1.0	24	0.1

*{If the booth heater is fired on LPG use the following table:
(After entering the data in columns highlight the last column and press F9.)}*

Daily PE2 LPG-Fired Booth Heater				
Pollutant	EF (lb/MMBtu)	Heater Rating (MMBtu/hr)	Daily Operation (hr/day)	PE2 (lb/day)
NO _x	0.15	1.0	24	3.6
SO _x	0.0164	1.0	24	0.4
PM ₁₀	0.0044	1.0	24	0.1
CO	0.021	1.0	24	0.5
VOC	0.0055	1.0	24	0.1

Emissions from the outside priming operation (PE2_{Priming}):

Emissions from coating operations occurring outside the booth are calculated by the equations below.

$$PE2_{\text{Coating VOC}} = \text{Coating Usage} \times \text{VOC content of Coating (lb-VOC/gal)}$$

$$PE2_{\text{Coating PM10}} = \text{Coating Usage} \\ \times \text{Solids Content (lb/gal)} \\ \times (1 - \text{HVL P Transfer Efficiency}) \\ = \text{Coating Usage} \times 3.0 \text{ lb/gal} \times (1 - 0.75)$$

These calculations are summarized in the table below.

{Note: Add or remove rows as needed.}

Daily PE2 Outside-Booth Coating				
Coating Product	VOC Content (lb/gal, as applied)	Usage (gal/day)	PE2 _{Coating} VOC (lb-VOC/day)	PE2 _{Coating} PM10 (lb-PM ₁₀ /day)
Primer	2.1	2.7	5.7	2.0

Emissions from the in-booth coating operation (PE2_{Coating}):

Emissions from coating operations occurring within the booth are calculated by the equations below.

$$PE2_{Coating\ VOC} = \text{Coating Usage} \times \text{VOC content of Coating (lb-VOC/gal)}$$

$$\begin{aligned}
 PE2_{Coating\ PM10} &= \text{Coating Usage} \\
 &\quad \times \text{Solids Content (lb/gal)} \\
 &\quad \times (1 - \text{HVLP Transfer Efficiency}) \\
 &\quad \times (1 - \text{Dry Filter Control Efficiency}) \\
 &= \text{Coating Usage} \times 5.5 \text{ lb/gal} \times (1 - 0.75) \times (1 - 0.95)
 \end{aligned}$$

These calculations are summarized in the table below.

{Note: Add or remove rows as needed.}

Daily PE2 In-Booth Coating				
Coating Product	VOC Content (lb/gal, as applied)	Usage (gal/day)	PE2 _{Coating} VOC (lb-VOC/day)	PE2 _{Coating} PM10 (lb-PM ₁₀ /day)
Color	3.5	2	7.0	0.1
Clear	2.1	3	6.3	0.5
Multi-Color	5.7	0.5	2.9	0.0
Total			16.2	0.6

Project Summary:

Daily PE2 for the coating operation is summarized in the table below.

Daily PE2				
Pollutant	PE2 _{Booth Heater} (lb/day)	PE2 _{Priming} (lb/day)	PE2 _{Coating} (lb/day)	PE2 _{Total} (lb/day)
NO _x	XXX	0	0	0.0
SO _x	XXX	0	0	0.0
PM ₁₀	XXX	2.0	0.6	2.6
CO	XXX	0	0	0.0
VOC	XXX	5.7	16.2	21.9

b. Annual PE2 (lb/year)

Emissions from the X.X MMBtu/hr {natural gas-fired or LPG-fired} booth heater (PE2_{Booth Heater}):

The annual post project Potential to Emit (PE2) is determined by using the daily PE2 calculated previously in Section VII.C.2.a and operation of 365 day/year. Annual emissions are summarized in the table below.

$$PE2_{\text{Annual}} \text{ (lb/year)} = (PE2_{\text{Booth Heater}} \text{ (lb/day)} \times 365 \text{ day/year})$$

Emissions from the outside priming operation (PE2_{Priming}):

Emissions from coating operations occurring outside the booth are calculated by the equations below.

$$PE2_{\text{Coating VOC}} = \text{Coating Usage} \times \text{VOC content of Coating (lb-VOC/gal)}$$

$$PE2_{\text{Coating PM10}} = \text{Coating Usage} \times \text{Solids Content (lb/gal)} \times (1 - \text{HVL P Transfer Efficiency}) \\ = \text{Coating Usage} \times 3.0 \text{ lb/gal} \times (1-0.75)$$

These calculations are summarized in the table below.

{Note: Add or remove rows as needed.}

Annual PE2 Outside-Booth Coating				
Coating Product	VOC Content (lb/gal, as applied)	Usage (gal/year)	PE2 _{Coating} VOC (lb-VOC/year)	PE2 _{Coating} PM10 (lb-PM ₁₀ /year)
Primer	2.1	200	420	150

Emissions from the in-booth coating operation (PE2_{Coating}):

Emissions from coating operations occurring within the booth are calculated by the equations below.

$$\text{PE2}_{\text{Coating VOC}} = \text{Coating Usage} \times \text{VOC content of Coating (lb-VOC/gal)}$$

$$\begin{aligned} \text{PE2}_{\text{Coating PM10}} &= \text{Coating Usage} \\ &\quad \times \text{Solids Content (lb/gal)} \\ &\quad \times (1 - \text{HVLP Transfer Efficiency}) \\ &\quad \times (1 - \text{Dry Filter Control Efficiency}) \\ &= \text{Coating Usage} \times 5.5 \text{ lb/gal} \times (1 - 0.75) \times (1 - 0.95) \end{aligned}$$

These calculations are summarized in the table below.

{Note: Add or remove rows as needed.}

Annual PE2 In-Booth Coating				
Coating Product	VOC Content (lb/gal, as applied)	Usage (gal/year)	PE2 _{Coating} VOC (lb-VOC/year)	PE2 _{Coating} PM10 (lb-PM ₁₀ /year)
Color	3.5	200	700	14
Clear	2.1	300	630	48
Multi-Color	5.7	50	285	1
Total			1,615	63

Project Summary:

{Note: After entering the data in columns highlight the last column and press F9.}

Annual PE2				
Pollutant	PE2 _{Booth Heater} (lb/year)	PE2 _{Priming} (lb/year)	PE2 _{Coating} (lb/year)	PE2 _{Total} (lb/year)
NO _x	XXX	0	0	0
SO _x	XXX	0	0	0
PM ₁₀	XXX	420	63	483
CO	XXX	0	0	0
VOC	XXX	150	1,615	1,765

{SECTION B: The booth heater is permit EXEMPT (or not proposed)}

Emissions from the outside priming operation (PE2_{Priming}):

Emissions from coating operations occurring outside the booth are calculated by the equations below.

$$PE2_{Coating\ VOC} = \text{Coating Usage} \times \text{VOC content of Coating (lb-VOC/gal)}$$

$$PE2_{Coating\ PM10} = \text{Coating Usage} \times \text{Solids Content (lb/gal)} \times (1 - \text{HVLP Transfer Efficiency})$$

$$= \text{Coating Usage} \times 3.0 \text{ lb/gal} \times (1 - 0.75)$$

These calculations are summarized in the table below.

{Note: Add or remove rows as needed.}

Daily PE2 Outside-Booth Coating				
Coating Product	VOC Content (lb/gal, as applied)	Usage (gal/day)	PE2 _{Coating VOC} (lb-VOC/day)	PE2 _{Coating PM10} (lb-PM ₁₀ /day)
Primer	2.1	2.7	5.7	2.0

Emissions from the in-booth coating operation (PE2_{Coating}):

Emissions from coating operations occurring within the booth are calculated by the equations below.

$$PE2_{Coating\ VOC} = \text{Coating Usage} \times \text{VOC content of Coating (lb-VOC/gal)}$$

$$\begin{aligned}
 PE2_{\text{Coating PM10}} &= \text{Coating Usage} \\
 &\quad \times \text{Solids Content (lb/gal)} \\
 &\quad \times (1 - \text{HVLP Transfer Efficiency}) \\
 &\quad \times (1 - \text{Dry Filter Control Efficiency}) \\
 &= \text{Coating Usage} \times 5.5 \text{ lb/gal} \times (1 - 0.75) \times (1 - 0.95)
 \end{aligned}$$

These calculations are summarized in the table below.

{Note: Add or remove rows as needed.}

Daily PE2 In-Booth Coating				
Coating Product	VOC Content (lb/gal, as applied)	Usage (gal/day)	PE2 _{Coating VOC} (lb-VOC/day)	PE2 _{Coating PM10} (lb-PM ₁₀ /day)
Color	3.5	2	7.0	0.1
Clear	2.1	3	6.3	0.5
Multi-Color	5.7	0.5	2.9	0.0
Total			16.2	0.6

Project Summary:

Daily PE2 for the coating operation is summarized in the table below.

Daily PE2			
Pollutant	PE2 _{Priming} (lb/day)	PE2 _{Coating} (lb/day)	PE2 _{Total} (lb/day)
PM ₁₀	2.0	0.6	!B5 Is Not In Table
VOC	5.7	16.2	!B7 Is Not In Table

{Note: After entering the data in columns highlight the last column and press F9.}

b. Annual PE2 (lb/year)

Emissions from the outside priming operation (PE2_{Priming}):

Emissions from coating operations occurring outside the booth are calculated by the equations below.

$$PE2_{\text{Coating VOC}} = \text{Coating Usage} \times \text{VOC content of Coating (lb-VOC/gal)}$$

$$\begin{aligned}
 PE2_{\text{Coating PM10}} &= \text{Coating Usage} \\
 &\quad \times \text{Solids Content (lb/gal)} \\
 &\quad \times (1 - \text{HVLP Transfer Efficiency}) \\
 &= \text{Coating Usage} \times 3.0 \text{ lb/gal} \times (1-0.75)
 \end{aligned}$$

These calculations are summarized in the table below.

{Note: Add or remove rows as needed.}

Annual PE2 Outside-Booth Coating				
Coating Product	VOC Content (lb/gal, as applied)	Usage (gal/year)	PE2 _{Coating} VOC (lb-VOC/year)	PE2 _{Coating} PM10 (lb-PM ₁₀ /year)
Primer	2.1	200	420	150

Emissions from the in-booth coating operation (PE2_{Coating}):

Emissions from coating operations occurring within the booth are calculated by the equations below.

$$PE2_{Coating\ VOC} = Coating\ Usage \times VOC\ content\ of\ Coating\ (lb-VOC/gal)$$

$$PE2_{Coating\ PM10} = Coating\ Usage \times Solids\ Content\ (lb/gal) \times (1 - HVLP\ Transfer\ Efficiency) \times (1 - Dry\ Filter\ Control\ Efficiency)$$

$$= Coating\ Usage \times 5.5\ lb/gal \times (1 - 0.75) \times (1 - 0.95)$$

These calculations are summarized in the table below.

{Note: Add or remove rows as needed.}

Annual PE2 In-Booth Coating				
Coating Product	VOC Content (lb/gal, as applied)	Usage (gal/year)	PE2 _{Coating} VOC (lb-VOC/year)	PE2 _{Coating} PM10 (lb-PM ₁₀ /year)
Color	3.5	200	700	14
Clear	2.1	300	630	48
Multi-Color	5.7	50	285	1
Total			1,615	63

Project Summary:

{Note: After entering the data in columns highlight the last column and press F9.}

Annual PE2			
Pollutant	PE2 _{Priming} (lb/year)	PE2 _{Coating} (lb/year)	PE2 _{Total} (lb/year)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	420	63	483
CO	0	0	0
VOC	150	1,615	1,765

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

*{Note: For **NEW** facility please use the following otherwise delete}*

Since this is a new facility, there are no valid ATCs, PTOs, or ERCs at the Stationary Source; therefore, the SSPE1 is equal to zero.

*{Note: In case this is an **EXISTING** facility please use the following, otherwise delete }*

SSPE1 (lb/year)					
Permit Unit	NOx	SOx	PM10	CO	VOC
C-XXXX-1-0	3,540	200	360	2,210	900
C-XXXX-2-0	0	0	4,000	0	0
SSPE1	3,540	200	4,360	2,210	900

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AERs that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
C-XXXX-1-0	3,540	200	360	2,210	900
C-XXXX-2-0	0	0	4,000	0	0
X-XXXX-X-X (new)	XXX	XXX	483	XXX	1,765
SSPE2	3,540	200	4,843	2,210	2,665

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- Any ERCs associated with the stationary source,
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months),
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165.

{Select all and press F9 to update with SSPE1 and SSPE2 values from Sections VII.C.3 and VII.C.4}

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	3,540	200	4,360	4,360	2,210	900
SSPE2	3,540	200	4,843	4,843	2,210	2,665
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM_{2.5} assumed to be equal to PM₁₀

As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination:

The facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility. Therefore the facility is not an existing major source for PSD.

6. Baseline Emissions (BE)

BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

Since this is a new emissions unit, BE = PE1 = 0 for all criteria pollutants.

7. SB 288 Major Modification

An SB 288 Major Modification is a federal major modification under 40 CFR 51.165 as it existed on December 19, 2002. 40 CFR Part 51.165 (12/19/02) defines a Major Modification as any physical change in or change in the method of operation of *an existing major stationary source* that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.

Per section VII.C.5 above, this facility is not a Major Source for any of the pollutants addressed in this project. Thus, this project does not constitute an SB 288 major modification and no further discussion is required.

8. Federal Major Modification / New Major Source

Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

Per section VII.C.5 above, this facility is not a Major Source for any pollutants addressed in this project. Thus, this project does not constitute a Federal Major Modification and no further discussion is required.

New Major Source

Per section VII.C.5 above, this facility is not becoming a Major Source as a result of this project, therefore, this facility is not a New Major Source pursuant to Section 3.30 of District Rule 2201.

9. Rule 2410 - Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- PM
- PM10

Project Emissions Increase - New Major Source Determination

The post project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

Since this facility is not a major source for any pollutant after this modification it is not a PSD major source and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix B.

11. PM2.5 Federal Offset Sanctions

As of June 27, 2023, the District is in nonattainment new source review (NNSR) offset sanctions pursuant to CAA 179(a) for PM2.5. Therefore, any New Major Source or Federal Major Modification for PM2.5 (including increases of its precursors NOx, VOC, and SOx), must supply any required federal offsets at a 2:1 ratio.

For the purposes of determining major source status the following shall not be included:

- Any ERCs associated with the stationary source

- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

{Select all and press F9 to update with SSPE1 and SSPE2 values from Sections VII.C.3 and VII.C.4}

PM2.5 Federal Major Source Determination (lb/year)				
	NO _x *	SO _x *	PM _{2.5}	VOC*
SSPE1	3,540	200	4,360	900
SSPE2	3,540	200	4,843	2,665
PM2.5 Federal Major Source Threshold**	140,000	140,000	140,000	140,000
Pre or Post-Project PM2.5 Federal Major Source?	No	No	No	No

* PM2.5 Precursors

** Pursuant to 40 CFR 51.165(a)(1)(iv)(A)

As shown in the table above, this facility is not an existing or becoming a Major Source for PM2.5, NO_x, SO_x, or VOC, as a result of this project; therefore, the 2:1 federal offset sanctions are not applicable.

VIII. Compliance

{Note: The Compliance Section shall document compliance with District Rules. List and discuss every relevant applicable rule. Discuss the basis for every condition that will be added to the ATC.}

{If booth heater is permit exempt, include the following Rule 2020 compliance section; otherwise delete.}

Rule 2020 Exemptions

Pursuant to Section 6.19 of this Rule, a permit is not required for a low emitting unit. Section 3.10 of this Rule defines a low emitting unit as an emissions unit with an uncontrolled emissions rate of each air contaminant less than or equal to two pounds per day, or, if greater than two pounds per day, less than or equal to 75 pounds per year. The PE for the booth heater is calculated below:

{If booth heater is fired on natural gas, include the following Rule 2020 compliance section; otherwise delete.}

Emission Factors:

Burner Emission Factors		
Operation	Emission Rate	Source
Natural gas combustion in the heater	0.10 lb-NO _x /MMBtu	AP-42, Table 1.4-1 & -2 (7/98)
	0.00285 lb-SO _x /MMBtu	APR-1720 (12/01)
	0.0076 lb-PM ₁₀ /MMBtu	AP-42, Table 1.4-1 & -2 (7/98)
	0.084 lb-CO/MMBtu	AP-42, Table 1.4-1 & -2 (7/98)
	0.0055 lb-VOC/MMBtu	AP-42, Table 1.4-1 & -2 (7/98)

Potential to Emit:

Daily PE2 from the booth heater is calculated using the following equation and summarized in the table below.

$$PE2_{\text{Booth Heater}} (\text{lb/day}) = EF (\text{lb/MMBtu}) \times \text{Heater Rating} (\text{MMBtu/hr}) \times \text{Operation} (\text{hr/day})$$

Daily PE2 Natural Gas-Fired Booth Heater				
Pollutant	EF (lb/MMBtu)	Heater Rating (MMBtu/hr)	Daily Operation (hr/day)	PE2 (lb/day)
NO _x	0.1	0.50	24	1.2
SO _x	0.00285	0.50	24	0.0
PM ₁₀	0.0076	0.50	24	0.1
CO	0.084	0.50	24	1.0
VOC	0.0055	0.50	24	0.1

As shown above, emissions from the booth heater in the motor vehicle coating operation does not exceed two pounds per day for any air contaminant. Therefore, the booth heater is exempt from permitting and NSR requirements.

{If booth heater is fired on LPG, include the following Rule 2020 compliance section; otherwise delete.}

Emission Factors:

Burner Emission Factors		
Operation	Emission Rate	Source
LPG combustion in the heater	0.15 lb-NO _x /MMBtu	AP-42, Table 1.5-1 (10/96)
	0.0164 lb-SO _x /MMBtu	AP-42, Table 1.5-1 (10/96), see calculation below
	0.0044 lb-PM ₁₀ /MMBtu	AP-42, Table 1.5-1 (10/96)
	0.021 lb-CO/MMBtu	AP-42, Table 1.5-1 (10/96)
	0.0055 lb-VOC/MMBtu	AP-42, Table 1.5-1 (10/96)

Potential to Emit:

Daily PE2 from the booth heater is calculated using the following equation and summarized in the table below.

$$PE2_{\text{Booth Heater}} (\text{lb/day}) = EF (\text{lb/MMBtu}) \times \text{Heater Rating} (\text{MMBtu/hr}) \times \text{Operation} (\text{hr/day})$$

Daily PE2 LPG-Fired Booth Heater				
Pollutant	EF (lb/MMBtu)	Heater Rating (MMBtu/hr)	Daily Operation (hr/day)	PE2 (lb/day)
NO _x	0.1	0.50	24	1.2
SO _x	0.00164	0.50	24	0.0
PM ₁₀	0.0044	0.50	24	0.1
CO	0.021	0.50	24	0.3
VOC	0.0055	0.50	24	0.1

As shown above, emissions from the booth heater in the motor vehicle coating operation does not exceed two pounds per day for any air contaminant. Therefore, the booth heater is exempt from permitting and NSR requirements.

(If the hours are limited to maintain the exemption the "Burner Permit Exemption Letter" posted on the AIRnet must be sent to the applicant.)

Rule 2201 New and Modified Stationary Source Review Rule**A. Best Available Control Technology (BACT)****1. BACT Applicability**

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- a. Any new emissions unit with a potential to emit exceeding 2.0 pounds per day, or the relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding 2.0 pounds per day,
- b. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding 2.0 pounds per day, and/or
- c. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New or relocated emissions units – PE > 2 lb/day

{If booth heater requires a permit use the following discussion and table, otherwise delete.}

As shown in the table below the new coating operation has three emissions units: the priming operation done outside the booth, the coating operation conducted in the booth and the booth heater. BACT is triggered for VOC and NO_x since the PE is greater than 2 lb/day.

Daily PE2			
Pollutant	PE2_{Booth Heater} (lb/day)	PE2_{Priming} (lb/day)	PE2_{Coating} (lb/day)
NO _x	xx	0	0
SO _x	xx	0	0
PM ₁₀	xx	2.0	xx
CO	xx	0	0
VOC	xx	5.7	xx

{If booth heater is permit exempt use the following discussion and table,

otherwise delete.}

As shown in the table below the new coating operation has two emissions units: the priming operation done outside the booth and the coating operation conducted in the booth. BACT is triggered for VOC only since the PE is greater than 2 lb/day.

Daily PE2		
Pollutant	PE2 _{Priming} (lb/day)	PE2 _{Coating} (lb/day)
PM ₁₀	2.0	1.6
VOC	5.7	49.0

b. Modification of emissions units – AIPE > 2 lb/day

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore, BACT for modification of emissions units purposes is not triggered.

c. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for any emissions. Therefore, BACT for SB 288/Federal Major Modification purposes is not triggered.

2. BACT Guideline

BACT Guideline 4.2.1, applies to the automotive spray painting operation in this project. [Automotive Spray Painting Operations, < 5.0 MMBtu/hr] (See Appendix C)

3. Top Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis, which appears in Appendix D of this report, BACT is satisfied with:

{Only include BACT requirements for pollutants which triggered BACT in this project}

VOC: HVLP spray guns and VOC coatings and solvents in compliance with District Rule 4612

NOx: Natural gas or LPG-fired burner

PM10: The use of a spray booth with exhaust filters with a 95% control efficiency

The applicant has proposed to the use of HVLP spray guns, VOC coatings and solvents in compliance with District Rule 4612, a {natural gas or LPG-fired burner}, and a spray booth with a 95% control efficiency. Therefore, all BACT requirements are satisfied.

B. Offsets

1. District Emission Offset Requirements

a. District Offset Applicability

Pursuant to District Rule 2201, Section 4.5, District offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of District Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

{Select all and press F9 to update with SSPE2 values from Section VII.C.4}

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	3,540	200	4,843	2,210	2,665
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	No

b. District Offset Quantity (DOQ) Required

As shown above, the SSPE2 is not greater than the offset thresholds for all pollutants, therefore District offsets are not triggered. In conclusion, offsets will not be required for this project and no further discussion is required.

2. Federal Emission Offset Requirements

a. Federal Offset Applicability

Pursuant to District Rule 2201, Section 4.8, federal offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the project is a New Major Source or a Federal Major Modification.

As demonstrated in section VII.C.8 above, this project is not a New Major Source or a Federal Major Modification for any pollutant addressed in this project. Thus, federal offsets are not triggered for this project.

b. Federal Offset Quantity (FOQ) Required

As discussed above, this project does not trigger Federal Major Modification or New Major Source requirements; therefore, in conclusion, federal offsets will not be required for this project and no further discussion is required.

3. Federal Offset Equivalency Demonstration

Section 7.0 of District Rule 2201 provides the requirements for the District to demonstrate on an individual ATC issuance basis that the number of creditable emission reductions collected by the District equals or exceeds the amount of creditable emission reductions that would otherwise be required as offsets under a federal non-attainment NSR program meeting the applicable requirements of 40 CFR 51.165 and the CAA. As demonstrated above, this project does not require federal offsets; therefore, a federal offset equivalency demonstration is not required for this project and no further discussion is required.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed,
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant,
- e. Any project at a minor source which results in an SSPE exceeding 80% of the major source threshold for any pollutant, and/or
- f. Any project which results in a Title V significant permit modification.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

Example (a): Existing minor source facility NOT becoming a Major Source

As shown in Section VII.C.5 above, this existing minor source facility is not becoming a Major Source as a result of this project. Therefore, this facility is not a New Major Source and this project does not constitute an SB 288 or a Federal Major Modification. Consequently, public noticing for this project for New Major Source, Federal Major Modification, or SB 288 Major Modification purposes is not required.

Example (b): New facility NOT becoming New Major Source

As shown in Section VII.C.5 above, the SSPE2 of this new facility is not greater than the Major Source threshold for any pollutant. Therefore, this new facility is not a New Major Source and public noticing for this project for New Major

Source, Federal Major Modification, or SB 288 Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant; therefore, public noticing for PE > 100 lb/day purposes is not required.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

{Select all and press F9 to update with SSPE1 and SSPE2 values from Sections VII.C.3 and VII.C.4}

Offset Thresholds (lb/year)				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	3,540	3,540	20,000 lb/year	No
SO _x	200	200	54,750 lb/year	No
PM ₁₀	4,360	4,843	29,200 lb/year	No
CO	2,210	2,210	200,000 lb/year	No
VOC	900	2,665	20,000 lb/year	No

As detailed above, there are no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

{Select all and press F9 to update with SSPE1 and SSPE2 values from Sections VII.C.3 and VII.C.4}

SSIPE Public Notice Thresholds (lb/year)					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	3,540	3,540	0	20,000 lb/year	No
SO _x	200	200	0	20,000 lb/year	No
PM ₁₀	4,843	4,360	483	20,000 lb/year	No
CO	2,210	2,210	0	20,000 lb/year	No
VOC	2,665	900	1,765	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants are less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

e. Minor Sources with SSPE Exceeding 80% of Major Source Threshold

Public notification is required for any project for new and/or modified stationary sources at minor source facilities that results in a SSPE exceeding 80% of the major source threshold.

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant. The following table compares the SSPE1 with the SSPE2 in order to determine if 80% of any major source thresholds have been surpassed with this project.

{Select all and press F9 to update with SSPE1 and SSPE2 values from Sections VII.C.3 and VII.C.4}

80% of Major Source Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	80% of Major Source Threshold	Public Notice Required?
NO _x	3,540	3,540	16,000 lb/year	No
SO _x	200	200	112,000 lb/year	No
PM ₁₀	4,360	4,843	112,000 lb/year	No
CO	2,210	2,210	160,000 lb/year	No
VOC	900	2,665	16,000 lb/year	No

Example (a): (For a project where the SSPE2 does not exceed 80% of Major Source thresholds)

As demonstrated above, the SSPE2 did not surpass 80% of the major source threshold for any pollutant; therefore, public noticing for this purpose is not required.

{If the SSPE exceeds a threshold indicated above, see APR-1010}

f. Title V Significant Permit Modification

Since this facility does not have a Title V operating permit, this change is not a Title V significant modification, and therefore public noticing is not required.

2. Public Notice Action

As discussed above, this project will not result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

{If public notice is triggered see APR1010 for Section VIII.Rule 2201.F for AAQA discussion}

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The following conditions will be imposed to establish DEL:

- Particulate matter (PM10) emission rate (including painting and priming) shall not exceed either of the following limits: XX.X lb/day; XXX lb/year. [District Rule 2201]
- Volatile organic compound (VOC) emission rate (including painting and priming) shall not exceed either of the following limits: XX.X lb/day; X,XXX lb/year. [District Rule 2201]
- PM10 emissions from the use of the primer outside of the booth - including pretreatment, surfacer, and sealer - shall not exceed 2.0 pounds per day. Daily PM10 emissions from the use of primer outside the booth shall be calculated as follows: Solids content (lb/gallon) x usage (gallon/day) x (1 - 0.75). [District Rule 2201]
- PM10 emissions from the use of the primer inside of the booth shall not exceed XX.X pounds per day. Daily PM10 emissions from the use of primer outside the booth shall be calculated as follows: Solids content (lb/gallon) x usage (gallon/day) x (1 - 0.75) x (1 - 0.95). [District Rule 2201]
- {4926} Daily VOC emissions of each coating and/or solvent shall be calculated as follows: daily VOC emissions = VOC content (lb/gallon) as applied x usage

(gallon/day). Total daily VOC emissions is the sum of VOC emissions from all coatings and/or solvents used. [District Rule 2201]

- {1535} All coating, except application of primer, shall be conducted in booth with filters in place, fan(s) operating, and doors closed. [District Rule 2201]

{If booth heater is NOT permit exempt, include one of the following sets of conditions; otherwise delete both sets of conditions.}

{For booth heaters with natural gas-fired burners, otherwise delete}

- {2905} Emissions from the burner shall not exceed any of the following limits: 0.10 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201]
- {4930} The booth heater shall only be fired on PUC quality natural gas. [District Rule 2201]

{For booth heaters with LPG-fired burners, otherwise delete}

- {4931} Emissions from the burner shall not exceed any of the following limits: 0.15 lb-NOx/MMBtu, 0.0164 lb-SOx/MMBtu, 0.0044 lb-PM10/MMBtu, 0.021 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201]
- {4932} The booth heater shall only be fired on LPG gas. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions will be included on the ATC:

- {4443} Permittee shall maintain daily records of quantity (gallons) and solids content of primer applied outside the booth. Permittee shall also maintain daily records of VOC content as applied (lb/gal) of each coating used, quantity (gallons) of each coating used, and calculated daily VOC emissions. [District Rule 1070]

- {4896} The permittee shall maintain records on a daily basis and have available at all times the following: a current list of all coatings used that includes the material name and manufacturer, application method, coating type and mix ratio specific to the coating, the VOC Actual for Coatings and VOC Regulatory for Coatings as applied, and the quantity of each type of coating used; current manufacturer specification sheets, material safety data sheets (MSDS), technical data sheets, or air quality data sheets, which list the VOC Actual for Coatings and VOC Regulatory for Coatings of each ready-to-spray coating and automotive coating components; and purchase records identifying the coating type, name, and volume of coatings bought. [District Rules 2201 and 4612]
- {4243} The permittee shall keep the following records for each solvent used for cleaning activities: the quantity of solvent used; a copy of the manufacturer's product data or material safety data sheet (MSDS); the solvent's name and manufacturer, the VOC content of the solvent in grams/liter or pounds/gallon, and the mix ratio and VOC content of the batch when the solvent is a mixture of different materials blended by the permittee. [District Rules 2201 and 4612]
- {4927} On a monthly basis, the permittee shall calculate and record the VOC emissions in pounds from this unit for the prior calendar month. [District Rule 2201]
- {4928} On a monthly basis, the permittee shall calculate and record the facility-wide VOC emissions in pounds for the prior 12 calendar month period. The facility-wide VOC emissions shall be calculated by summing the VOC emissions from the previous 12 calendar months from every permitted unit at this facility. [District Rule 2201]
- {4244} Records shall be retained on-site for a minimum of five years and made available for District inspection upon request. [District Rules 2201 and 4612]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

Rule 4001 New Source Performance Standards

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. However, no subparts of 40 CFR Part 60 apply to motor vehicle coating operations.

Rule 4002 National Emissions Standards for Hazardous Air

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

The requirements of 40 CFR Part 63, Subpart HHHHHH (National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources) are applicable to facilities the operate an area source of HAP as defined in paragraph (b) of this section, including sources that are part of a tribal, local, State, or Federal facility and you perform one or more of the activities in paragraphs (a)(1) through (3) of this section:

(a)

- (1) Perform paint stripping using MeCl for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates.
- (2) Perform spray application of coatings, as defined in §63.11180, to motor vehicles and mobile equipment including operations that are located in stationary structures at fixed locations, and mobile repair and refinishing operations that travel to the customer's location, except spray coating applications that meet the definition of facility maintenance in §63.11180. However, if you are the owner or operator of a motor vehicle or mobile equipment surface coating operation, you may petition the Administrator for an exemption from this subpart if you can demonstrate, to the satisfaction of the Administrator, that you spray apply no coatings that contain the target HAP, as defined in §63.11180. Petitions must include a description of the coatings that you spray apply and your certification that you do not spray apply any coatings containing the target HAP. If circumstances change such that you intend to spray apply coatings containing the target HAP, you must submit the initial notification required by 63.11175 and comply with the requirements of this subpart.
- (3) Perform spray application of coatings that contain the target HAP, as defined in §63.11180, to a plastic and/or metal substrate on a part or product, except spray coating applications that meet the definition of facility maintenance or space vehicle in §63.11180.

(b) An area source of HAP is a source of HAP that is not a major source of HAP, is not located at a major source, and is not part of a major source of HAP emissions. A

major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year, or emit any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year.

A *Target HAP per §63.11180* are compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd).

The facility will not use coatings containing a target HAP and is therefore exempt from the provisions of the NESHAP. The following condition will be included on the ATC to ensure compliance:

- {4929} No coatings, solvents, or additives containing any of the following compounds shall be used: lead compounds, hexavalent chromium, cadmium, and/or nickel compounds. [District Rule 4102]

Rule 4101 Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. As long as the equipment is properly maintained and operated, compliance with the visible emissions limit is expected. The following condition will be included on the ATC:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of this operation, provided the equipment is well maintained. Therefore, compliance with this rule is expected. The following condition will be included on the ATC:

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification of an existing source shall not result in an increase in cancer risk greater than the District's significance level (20 in a million) and shall not result in acute and/or chronic risk indices greater than 1.

Example (a): *(For a project with a Prioritization score ≤ 1 .)*

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project ([Appendix E](#)), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

Example (b): *(For a project with a Prioritization score > 1 .)*

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project ([Appendix E](#)), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
X-XXXX-X-X	XX per million	Yes/No

Discussion of T-BACT

{Note: Discuss whether a T-BACT is or is not triggered and the requirements which satisfy T-BACT (if any).}

Example (a): *(For a project where T-BACT not triggered.)*

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

Example (b): *(For a project where T-BACT is triggered [for PM₁₀ and VOC] – Motor vehicle coating operation.)*

{Note: BACT is not addressed for PM₁₀ emission in DR 2201 Section above, so if T-BACT is triggered than it will need to be addressed above.}

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is required for this project

because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements.

For this project T-BACT is triggered for **PM₁₀** and **VOC**. T-BACT is satisfied with BACT for **PM₁₀** and **VOC** (see [Appendix E](#)), which is the use of **HVLP spray guns, coatings compliant with District Rules, enclosed paint gun cleaners, and a spray booth with exhaust filters**; therefore, compliance with the District's Risk Management Policy is expected.

{Note: Also discuss whether the project has acute or chronic indices, or a cancer risk greater than the District's significance levels.}

For example: (For most projects.)

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 20 in a million). As outlined by the HRA Summary in [Appendix E](#) of this report, the emissions increases for this project was determined to be less than significant.

{Note: List all conditions necessary to ensure that the equipment is operated in the manner assumed when the RMR was performed.}

- *{4929} No coatings, solvents, or additives containing any of the following compounds shall be used: lead compounds, hexavalent chromium, cadmium, and/or nickel compounds. [District Rule 4102]*

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

$$\text{PM Conc. (gr/scf)} = \frac{(\text{PM emission rate}) \times (7,000 \text{ gr/lb})}{(\text{Air flow rate}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})}$$

PM₁₀ emission rate = 3.6 lb/day. Assuming 100% of PM is PM₁₀
Exhaust Gas Flow = XXXX scfm

$$\begin{aligned} \text{PM Conc (gr/scf)} &= [(3.6 \text{ lb/day}) * (7,000 \text{ gr/lb})] \div [(XXXX \text{ ft}^3/\text{min}) * (60 \text{ min/hr}) * (24 \\ \text{hr/day})] \\ \text{PM Conc} &= \text{XXXX gr/scf} \end{aligned}$$

The following condition will be added to the ATC to show compliance:

- *{14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]*

{If booth heater is NOT permit exempt, include the following Rule 4301 and 4309 compliance sections; otherwise delete both sections.}

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

Dividing the previously calculated daily PE by the 24 hr/day operating schedule produces the hourly emission rates shown in the following table:

District Rule 4301 Limits			
Pollutant	NO₂	Total PM	SO₂
X-XXXX-X-X	XXX	XXX	XXX
Rule Limit (lb/hr)	140	10	200

The above table indicates the calculated emissions will be below with the maximum lb/hr emissions in this rule; therefore compliance is expected.

Rule 4309 Dryers, Dehydrators, and Ovens

This rule applies to any dryer, dehydrator, or oven that is fired on gaseous fuel, liquid fuel, or is fired on gaseous and liquid fuel sequentially, and the total rated heat input for the unit is 5.0 million British thermal units per hour (5.0 MMBtu/hr) or greater.

The total rated heat input for the burner is less than 5.0 MMBtu/hr therefore the requirements of this rule are not applicable.

Rule 4612 Motor Vehicle and Mobile Equipment Coating Operations

The purpose of this rule is to limit volatile organic compound (VOC) emissions from coatings associated with the coatings of motor vehicles, mobile equipment, and associated parts and components. It also limits the VOC emissions from the organic solvent cleaning, storage, and disposal associated with such operations.

Section 5.1 requires that no person shall apply to any motor vehicle, mobile equipment, or associated parts and components, any coating with a VOC regulatory content, as calculated pursuant to Section 3.45.1, in excess of the applicable limits in Table 1, except as provided in Section 5.3. These limits are presented in the following table:

Table 1 - Rule 4612 Coating VOC Limits			
Coating Category	VOC Regulatory Limit, as applied, in grams/liter (lb per gallon)		
	VOC Limits	VOC of proposed coatings	Compliant
Adhesion Promoter	540 (4.5)	--	--
Clear Coating	250 (2.1)	XXX	Yes
Color Coating	420 (3.5)	XXX	Yes
Multi-Color Coating	680 (5.7)	--	--
Pretreatment Coating	660 (5.5)	--	--
Primer	250 (2.1)	2.1	Yes
Primer Sealer	250 (2.1)	--	--
Single-Stage Coating	340 (2.8)	XXX	Yes
Temporary Protective Coating	60 (0.5)	--	--
Truck Bed Liner Coating	310 (2.6)	--	--
Underbody Coating	430 (3.6)	--	--
Uniform Finish Coating	540 (4.5)	--	--
Any other coating type	250 (2.1)	--	--

The applicant has proposed that the coatings used at the facility meet the requirements of this rule. The following conditions will be listed on the proposed ATC to ensure compliance:

- {4895} The VOC Regulatory content of coatings, as applied, shall not exceed any of the following limits: adhesion promoter 540 g/l (4.5 lb/gal), clear coating 250 g/l (2.1 lb/gal), color coating 420 g/l (3.5 lb/gal), multi-color coating 680 g/l (5.7 lb/gal), pretreatment coating 660 g/l (5.5 lb/gal), primer 250 g/l (2.1 lb/gal), primer sealer 250 g/l (2.1 lb/gal), single-stage coating 340 g/l (2.8 lb/gal), temporary protective coating 60 g/l (0.5 lb/gal), truck bed liner coating 310 g/l (2.6 lb/gal), underbody coating 430 g/l (3.6 lb/gal), uniform finish coating 540 g/l (4.5 lb/gal), and any other coating type 250 g/l (2.1 lb/gal). The VOC Regulatory content for coatings shall be defined as the VOC in grams per liter of coating (or pounds per gallon of coating), excluding water and exempt compounds. [District Rules 2201 and 4612]

Section 5.7 requires that except for underbody coatings, graphic arts operations, truck bed liner coatings, or any coating use of less than one (1.0) fluid ounce (29.6 milliliters),

no person shall apply any coating to any motor vehicle, mobile equipment, or associated parts and components unless one of the following application methods is used:

5.7.1 Brush, dip, or roller.

5.7.2 Electrostatic spray.

5.7.3 High-Volume Low-Pressure (HVLP) spray equipment.

5.7.3.1 HVLP spray equipment shall be operated in accordance with the manufacturer's recommendations.

5.7.3.2 A person shall not sell or offer for sale for use within the SJVAB any HVLP spray gun without a permanent marking denoting the maximum inlet air pressure in psig at which the gun will operate within the parameters specified in Section 3.0.

5.7.4 Use of a spray gun not permanently marked HVLP. If a spray gun is used, the operator must demonstrate that the gun meets the HVLP definition in Section 3.21 in design and use. A satisfactory demonstration must be based on the manufacturer's published technical material on the design of the gun and by a demonstration of the operation of the gun using an air pressure tip gauge designed specifically for the gun in use.

5.7.5 Any other coating application method that is capable of achieving at least 65 percent transfer efficiency, as determined per Section 6.8.8. Written approval from the APCO shall be obtained for each alternative method prior to use.

The facility proposes using an HVLP gun. This application method complies with Section 5.7 of Rule 4612. The following conditions will be listed on the proposed ATC to ensure compliance:

- {4237} Only high-volume low-pressure (HVLP) spray equipment, electrostatic, bush, dip, or roll coating application equipment, or other application equipment approved by the District in writing, shall be used. All application equipment shall be operated in accordance with the manufacturer's recommendations. [District Rules 2201 and 4612]
- {4238} If an HVLP spray gun is used, the operator must demonstrate that the spray gun operates between 0.1 and 10 pounds per square inch, gauge, (psig) air atomizing pressure, measured dynamically at the center of the air cap and at the air horns. For a gun permanently labeled HVLP by the manufacturer, a satisfactory demonstration shall either be in the form of manufacturer's published technical information or by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun. For a gun not permanently labeled HVLP by the manufacturer, a satisfactory demonstration shall be based on manufacturer's published technical material and by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun. [District Rule 4612]

The Section 5.8 organic solvent cleaning requirements are as follows:

- 5.8.1 For solvent cleaning operations other than for bug and tar removal, a person shall not use solvents that have VOC content greater than 25 grams VOC per liter of cleaning material, as calculated using the equation listed in Section 3.45.3.
- 5.8.2 For bug and tar removal, a person shall not use any material other than bug and tar remover regulated under the Consumer Products Regulation (California Code of Regulations Section 94507 et seq.).
- 5.8.3 In lieu of complying with Sections 5.8.1 and 5.8.2, a person may control VOC emissions from solvent cleaning with an APCO-approved VOC emission control system for the solvent cleaning operation that meets the requirements of Section 5.3.

Section 5.9 requires that a person shall store or dispose of fresh or spent solvents, waste solvent cleaning materials such as cloth, paper, etc., coatings, adhesives, catalysts, and thinners in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when depositing or removing the contents of the containers or when the container is empty.

The following conditions will be listed on the proposed ATC to ensure compliance with the requirements of Sections 5.8 and 5.9:

- {4239} For solvent cleaning operations other than for bug and tar removal, the permittee shall not use solvents that have VOC content greater than 25 g/l (0.21 lb/gal) of cleaning material. [District Rule 4612]
- {4240} For bug and tar removal, the permittee shall not use any material other than bug and tar remover regulated under the Consumer Products Regulation (California Code of Regulations Section 94507 et seq.). [District Rule 4612]
- {4241} All fresh or spent solvents, waste solvent cleaning materials such as cloth, paper, etc., coatings, adhesives, catalysts, and thinners shall be stored in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when depositing or removing the contents of the containers or when the container is empty. [District Rule 4612]

Section 6.0 administrative requirements are as follows:

6.1 Compliance Statement Requirement

- 6.1.1 For each individual automotive coating or automotive coating component, the manufacturer and repackager shall include the following information on product data sheets, or an equivalent medium:

- 6.1.1.1 The VOC Actual for Coatings and VOC Regulatory for Coatings, expressed in grams per liter, calculated pursuant to Section 3.45;
 - 6.1.1.2 The weight percentage of volatiles, water, and exempt compounds;
 - 6.1.1.3 The volume percentage of water and exempt compounds; and
 - 6.1.1.4 The density of the material (in grams per liter).
- 6.1.2 For each individual ready to spray mixture (based on the manufacturer's and repackager's stated mix ratio), the manufacturer and repackager shall include the following information on product data sheets, or an equivalent medium:
- 6.1.2.1 The VOC Actual for Coatings and VOC Regulatory for Coatings, expressed in grams per liter, calculated pursuant to Section 3.45;
 - 6.1.2.2 The weight percentage of volatiles, water, and exempt compounds;
 - 6.1.2.3 The volume percentage of water and exempt compounds; and
 - 6.1.2.4 The density of the material (in grams per liter).

Section 6.2 requires the manufacturer and repackager of automotive coatings or automotive coating components shall include on all containers the applicable use category(ies), and the VOC Actual for Coatings and VOC Regulatory for Coatings, as supplied, expressed in grams per liter.

Section 6.3 requires records required by this rule shall be retained on site for a period of five years, the records shall be made available on site to the APCO, ARB, or EPA, and the records shall be submitted to the APCO, ARB, or EPA upon request.

Section 6.4 states any person who uses coatings subject to this rule shall maintain records on a daily basis, and have available at all times, on site, the following:

- 6.4.1 A current list of all coatings used that are subject to this rule. This list shall include the following information for each coating:
 - 6.4.1.1 Material name and manufacturer;
 - 6.4.1.2 Application method;
 - 6.4.1.3 Coating type (as listed in Section 5.1) and mix ratio specific to the coating;
 - 6.4.1.4 VOC Actual for Coatings and VOC Regulatory for Coatings, as applied, calculated pursuant to Section 3.45; and

6.4.1.5 Quantity of each type of coating used.

6.4.2 Current manufacturer specification sheets, material safety data sheets, technical data sheets, or air quality data sheets, which list the VOC Actual for Coatings and VOC Regulatory for Coatings of each ready-to-spray coating (based on the manufacturer's state mix ratio) and automotive coating components.

6.4.3 Purchase records identifying the coating type (as listed in Section 5.1), name, and volume of coatings.

Section 6.5 requires an operator using solvents for cleaning shall keep the following records:

6.5.1 Keep a copy of the manufacturer's product data sheet or material safety data sheet of the solvents used for organic solvent cleaning activities.

6.5.2 Maintain a current list of solvents that are being used for organic solvent cleaning activities. The list shall include the following information:

6.5.2.1 The name of the solvent and its manufacturer's name.

6.5.2.2 The VOC content of the solvent expressed in grams per liter or lb/gallon.

6.5.2.3 When the solvent is a mixture of different materials that are blended by the person, the mix ratio of the batch shall be recorded and the VOC content of the batch shall be calculated and recorded in order to determine compliance with the specified limits of VOC content.

6.5.3 The quantity of solvent used for solvent cleaning activities.

The following conditions will be listed on the proposed ATC to ensure compliance with the requirements of Section 6.0:

- {4896} The permittee shall maintain records on a daily basis and have available at all times the following: a current list of all coatings used that includes the material name and manufacturer, application method, coating type and mix ratio specific to the coating, the VOC Actual for Coatings and VOC Regulatory for Coatings as applied, and the quantity of each type of coating used; current manufacturer specification sheets, material safety data sheets (MSDS), technical data sheets, or air quality data sheets, which list the VOC Actual for Coatings and VOC Regulatory for Coatings of each ready-to-spray coating and automotive coating components; and purchase records identifying the coating type, name, and volume of coatings bought. [District Rules 2201 and 4612]
- {4243} The permittee shall keep the following records for each solvent used for cleaning activities: the quantity of solvent used; a copy of the manufacturer's product

data or material safety data sheet (MSDS); the solvent's name and manufacturer, the VOC content of the solvent in grams/liter or pounds/gallon, and the mix ratio and VOC content of the batch when the solvent is a mixture of different materials blended by the permittee. [District Rules 2201 and 4612]

- {4244} Records shall be retained on-site for a minimum of five years and made available for District inspection upon request. [District Rules 2201 and 4612]

Therefore, this operation is in compliance with the requirements of this rule.

{If booth heater is NOT permit exempt, include the following Rule 4801 compliance section; otherwise delete.}

Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{nRT}{P}$$

With:

N = moles SO₂

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

{If booth heater is fired on natural gas use the following section, otherwise delete}

EPA F-Factor for Natural Gas: 8,710 dscf/MMBtu at 68 °F, equivalent to

$$\text{Corrected } F - \text{factor} = \left(\frac{8,710 \text{ dscf}}{\text{MMBtu}} \right) \times \left(\frac{60^\circ \text{F} + 459.6}{68^\circ \text{F} + 459.6} \right) = 8,578 \frac{\text{dscf}}{\text{MMBtu}} \text{ at } 60^\circ \text{F}$$

Natural Gas Combustion:

$$\frac{0.00285 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ \text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.97 \frac{\text{parts}}{\text{million}}$$

$$\text{SulfurConcentration} = 1.97 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

{If booth heater is fired on LPG use the following section, otherwise delete}

EPA F-Factor for LPG: 8,710 dscf/MMBtu at 68 °F, equivalent to

$$\text{Corrected F - factor} = \left(\frac{8,710 \text{ dscf}}{\text{MMBtu}} \right) \times \left(\frac{60^\circ \text{ F} + 459.6}{68^\circ \text{ F} + 459.6} \right) = 8,578 \frac{\text{dscf}}{\text{MMBtu}} \text{ at } 60^\circ \text{ F}$$

LPG Combustion:

$$\frac{0.0164 \text{ lb} - \text{SOx}}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ \text{R}} \times \frac{520^\circ \text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 11.4 \frac{\text{parts}}{\text{million}}$$

$$\text{SulfurConcentration} = 11.4 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site **is not** located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice **is not** required.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project qualifies for ministerial approval under the District’s Guideline for Expedited Application Review (GEAR). Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit are based on a case-by-case analysis of a particular project’s potential for litigation risk, which in turn may be based on a project’s potential to generate public concern, its potential for significant impacts, and the project proponent’s ability to pay for the costs of litigation without a letter of credit, among other factors.

As described above, the project requires only ministerial approval, and is exempt from the provisions of CEQA. As such, an Indemnification Agreement or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATC X-XXXX-X-X subject to the permit conditions on the attached draft ATC in Appendix A.

X. Billing Information

{If the booth heater requires a permit use the following:}

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
X-XXXX-X-X	3020-02-X	XXX MMBtu/hr	\$XXX.00

{If the booth heater is permit exempt use the following:}

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
X-XXXX-X-X	3020-01-X	XXX electrical hp	\$XXX.00

Appendices

- A: Draft ATC
- B: Quarterly Net Emissions Change

- C: BACT Guideline
- D: Top-Down BACT Analysis
- E: HRA Summary
- F: Emission Profile

APPENDIX A
Draft ATC

APPENDIX B
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{\text{quarterly}} = PE2_{\text{annual}} \div 4 \text{ quarters/year}$

$PE1_{\text{quarterly}} = PE1_{\text{annual}} \div 4 \text{ quarters/year}$

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	XXX	0	XXX
SO _x	XXX	0	XXX
PM ₁₀	XXX	0	XXX
CO	XXX	0	XXX
VOC	XXX	0	XXX

APPENDIX C
BACT Guideline

**Best Available Control Technology (BACT) Guideline 4.2.1
Last Update: 3/23/2010**

Automotive Spray Painting Operation, < 5.0 MMBtu/hr**

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
NOx	Natural gas or LPG-fired burner		
PM10	Spray Booth with Exhaust Filters; 95% control efficiency		Other compliant coating methods as stated in Rule 4612
VOC	HVLP spray guns, coatings, cleaning materials, and solvents compliant with District Rule 4612	VOC capture and control system	Other compliant coating methods as stated in Rule 4612

*** This Determination is also applicable to automotive spray painting operations without a heat source*

APPENDIX D
Top-Down BACT Analysis

Top-Down BACT Analysis

BACT Analysis for VOC Emissions:

a. Step 1 - Identify All Possible Control Technologies

The SJVAPCD BACT Clearinghouse guideline 4.2.1, (Last Updated 03/23/2010), identifies achieved in practice and technologically feasible BACT control technologies for automotive spray painting operations, with or without a < 5.0 MMBtu heater for VOC emissions as follows:

- 1) HVLP spray guns, coatings compliant with District Rule 4612 - achieved in practice
- 2) VOC capture and control system (incineration or carbon adsorption) - technologically feasible
- 3) Other compliant coating methods as stated in Rule 4612 – alternate basic equipment

b. Step 2 - Eliminate Technologically Infeasible Options

None of the above listed control technologies are technologically infeasible.

c. Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. VOC capture and control system: 98%/95% - technologically feasible
2. HVLP guns: 75% transfer efficiency - achieved in practice
3. Other compliant coating methods as stated in Rule 4612: 65% transfer efficiency (airless spray gun) – alternate basic equipment

d. Step 4 - Cost Effectiveness Analysis - VOC Capture and Control Systems

Design Parameters for booth control technologies:

Exhaust Gas Flow Rate (Q): 12,000 cfm (manufacturer's data)
VOC (lb/year): 19,966 lb-VOC/year

Thermal/Catalytic Incineration:

98% total control efficiency using a VOC capture and control system with thermal/catalytic incineration and 100% VOC capture.

A. Emission Reduction:

Based on the above determined project emissions and assuming a VOC capture efficiency of 100% and incinerator destruction efficiency of 98%, the amount of VOC emissions reduced is calculated below.

$$\begin{aligned} \text{VOC Emission Reductions} &= \text{Annual PE}_{\text{VOC}} \times 1 \text{ tons}/2,000 \text{ lb} \times \text{Overall Control Eff.} \\ &= 19,966 \text{ lb/year} \times 1 \text{ tons}/2,000 \text{ lb} \times 0.98 \end{aligned}$$

$$= 9.8 \text{ ton/year}$$

B. Annual Natural Gas Cost:

It will be shown that the cost of the natural gas alone will be adequate to cause these technologies to be not cost effective per District BACT policy. This estimate does not include the capital cost of purchasing the oxidizer unit or any additional operational and maintenance costs. The increase in temperature of the contaminated air stream required by a catalytic incineration system is less than for a thermal incineration. Therefore, by demonstrating that the cost of the natural gas required by a catalytic incinerator would cause such a system to not be cost effective will also be sufficient to show that a thermal oxidation system would not be cost effective either.

The cost of natural gas for this operation is calculated based on an operating schedule of 2,080 hr/year (124,800 min/year). A heat exchanger efficiency of 50% is assumed.

$$\text{Natural Gas Usage} = \text{Flow Rate} \times C_{p\text{Air}} \times \Delta T \times \text{HEF}$$

Where: Flow Rate = Air flow through the incinerator (25,600 cfm)
 $C_{p\text{Air}}$ = specific heat of air is 0.194 Btu/scf - °F
 ΔT = increase in the temperature of the contaminated air stream required for catalytic oxidation to occur (It will be assumed that the air stream would increase in temperature from 77°F to 600°F.)
HEF = heat exchanger factor (0.5, assumed)

$$\begin{aligned} \text{Natural Gas Usage} &= 12,000 \text{ cfm} \times 0.194 \text{ Btu/ scf - }^\circ\text{F} \times (600^\circ\text{F} - 77^\circ\text{F}) \times 0.5 \\ &\times 124,800 \text{ min/year} \times \text{MMBtu}/10^6 \text{ Btu} \\ &= 75,975 \text{ MMBtu/year} \end{aligned}$$

$$\begin{aligned} \text{Natural Gas Cost} &= 75,975 \text{ MMBtu/year} \times \$9.75/\text{MMBtu}^{(1)} \\ &= \$389,294 \end{aligned}$$

C. Cost Effectiveness of a Catalytic Incinerator with 100% Capture:

$$\begin{aligned} \text{Cost Effectiveness} &= \text{Natural Gas Cost } (\$/\text{year}) \div \text{Emission Reduction } (\text{ton-VOC}/\text{year}) \\ &= \$740,756/\text{year} \div 9.8 \text{ ton-VOC}/\text{year} \\ &= \$75,587/\text{ton-VOC} \end{aligned}$$

The cost of natural gas to operate a catalytic incinerator with 100% capture is \$75,587/ton, which is greater than the District's VOC cost-effectiveness threshold of \$25,300/ton. Therefore, this VOC control option is not cost effective and is being removed from consideration for this project.

Carbon Adsorption:

¹ The natural gas price used is based on latest available industrial natural gas price for California as published by the U.S. Energy Information Administration. See: https://www.eia.gov/dnav/ng/ng_pri_sum_dcu_SCA_a.htm

95% total control using a VOC capture and control system with carbon adsorption and 100% capture.

A. Emission Reduction:

Based on the above determined emissions and assuming a VOC capture efficiency of 100% and carbon adsorption system control efficiency of 95%, the amount of VOC emissions reduced is calculated below.

$$\begin{aligned}\text{VOC Emission Reductions} &= \text{Annual PE}_{\text{VOC}} \times 1 \text{ tons}/2,000 \text{ lb} \times \text{Overall Control Eff.} \\ &= 19,966 \text{ lb/year} \times 1 \text{ tons}/2,000 \text{ lb} \times 0.95 \\ &= \mathbf{9.5 \text{ ton/year}}\end{aligned}$$

B. Capital Costs

Carbtrol Corporation, General Carbon Corporation, Vapor Technologies Inc., APC Technologies Inc., Newterra Corporation, and Calgon Carbon Corporation were consulted to determine the capital cost for a carbon system serving a paint spray booth up to 12,000 CFM. The capital cost (with initial carbon, ducting and an auxiliary fan) ranged from \$100,600 to \$475,00. To be conservative, a capital cost of \$100,600 will be used in this cost analysis.

$$\begin{aligned}\text{Capital Cost} &= \$100,600 \\ \text{Instrumentation} &= \$100,600 \times 0.1 \text{ (EPA Cost Manual)} = \$10,060 \\ \text{Sales Tax} &= \$100,600 \times 0.0825 = \mathbf{\$8,300} \\ \text{Shipping} &= \$100,600 \times 0.05 = \$5,030 \\ \text{Total} &= \mathbf{\$123,990}\end{aligned}$$

$$\begin{aligned}\text{Direct and Indirect Installation} &= \mathbf{\$113,990} \times 0.2 \text{ (EPA Cost Manual)} = \mathbf{\$24,798} \\ \text{Contingency} &= \mathbf{\$113,930} \times 0.1 \text{ (EPA Carbon Spreadsheet)} = \mathbf{\$11,393}\end{aligned}$$

$$\text{Total with Installation and Contingency} = \mathbf{\$163,666}$$

$$\begin{aligned}\text{Annualized Capital cost (10 years, 4\% interest)} &= \mathbf{\$163,666} \times 0.1233 \\ \text{Annualized Capital Cost} &= \mathbf{\$20,180/\text{year}}\end{aligned}$$

C. Annual Carbon Replacement Costs:

Carbon adsorption occurs when air containing VOCs is blown through a carbon unit and the VOCs are adsorbed onto the surface of the cracks in the activated carbon particles. Two main areas of cost are the cost of the carbon adsorption unit itself and the annual operating cost of the unit. The primary annual operating cost is the replacement of the spent activated carbon. It will be shown that the annual cost to replace the spent activated carbon alone will be adequate to cause this technology to be not cost effective per District BACT policy. This estimate does not include the capital cost of purchasing the carbon adsorption unit or any additional operational and maintenance costs.

Since carbon can adsorb 20% of its weight in VOCs, and the control efficiency of carbon adsorption is 95%, the total amount of carbon required per year can be determined as follows:

$$\begin{aligned}\text{Carbon Required} &= 19,966 \text{ lb-VOC/year} \times 0.95 \times 1 \text{ lb-Carbon}/0.2 \text{ lb-VOC} \\ &= 94,839 \text{ lb-Carbon/year}\end{aligned}$$

To determine the cost to regenerate/replace carbon, the District surveyed representatives of Carbtrol Corporation, General Carbon Corporation, Vapor Technologies Inc., APC Technologies Inc., Newterra Corporation, and Calgon Carbon Corporation. The lowest carbon cost was determined to be \$1.50/lb of carbon. Additionally, the cost for labor and transportation was determined to be an additional \$0.50/lb of carbon. Finally, the carbon would need to be disposed of in a landfill since it includes solvents that contain fluorine and chlorine. The cost for disposal in a landfill was estimated to be \$0.25 per lb of carbon. Thus, the total cost per lb of carbon is \$2.25. The annual cost of spent carbon replacement will be:

$$\begin{aligned}\text{Annual Carbon Replacement Cost} &= 94,839 \text{ lb-Carbon/year} \times \$2.25/\text{lb-Carbon} \\ &= \$213,388/\text{year}\end{aligned}$$

D. Annual Fan Electricity Cost

Additionally, a fan would be necessary to overcome backpressure introduced by the carbon system ducting and the adsorption system. Based on a survey of the previously mentioned vendors, the fan size may range from 15 HP to 60 HP, depending on the size of the paint spray booth.

The cost of electricity for this operation is calculated based on an operating schedule of 2,080 hr/year (124,800 min/year) and a 15 HP fan.

$$\begin{aligned}\text{Electricity Usage} &= 15 \text{ HP} \times \text{kW}/1.341 \text{ /HP} \times 2,080 \text{ hr/year} \\ &= 23,266 \text{ kWh/year}\end{aligned}$$

$$\begin{aligned}\text{Electricity Cost} &= 23,266 \text{ kWh/year} \times \$0.1802/\text{kWh}^{(2)} \\ &= \$4,192/\text{year}\end{aligned}$$

E. Annual Carbon Sampling Cost

According to a representative of General Carbon, monthly carbon sampling is required in order to determine whether the system is becoming saturated. A single sample costs \$50, and usually 6 samples are taken from different areas of the carbon bed. Thus, the monthly cost of sampling is \$300, and the annual cost of sampling is \$3,600)

F. Cost Effectiveness of a Carbon Adsorption System:

$$\text{Cost Effectiveness} = \text{Annual Carbon Replacement Cost } (\$/\text{year})$$

² The natural gas price used is based on latest available industrial natural gas price for California as published by the U.S. Energy Information Administration. See: https://www.eia.gov/dnav/ng/ng_pri_sum_dcu_SCA_a.htm

$$\begin{aligned} & \div \text{Emission Reduction (ton-VOC/year)} \\ & = (\$20,180/\text{year} + \$213,388/\text{year} + \$4,192/\text{year} + \$3,600) \\ & \div 9.5 \text{ ton-VOC/year} \\ & = \mathbf{\$25,406/\text{ton-VOC}} \end{aligned}$$

The cost to operate a carbon adsorption system is \$25,406/ton, which is greater than the District's VOC cost-effectiveness threshold of \$25,300/ton. Therefore, this VOC control option is not cost effective and is being removed from consideration for this project.

HVLP Spray Guns and Coatings Compliant with District Rule 4612:

The applicant has proposed to use HVLP spray guns and coatings in compliance with District Rule 4612; therefore, a cost effectiveness analysis is not required for this control technology.

e. Step 5 - Select BACT

HVLP spray guns and low VOC coatings and solvents in compliance with District Rule 4612 is selected as BACT for this category and class of source. The applicant has proposed to use HVLP spray guns and coatings in compliance with District Rule 4612; therefore, BACT for VOC is satisfied.

{Use if BACT is triggered for NO_x, otherwise delete.}

Top-Down BACT Analysis

BACT Analysis for NO_x Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 4.2.1 identifies achieved in practice BACT for automotive spray painting operations, <5.0 MMBtu/hr:

1. Natural gas or LPG-fired burner

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from Step 1.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because only one control option is listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option listed for each pollutant. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_x is the use of a natural gas or LPG-fired burner. The facility is proposing to meet BACT by the use of a {natural gas-fired or LPG-fired} burner. Therefore, BACT for NO_x is satisfied by the use of a natural gas or LPG-fired burner.

{Use if T-BACT is triggered for PM10, otherwise delete.}

Top-Down BACT Analysis

BACT Analysis for PM10 Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 4.2.1 identifies achieved in practice and alternate basic equipment BACT for automotive spray painting operations, <5.0 MMBtu/hr:

1. Spray Booth with Exhaust Filters; 95% control efficiency – achieved in practice
2. Other compliant coating methods as stated in Rule 4612 – alternate basic equipment

No technologically feasible alternatives for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from Step 1.

c. Step 3 - Rank remaining options by control effectiveness

1. Spray Booth with Exhaust Filters; 95% control efficiency - achieved in practice
2. Other compliant coating methods as stated in District Rule 4612: 65% transfer efficiency (HVLP) – alternate basic equipment

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the use of a spray booth and the use of HVLP which has a higher control efficiency than either of the two control option listed above. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for PM10 is the use of a spray booth with exhaust filters with a 95% control efficiency. The facility is proposing to meet BACT by the use of a spray booth with exhaust filters with 95% control efficiency and the use of HVLP coating equipment therefore, BACT for PM10 is satisfied.

APPENDIX E
HRA Summary

APPENDIX F
Emission Profile

Permit Conditions

{Note: You may copy and paste the following general condition numbers into the PAS conditions screen:}

{USE THE FOLLOWING SET OF CONDITIONS FOR A NATURAL GAS-FIRED BOOTH HEATER:}

[98, 14, 15, 4930, 1535, 4237, 4238, 4241, 4929, 4239, 4240, 4895, 1904, 2905, 4443, 4896, 4243, 4926, 4927, 4928, 4244]

{98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

{14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

{15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

{4930} The booth heater shall only be fired on PUC quality natural gas. [District Rule 2201]

{1535} All coating, except application of primer, shall be conducted in booth with filters in place, fan(s) operating, and doors closed. [District Rule 2201]

{4237} Only high-volume low-pressure (HVLP) spray equipment, electrostatic, brush, dip, or roll coating application equipment, or other application equipment approved by the District in writing, shall be used. All application equipment shall be operated in accordance with the manufacturer's recommendations. [District Rules 2201 and 4612]

{4238} If an HVLP spray gun is used, the operator must demonstrate that the spray gun operates between 0.1 and 10 pounds per square inch, gauge, (psig) air atomizing pressure, measured dynamically at the center of the air cap and at the air horns. For a gun permanently labeled HVLP by the manufacturer, a satisfactory demonstration shall either be in the form of manufacturer's published technical information or by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun. For a gun not permanently labeled HVLP by the manufacturer, a satisfactory demonstration shall be based on manufacturer's published technical material and by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun. [District Rule 4612]

{4241} All fresh or spent solvents, waste solvent cleaning materials such as cloth, paper, etc., coatings, adhesives, catalysts, and thinners shall be stored in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when depositing or removing the contents of the containers or when the container is empty. [District Rule 4612]

{4929} No coatings, solvents, or additives containing any of the following compounds shall be used: lead compounds, hexavalent chromium, cadmium, and/or nickel compounds. [District Rule 4102]

{4239} For solvent cleaning operations other than for bug and tar removal, the permittee shall not use solvents that have VOC content greater than 25 g/l (0.21 lb/gal) of cleaning material. [District Rule 4612]

{4240} For bug and tar removal, the permittee shall not use any material other than bug and tar remover regulated under the Consumer Products Regulation (California Code of Regulations Section 94507 et seq.). [District Rule 4612]

{4895} The VOC Regulatory content of coatings, as applied, shall not exceed any of the following limits: adhesion promoter 540 g/l (4.5 lb/gal), clear coating 250 g/l (2.1 lb/gal), color coating 420 g/l (3.5 lb/gal), multi-color coating 680 g/l (5.7 lb/gal), pretreatment coating 660 g/l (5.5 lb/gal), primer 250 g/l (2.1 lb/gal), primer sealer 250 g/l (2.1 lb/gal), single-stage coating 340 g/l (2.8 lb/gal), temporary protective coating 60 g/l (0.5 lb/gal), truck bed liner coating 310 g/l (2.6 lb/gal), underbody coating 430 g/l (3.6 lb/gal), uniform finish coating 540 g/l (4.5 lb/gal), and any other coating type 250 g/l (2.1 lb/gal). The VOC Regulatory content for coatings shall be defined as the VOC in grams per liter of coating (or pounds per gallon of coating), excluding water and exempt compounds. [District Rules 2201 and 4612]

Particulate matter (PM10) emission rate (including painting and priming) shall not exceed either of the following limits: XX.X lb/day; XXX lb/year. [District Rule 2201]

Volatile organic compound (VOC) emission rate (including painting and priming) shall not exceed either of the following limits: XX.X lb/day; X,XXX lb/year. [District Rule 2201]

PM10 emissions from the use of the primer outside of the booth - including pretreatment, surfacer, and sealer - shall not exceed 2.0 pounds per day. Daily PM10 emissions from the use of primer outside the booth shall be calculated as follows: Solids content (lb/gallon) x usage (gallon/day) x (1 - 0.75). [District Rule 2201]

PM10 emissions from the use of the primer inside of the booth shall not exceed XX.X pounds per day. Daily PM10 emissions from the use of primer outside the booth shall be calculated as follows: Solids content (lb/gallon) x usage (gallon/day) x (1 - 0.75) x (1 - 0.95). [District Rule 2201]

{2905} Emissions from the burner shall not exceed any of the following limits: 0.10 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201]

{4443} Permittee shall maintain daily records of quantity (gallons) and solids content of primer applied outside the booth. Permittee shall also maintain daily records of VOC content as applied (lb/gal) of each coating used, quantity (gallons) of each coating used, and calculated daily VOC emissions. [District Rule 1070]

{4896} The permittee shall maintain records on a daily basis and have available at all times the following: a current list of all coatings used that includes the material name and manufacturer,

application method, coating type and mix ratio specific to the coating, the VOC Actual for Coatings and VOC Regulatory for Coatings as applied, and the quantity of each type of coating used; current manufacturer specification sheets, material safety data sheets (MSDS), technical data sheets, or air quality data sheets, which list the VOC Actual for Coatings and VOC Regulatory for Coatings of each ready-to-spray coating and automotive coating components; and purchase records identifying the coating type, name, and volume of coatings bought. [District Rules 2201 and 4612]

{4243} The permittee shall keep the following records for each solvent used for cleaning activities: the quantity of solvent used; a copy of the manufacturer's product data or material safety data sheet (MSDS); the solvent's name and manufacturer, the VOC content of the solvent in grams/liter or pounds/gallon, and the mix ratio and VOC content of the batch when the solvent is a mixture of different materials blended by the permittee. [District Rules 2201 and 4612]

{4926} Daily VOC emissions of each coating and/or solvent shall be calculated as follows: daily VOC emissions = VOC content (lb/gallon) as applied x usage (gallon/day). Total daily VOC emissions is the sum of VOC emissions from all coatings and/or solvents used. [District Rule 2201]

{4927} On a monthly basis, the permittee shall calculate and record the VOC emissions in pounds from this unit for the prior calendar month. [District Rule 2201]

{4928} On a monthly basis, the permittee shall calculate and record the facility-wide VOC emissions in pounds for the prior 12 calendar month period. The facility-wide VOC emissions shall be calculated by summing the VOC emissions from the previous 12 calendar months from every permitted unit at this facility. [District Rule 2201]

{4244} Records shall be retained on-site for a minimum of five years and made available for District inspection upon request. [District Rules 2201 and 4612]

{USE THE FOLLOWING SET OF CONDITIONS FOR A LPG-FIRED BOOTH HEATER:}

[98, 14, 15, 4932, 1535, 4237, 4238, 4241, 4929, 4239, 4240, 4895, 1904, 4931, 4443, 4896, 4243, 4926, 4927, 4928, 4244]

{98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

{14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

{15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

{4932} The booth heater shall only be fired on LPG gas. [District Rule 2201]

{1535} All coating, except application of primer, shall be conducted in booth with filters in place, fan(s) operating, and doors closed. [District Rule 2201]

{4237} Only high-volume low-pressure (HVLP) spray equipment, electrostatic, brush, dip, or roll coating application equipment, or other application equipment approved by the District in writing, shall be used. All application equipment shall be operated in accordance with the manufacturer's recommendations. [District Rules 2201 and 4612]

{4238} If an HVLP spray gun is used, the operator must demonstrate that the spray gun operates between 0.1 and 10 pounds per square inch, gauge, (psig) air atomizing pressure, measured dynamically at the center of the air cap and at the air horns. For a gun permanently labeled HVLP by the manufacturer, a satisfactory demonstration shall either be in the form of manufacturer's published technical information or by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun. For a gun not permanently labeled HVLP by the manufacturer, a satisfactory demonstration shall be based on manufacturer's published technical material and by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun. [District Rule 4612]

{4241} All fresh or spent solvents, waste solvent cleaning materials such as cloth, paper, etc., coatings, adhesives, catalysts, and thinners shall be stored in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when depositing or removing the contents of the containers or when the container is empty. [District Rule 4612]

{4929} No coatings, solvents, or additives containing any of the following compounds shall be used: lead compounds, hexavalent chromium, cadmium, and/or nickel compounds. [District Rule 4102]

{4239} For solvent cleaning operations other than for bug and tar removal, the permittee shall not use solvents that have VOC content greater than 25 g/l (0.21 lb/gal) of cleaning material. [District Rule 4612]

{4240} For bug and tar removal, the permittee shall not use any material other than bug and tar remover regulated under the Consumer Products Regulation (California Code of Regulations Section 94507 et seq.). [District Rule 4612]

{4895} The VOC Regulatory content of coatings, as applied, shall not exceed any of the following limits: adhesion promoter 540 g/l (4.5 lb/gal), clear coating 250 g/l (2.1 lb/gal), color coating 420 g/l (3.5 lb/gal), multi-color coating 680 g/l (5.7 lb/gal), pretreatment coating 660 g/l (5.5 lb/gal), primer 250 g/l (2.1 lb/gal), primer sealer 250 g/l (2.1 lb/gal), single-stage coating 340 g/l (2.8 lb/gal), temporary protective coating 60 g/l (0.5 lb/gal), truck bed liner coating 310 g/l (2.6 lb/gal), underbody coating 430 g/l (3.6 lb/gal), uniform finish coating 540 g/l (4.5 lb/gal), and any other coating type 250 g/l (2.1 lb/gal). The VOC Regulatory content for coatings shall be defined as the VOC in grams per liter of coating (or pounds per gallon of coating), excluding water and exempt compounds. [District Rules 2201 and 4612]

Particulate matter (PM₁₀) emission rate (including painting and priming) shall not exceed either of the following limits: XX.X lb/day; XXX lb/year. [District Rule 2201]

Volatile organic compound (VOC) emission rate (including painting and priming) shall not exceed either of the following limits: XX.X lb/day; X,XXX lb/year. [District Rule 2201]

PM₁₀ emissions from the use of the primer outside of the booth - including pretreatment, surfacer, and sealer - shall not exceed 2.0 pounds per day. Daily PM₁₀ emissions from the use of primer outside the booth shall be calculated as follows: Solids content (lb/gallon) x usage (gallon/day) x (1 - 0.75). [District Rule 2201]

PM₁₀ emissions from the use of the primer inside of the booth shall not exceed XX.X pounds per day. Daily PM₁₀ emissions from the use of primer outside the booth shall be calculated as follows: Solids content (lb/gallon) x usage (gallon/day) x (1 - 0.75) x (1 - 0.95). [District Rule 2201]

{4931} Emissions from the burner shall not exceed any of the following limits: 0.15 lb-NO_x/MMBtu, 0.0164 lb-SO_x/MMBtu, 0.0044 lb-PM₁₀/MMBtu, 0.021 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201]

{4443} Permittee shall maintain daily records of quantity (gallons) and solids content of primer applied outside the booth. Permittee shall also maintain daily records of VOC content as applied (lb/gal) of each coating used, quantity (gallons) of each coating used, and calculated daily VOC emissions. [District Rule 1070]

{4896} The permittee shall maintain records on a daily basis and have available at all times the following: a current list of all coatings used that includes the material name and manufacturer, application method, coating type and mix ratio specific to the coating, the VOC Actual for Coatings and VOC Regulatory for Coatings as applied, and the quantity of each type of coating used; current manufacturer specification sheets, material safety data sheets (MSDS), technical data sheets, or air quality data sheets, which list the VOC Actual for Coatings and VOC Regulatory for Coatings of each ready-to-spray coating and automotive coating components; and purchase records identifying the coating type, name, and volume of coatings bought. [District Rules 2201 and 4612]

{4243} The permittee shall keep the following records for each solvent used for cleaning activities: the quantity of solvent used; a copy of the manufacturer's product data or material safety data sheet (MSDS); the solvent's name and manufacturer, the VOC content of the solvent in grams/liter or pounds/gallon, and the mix ratio and VOC content of the batch when the solvent is a mixture of different materials blended by the permittee. [District Rules 2201 and 4612]

{4926} Daily VOC emissions of each coating and/or solvent shall be calculated as follows: daily VOC emissions = VOC content (lb/gallon) as applied x usage (gallon/day). Total daily VOC emissions is the sum of VOC emissions from all coatings and/or solvents used. [District Rule 2201]

{4927} On a monthly basis, the permittee shall calculate and record the VOC emissions in pounds from this unit for the prior calendar month. [District Rule 2201]

{4928} On a monthly basis, the permittee shall calculate and record the facility-wide VOC emissions in pounds for the prior 12 calendar month period. The facility-wide VOC emissions shall be calculated by summing the VOC emissions from the previous 12 calendar months from every permitted unit at this facility. [District Rule 2201]

{4244} Records shall be retained on-site for a minimum of five years and made available for District inspection upon request. [District Rules 2201 and 4612]

{USE THE FOLLOWING CONDITIONS FOR A PERMIT EXEMPT BOOTH HEATER:}

[98, 14, 15, 1535, 4237, 4238, 4241, 4929, 4239, 4240, 4895, 1904, 4443, 4896, 4243, 4926, 4927, 4928, 4244]

{98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

{14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

{15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

{1535} All coating, except application of primer, shall be conducted in booth with filters in place, fan(s) operating, and doors closed. [District Rule 2201]

{4237} Only high-volume low-pressure (HVLP) spray equipment, electrostatic, brush, dip, or roll coating application equipment, or other application equipment approved by the District in writing, shall be used. All application equipment shall be operated in accordance with the manufacturer's recommendations. [District Rules 2201 and 4612]

{4238} If an HVLP spray gun is used, the operator must demonstrate that the spray gun operates between 0.1 and 10 pounds per square inch, gauge, (psig) air atomizing pressure, measured dynamically at the center of the air cap and at the air horns. For a gun permanently labeled HVLP by the manufacturer, a satisfactory demonstration shall either be in the form of manufacturer's published technical information or by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun. For a gun not permanently labeled HVLP by the manufacturer, a satisfactory demonstration shall be based on manufacturer's published technical material and by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun. [District Rule 4612]

{4241} All fresh or spent solvents, waste solvent cleaning materials such as cloth, paper, etc., coatings, adhesives, catalysts, and thinners shall be stored in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when depositing or removing the contents of the containers or when the container is empty. [District Rule 4612]

{4929} No coatings, solvents, or additives containing any of the following compounds shall be used: lead compounds, hexavalent chromium, cadmium, and/or nickel compounds. [District Rule 4102]

{4239} For solvent cleaning operations other than for bug and tar removal, the permittee shall not use solvents that have VOC content greater than 25 g/l (0.21 lb/gal) of cleaning material. [District Rule 4612]

{4240} For bug and tar removal, the permittee shall not use any material other than bug and tar remover regulated under the Consumer Products Regulation (California Code of Regulations Section 94507 et seq.). [District Rule 4612]

{4895} The VOC Regulatory content of coatings, as applied, shall not exceed any of the following limits: adhesion promoter 540 g/l (4.5 lb/gal), clear coating 250 g/l (2.1 lb/gal), color coating 420 g/l (3.5 lb/gal), multi-color coating 680 g/l (5.7 lb/gal), pretreatment coating 660 g/l (5.5 lb/gal), primer 250 g/l (2.1 lb/gal), primer sealer 250 g/l (2.1 lb/gal), single-stage coating 340 g/l (2.8 lb/gal), temporary protective coating 60 g/l (0.5 lb/gal), truck bed liner coating 310 g/l (2.6 lb/gal), underbody coating 430 g/l (3.6 lb/gal), uniform finish coating 540 g/l (4.5 lb/gal), and any other coating type 250 g/l (2.1 lb/gal). The VOC Regulatory content for coatings shall be defined as the VOC in grams per liter of coating (or pounds per gallon of coating), excluding water and exempt compounds. [District Rules 2201 and 4612]

Particulate matter (PM10) emission rate (including painting and priming) shall not exceed either of the following limits: XX.X lb/day; XXX lb/year. [District Rule 2201]

Volatile organic compound (VOC) emission rate (including painting and priming) shall not exceed either of the following limits: XX.X lb/day; X,XXX lb/year. [District Rule 2201]

PM10 emissions from the use of the primer outside of the booth - including pretreatment, surfacer, and sealer - shall not exceed 2.0 pounds per day. Daily PM10 emissions from the use of primer outside the booth shall be calculated as follows: Solids content (lb/gallon) x usage (gallon/day) x (1 - 0.75). [District Rule 2201]

PM10 emissions from the use of the primer inside of the booth shall not exceed XX.X pounds per day. Daily PM10 emissions from the use of primer outside the booth shall be calculated as follows: Solids content (lb/gallon) x usage (gallon/day) x (1 - 0.75) x (1 - 0.95). [District Rule 2201]

{4443} Permittee shall maintain daily records of quantity (gallons) and solids content of primer applied outside the booth. Permittee shall also maintain daily records of VOC content as applied (lb/gal) of each coating used, quantity (gallons) of each coating used, and calculated daily VOC emissions. [District Rule 1070]

{4896} The permittee shall maintain records on a daily basis and have available at all times the following: a current list of all coatings used that includes the material name and manufacturer, application method, coating type and mix ratio specific to the coating, the VOC Actual for Coatings and VOC Regulatory for Coatings as applied, and the quantity of each type of coating used; current manufacturer specification sheets, material safety data sheets (MSDS), technical data sheets, or air quality data sheets, which list the VOC Actual for Coatings and VOC Regulatory for Coatings of each ready-to-spray coating and automotive coating components; and purchase records identifying the coating type, name, and volume of coatings bought. [District Rules 2201 and 4612]

{4243} The permittee shall keep the following records for each solvent used for cleaning activities: the quantity of solvent used; a copy of the manufacturer's product data or material safety data sheet (MSDS); the solvent's name and manufacturer, the VOC content of the solvent in grams/liter or pounds/gallon, and the mix ratio and VOC content of the batch when the solvent is a mixture of different materials blended by the permittee. [District Rules 2201 and 4612]

{4926} Daily VOC emissions of each coating and/or solvent shall be calculated as follows: daily VOC emissions = VOC content (lb/gallon) as applied x usage (gallon/day). Total daily VOC emissions is the sum of VOC emissions from all coatings and/or solvents used. [District Rule 2201]

{4927} On a monthly basis, the permittee shall calculate and record the VOC emissions in pounds from this unit for the prior calendar month. [District Rule 2201]

{4928} On a monthly basis, the permittee shall calculate and record the facility-wide VOC emissions in pounds for the prior 12 calendar month period. The facility-wide VOC emissions shall be calculated by summing the VOC emissions from the previous 12 calendar months from every permitted unit at this facility. [District Rule 2201]

{4244} Records shall be retained on-site for a minimum of five years and made available for District inspection upon request. [District Rules 2201 and 4612]