



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Engineering and Compliance Office

APPLICATION PROCESSING AND CALCULATIONS

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Deminimus Significant Title V Permit Revision
Section D (PC/PO)
Flow Coating Systems

Legal Owner
or Operator:

SIERRACIN/SYLMAR CORP
12780 SAN FERNANDO RD.
SYLMAR, CA 91342

ID: 149814

Equipment

Location: 12780-82 SAN FERNANDO RD, SYLMAR, CA 91342

Equipment Description:

A/N 521387

Title V Permit Revision (non RECLAIM)

A/N 521386

(CANCELED, CC, Previous PO No. F86268, A/N 462112)

DEVICE NO. D6.

SECTION D

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: COATING					
COATER, PLANT 2, ROOM NO. FX-205, 14.5 L. X 13.5 W. X 10 H. (FEET), WITH ONE 2.5-GAL C.A. TECHNOLOGIES FLOW COATING SYSTEM AND ONE 2-GALLON WASTE COLLECTION SYSTEM. A/N: 521385	D64			VOC (9) [RULE 1124, 9-21-2001; RULE 1171, 11-7-2003; RULE 1171, 5-1-2009]; VOC (10) [40CFR 63 Subpart GG, 12-8-2000]	A63.8, B59.4, H23.7, K67.1, K67.2

History

The company manufactures clear acrylic military/commercial aircraft canopies and windows. Protective transparent films are flow coated on to these clear acrylic substrates inside clean rooms with a dedicated flow coater in each room. Coated parts are cured by either air dried, a portable IR-lamp curing bank, a portable UV-robotic curing system, or by a UV curing conveyor.

The existing D6 flow coater has been permitted under A/N 462112, with a usage limit of not to exceed 13 gallons of coatings plus solvents in any one day. Under the pending A/Ns 521385 and 521386, the applicant was proposing to share this emission limit with the new proposed coater so that there will be no net emission increase



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resulting from this project. However, the applicant later changed their mind and requested a cancellation of A/N 521386.

The company is subject to a facility limit of 3510 pounds of ROG in any one month (Condition No. F2.1). It is also subject to a Rule 442 limit of 833 pounds of ROG in any one month (Condition No. F2.2). The applicant is proposing that all new emissions resulting from the new flow coater to be bubbled into the above emission limits of 833 and 3510 pounds per month.

A review of District compliance records indicates that the facility has had no citizen complaints filed, or Notices of Violation issued in the last two years. However, the facility was issued a Notice to Comply on 3/11/2011 requiring the applicant to submit corrected semi-annual monitoring report and annual compliance certification, and provide usage records of all coatings and solvents used at the facility. The facility provided all requested information and is currently operating in compliance with all applicable rules and regulations.

Process Description

Parts to be coated are manually placed inside a clean room, rested on a rack, which is equipped with a collection reservoir at the bottom to capture run-off flow coating materials. A continuous stream of liquid coatings is applied on parts using a C.A. Technologies flow coater. Only 10% of applied coatings stay on part. The remaining of 90% of applied coatings is run-off and collected in the reservoir. The collected run-off materials cannot be reused because of product quality concerns. At the end of each flow coating process, the run-off materials are transferred to a vapor tight storage container for later hazardous disposal.

Coated parts are allowed to cure by air drying. The following is the proposed operating schedule of the new flow coater:

<u>hr/dy</u>	<u>dy/wk</u>	<u>wk/yr</u>	
16	6	50	<-- <u>average</u>
24	7	52	<-- <u>maximum</u>

ROG Emission Limits

The company is subject to a facility limit of 3510 pounds of ROG in any one month (Condition No. F2.1). It is also subject to a Rule 442 limit of 833 pounds of ROG in any one month (Condition No. F2.2). All new emissions resulting from the additional flow coater will be



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bubbled into the above emission limits of 3510 and 833 pounds of ROG in any one month. Therefore, there will no ROG emission increases facility-wide.

The company is also proposing to accept a daily equipment limit of 15 pounds of ROG emissions from the new flow coater (to be consistent with other flow coater permits conditions).

Emission Calculations

Based on multiple tests conducted by the company and observed by a District representative on 7-25-03 & 8-27-03, the amount of run-off materials collected in reservoirs were determined to be ranging from 92.64% to 94.18% by weight. Therefore, an emission factor of 0.10 (1-90%) is used in the following equation to determine ROG emissions from flow coating and curing operations:

$$\text{ROG (lb/day)} = \text{Usage (gal/day)} \times \text{VOC (lb/gal)} \times 0.10$$

The applicant is required to use the same emission factor of 0.10 in their calculations even though the actual coatings being recovered are greater than 90% (Condition No. A63.8).

For AEIS Data Entry:

About 6.5 gallons of various flow coating materials are applied inside the new flow coater per company projection, with a maximum VOC content of 7.69 lb/gal. The following are ROG emissions to be entered in AEIS:

$$\begin{aligned} \text{ROG (R1)} &= (6.5 \text{ gal/dy})(7.69 \text{ lb/dy})(0.1)/(16 \text{ hr/dy}) \\ &= 0.31 \text{ lb/hr} \end{aligned}$$

$$\text{ROG (R2)} = 0.31 \text{ lb/hr}$$

For NSR Data Entry:

Based on a maximum daily emission limit of 15 pounds of VOC per day, the following are VOC emissions to be entered in NSR:

$$\text{ROG (R1)} = (15 \text{ lb/dy}) / (24 \text{ hr/dy}) = 0.63 \text{ lb/hr}$$

$$\text{ROG (R2)} = 0.63 \text{ lb/hr}$$

However, since all new emissions are being bubbled into the monthly facility wide emission limits of 3510 pounds, the 30DA is manually set to zero.



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Rule 1401 Evaluation

The applicant is proposing to use about 6.5 gallons of FX-205 primer in the new flow coater. The primer contains the following TACs:

TAC Name	CAS	% by weight
Isopropanol	67-63-0	99

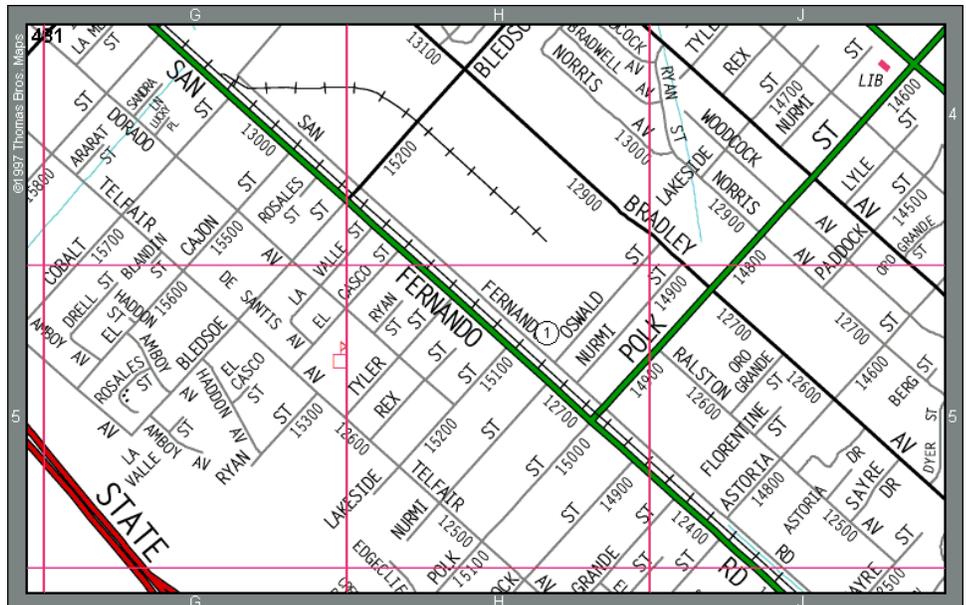
$$\begin{aligned} \text{IPA} &= (6.5)(0.92)(8.34)(10\%)/(18) = 0.27 \text{ lbs/hr} \\ &= (0.27)(24)(7)(52)/(2000) = 1.18 \text{ tons/yr} \end{aligned}$$

The attached excel worksheets calculate MICR, HIAs and HICs from the proposed new flow coater. Calculated MICRs for both receptors are less than 1E-6. Calculated HIAs and HICs for all target organs are less than 1.0 for both receptors. Therefore, Rule 1401 compliance is expected for this project.

Rule Evaluation

Rule 212(c)(1):

This section requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school.



Since no school is located within 1,000 ft, a public notice will not be required.



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Rule 212(c)(2):

This section requires a public notice for all new or modified facilities that have on-site emission increases exceeding any of the daily maximums as specified by Rule 212(g).

	Maximum Daily Controlled Emissions					
	ROG	NO _x	PM ₁₀	SO ₂	CO	Pb
Total Increase (lb/dy)	0	0	0	0	0	0
MAX MDC Limit (lb/dy)	30	40	30	60	220	3
Compliance Status	Yes	Yes	Yes	Yes	Yes	yes

The above table summarizes the emission limits and increases. Since emission increases are less than the limits, a public notice will not be required.

Rule 212(c)(3):

There will be increases in TACs. However, the calculated MICR is less than 1E-6 for both receptors. Therefore, a public notice will not be required.

Rule 212(g):

This section requires a public notice for all new or modified sources that have equipment emission increases exceeding any of the daily maximums as specified by Rule 212(g).

MDC emissions per equipment are expected from the proposed new construction. The following summarizes the limit and MDC:

	Maximum Daily Controlled (MDC) Emissions					
	ROG	NO _x	PM ₁₀	SO ₂	CO	Pb
Per project	15	0	0	0	0	0
MAX MDC Limit (lb/dy)	30	40	30	60	220	3
Compliance Status	Yes	Yes	Yes	Yes	Yes	yes

No public notice is required since the MDC is not more than the limits.

Rule 401:

Visible emissions are not expected with the proper operation of the equipment.

Rule 402:

Nuisance is not expected with the proper operation of the equipment.



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- Rule 442: Since the proposed coatings used are exempt from Rule 1124 VOC requirements, they are subject to Rule 442. The facility is subject to a monthly maximum ROG limit of 833 pounds in any one month from all emission sources that are subject to Rule 442. By complying with facility condition F2.2, the company is expected to be in compliance with this Rule.
- Rule 1124: Coatings used are exempt from Rule 1124(c)(1)(A) VOC content requirements per Rule 1124(k)(5) since coatings used at the facility are translucent and applied on transparent substrates.
- IPA is used to clean miscellaneous polycarbonate substrates as surface preparation, in compliance with Rule 1124(c)(1)(A)—the VOC composite partial pressure is 31.5 mm Hg, less than 45 mm Hg.
- Flow coater complies with Rule 1124(c)(4) transfer efficiency requirement of 65%.
- Rule 1171: Acetone is used as application equipment clean-up solvent, in compliance with Rule 1171(c)(1)(C).
- Rule 1303(a): VOC emissions from the flow coater is limited to less than 15 lbs/day. Therefore, BACT requirements are not triggered.
- Rule 1303(b)(1): Further air quality modeling analysis will not be needed since negligible PM₁₀ emissions are expected from this project.
- Rule 1303(b)(2): Emissions from this project are bubbled into the facility limit of 3510 pounds of ROG per month. Therefore, external emission offsets will not be needed.
- Rule 1401: Please see Rule 1401 Evaluation section for more details.



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Regulation XXX Evaluation

Rule 3000(b)(6) defines a "de minimis significant permit revision" as any Title V permit revision where the cumulative emission increases of non-RECLAIM pollutants or HAPs from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NOx	40
PM10	30
SOx	60
CO	220

To determine if a project is considered as a "de minimis significant permit revision" for non-RECLAIM pollutants or HAPs, emission increases for non-RECLAIM pollutants or HAPs resulting from all permit revisions that are made after the issuance of the renewal Title V permit shall be accumulated and compared to the above threshold levels. This proposed project is the 1st permit revision to the renewal Title V permit issued to this facility on 6/7/11. The following table summarizes the cumulative emission increases resulting from all permit revisions since the initial Title V permit was issued:

	HAP	VOC	NOx	PM10	SOx	CO
Current Revision, Adding One Flow Coater	0	0	0	0	0	
Cumulative Total	0	0	0	0	0	0
Maximum Daily	30	30	40	30	60	220

Since the cumulative emission increases resulting from all permit revisions are not greater than any of the emission threshold levels, this proposed project is considered as a "de minimus significant permit revision" for non-RECLAIM pollutants or HAPs.



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Recommendation

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a "de minimus significant permit revision", it is exempt from the public participation requirements under Rule 3006(b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised Title V permit will be issued to this facility, with the following permit conditions:

Facility Conditions:

F2.1 THE OPERATOR SHALL LIMIT EMISSIONS FROM THIS FACILITY AS FOLLOWS:

CONTAMINANT	EMISSIONS LIMIT
VOC	LESS THAN OR EQUAL TO 3510 LBS IN ANY ONE MONTH

To ensure compliance with the monthly Volatile Organic Compound (VOC) emission limit(s) of this condition, the operator shall comply with the following recordkeeping requirements:

- (1) The operator shall comply with Rule 109 (Recordkeeping for Volatile Organic Compound Emissions).
- (2) Within 14 calendar days after the end of each month, the operator shall total and record VOC emissions for the month from all equipment and operations covered by the monthly emission limit(s). The record shall include any procedures used to account for control device efficiencies and/or waste disposal. It shall be signed and certified for accuracy by the highest ranking individual responsible for compliance with District rules.
- (3) The operator shall maintain a single list which includes only the name and address of each person from whom the facility acquired VOC-containing material regulated by the District that was used or stored at the facility during the preceding 12 months.
- (4) The operator shall retain all purchase invoices for all VOC-containing material used or stored at the facility, and all waste manifests for all waste VOC-containing material removed from the facility, for five years.

For the purpose of this condition, the VOC emission limit shall be from all equipment and operations that are required to have written permits or are exempt from written permits pursuant to rule 219.



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F2.2 THE OPERATOR SHALL LIMIT EMISSIONS FROM THIS FACILITY AS FOLLOWS:

CONTAMINANT	EMISSIONS LIMIT
VOC	LESS THAN OR EQUAL TO 833 LBS IN ANY ONE MONTH

For the purpose of this condition, the VOC emission limit shall be from all equipment and operations that are subject to rule 442.

To ensure compliance with the VOC Volatile Organic Compound (VOC) emission limit(s) of this condition, the operator shall comply with the following recordkeeping requirements:

- (1) The operator shall comply with Rule 109 (Recordkeeping for Volatile Organic Compound Emissions).
- (2) Within 14 calendar days after the end of each month, the operator shall total and record VOC emissions for the month from all equipment and operations covered by the monthly emission limit(s). The record shall include any procedures used to account for control device efficiencies and/or waste disposal. It shall be signed and certified for accuracy by the highest ranking individual responsible for compliance with District rules.

Device Conditions:

A63.8 THE OPERATOR SHALL LIMIT EMISSIONS FROM THIS EQUIPMENT AS FOLLOWS:

CONTAMINANT	EMISSIONS LIMIT
VOC	LESS THAN 15 LBS IN ANY ONE DAY

The operator shall calculate the emission limit(s) in this device for coating usage based on total collection efficiency of 90 % by weight.

B59.4 The operator shall not use the following material(s) in this device:

Materials containing any toxic air contaminants (TAC) listed in Table 1 of Rule 1401, with an effective date of September 10, 2010, or earlier, except isopropyl alcohol (CAS No. 67-63-0).

H23.7 THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES OR REGULATIONS:

CONTAMINANT	RULE	RULE/SUBPART
VOC	DISTRICT RULE	109
VOC	DISTRICT RULE	442



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[Devices Subject to this condition: D4, D12, D13, D19, D44, D57, D60, D61, D62, D64]

K67.1 THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):

Daily usage of coatings and solvents

[Devices Subject to this condition: D2, D4, D6, D9, D10, D11, D12, D13, D16, D19, D44, D53, D54, D60, D61, D64]

K67.2 THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):

Material safety data sheets for all coatings and solvents used at this facility shall be kept current and made available to district personnel.

[Devices Subject to this condition: D4, D12, D13, D14, D15, D18, D19, D44, D55, D57, D60, D61, D64]