

<b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>STATIONARY SOURCE AND COMPLIANCE DIVISION</b> <i>Large Coating, Printing and Chemical Operations Team</i> <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGE	1 of 7
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	REVIEWED BY	
	DATE	06/02/13

**PERMIT TO OPERATE EVALUATION  
SPARY BOOTHS AND OVENS**

<b>Applicant's Name</b>	E.M.E., INC.
<b>Company I.D.</b>	45938
<b>Mailing Address</b>	431 E. OAKS STREET, COMPTON, CA 90221
<b>Equipment Address</b>	P.O. BOX 4998, COMPTON, CA 90224

**EQUIPMENT DESCRIPTION**

**Application No. 551727 (C/C, Previous P/N F64044, A/N 419000)**

SPRAY BOOTH ~~P1-B2~~ P1-B1, BLEEKER BROS., MODEL 53304(1812), FLOOR TYPE, 18'-0" W. X 12'-0" L. X 7'-10" H., WITH ONE BLANKET FILTER, 18'-0" L. X 8'-0" H. X 1" THICK, FORTY 20" X 20" PRE-FILTERS, FORTY 20" W. X 20" L. X 10.5" D. BAG-TYPE FILTERS, TWENTY FOUR 24" X 24" X 11.5" HEPA FILTERS, AND ONE 5 HP EXHAUST FAN.

**Application No. 551728 (C/C, Previous P/N F64046, A/N 419001)**

SPRAY BOOTH ~~P1-B4~~ P1-B2, BLEEKER BROS., MODEL 53304(1812), FLOOR TYPE, 18'-0" W. X 12'-0" L. X 7'-10" H., WITH ONE BLANKET FILTER, 18'-0" L. X 8'-0" H. X 1" THICK, FORTY 20" X 20" PRE-FILTERS, FORTY 20" W. X 20" L. X 10.5" D. BAG-TYPE FILTERS, TWENTY FOUR 24" X 24" X 11.5" HEPA FILTERS, AND ONE 5 HP EXHAUST FAN.

**Application No. 551729 (C/C, Previous P/N F64040, A/N 418872)**

SPRAY BOOTH P1-B3, BLEEKER BROS., MODEL 53304(1812), FLOOR TYPE, 18'-0" W. X 12'-0" L. X 7'-10" H., WITH ONE BLANKET FILTER, 18'-0" L. X 8'-0" H. X 1" THICK, FORTY 20" X 20" PRE-FILTERS, FORTY 20" W. X 20" L. X 10.5" D. BAG-TYPE FILTERS, TWENTY FOUR 24" X 24" X 11.5" HEPA FILTERS, AND ONE 5 HP EXHAUST FAN.

**Application No. 551730 (C/C, Previous P/N D01628, A/N 169017)**

OVEN, # 8, CUSTOM MADE, 8' - 0" W. X 20' - 0" L. X 8' - 0" H., ELECTRICALLY HEATED, WITH FOUR 1 HP CIRCULATION FANS.

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**Application No. 551734 (New Construction)**

OVEN, # 2, CUSTOM MADE, 8' - 6" W. X 24' - 6" L. X 8' - 6" H., ELECTRICALLY HEATED, TOTAL 36 KW, WITH A 7.5 HP CIRCULATION FAN.

**Application No. 551726**

TITLE V PERMIT REVISION

<b>HISTORY</b>
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EME, Inc. is a job shop aerospace subcontractor specializing in the processing of various aircraft component parts used on both military and commercial aircraft. The company has operated at this site for over 35 years and is part of the Title V Federal Permit Program (ID # 45938).

Aircraft component parts are not manufactured on site, but received from customers who request the parts to be chemically processed for desired properties including cleanliness, sizing, corrosion resistance, hardness, and general surface protection. Parts are primarily composed of aluminum, titanium and stainless steel and less frequently, magnesium. Processes include anodizing (chromic and sulfuric/boric acid processes), chem film, chromate and nickel seal, passivation, de-oxidation, etching, cleaning, abrasive blasting, and surface coating (painting). The company holds permits for numerous equipment including chemical process lines, spray booths, bake ovens, and blasting cabinets; control equipment includes baghouses serving the blasting cabinets and a HEPA filtration system serving the chromic acid anodizing tank and paint spray operation.

EME operates multiple permitted paint spray booths. The above three spray booths have a combined VOC mass emission cap of 39 pounds per day. The spray booths operate under the facility VOC mass emission cap 143 pounds per day. The spray booths are equipped with multi-stage filtering systems including HEPA, providing 99.999% particulate emission control efficiency. The company has requested to split the combined VOC emission limit (39 lbs/day) for the three booths into a VOC emission cap of 38 lbs/day for spray booths with current A/Ns 418872 and 419000 and an individual VOC emission cap of 1 lb/day for spray booth with current A/N 419001. Under this project, the applicant has requested to increase the VOC emission cap from 1 lb/day to 30 lb/day for the spray booth with current A/N 419001. The applicant has not requested any increase in the facility VOC emission cap. Thus, no VOC emission offsets will be required for this project. Also, the emissions from the spray booths will be less than 39 lbs/day, hence, this project will comply with the current BACT requirements. All the three spray booths have been restricted to have less than 558 pounds of hexavalent chromium in the coatings sprayed. EME has not requested to change in this condition. Hence, this project will comply with the current Rule 1401 requirements. The company has re-numbered the equipment for internal administrative reasons, which are included in this evaluation.

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EME has submitted one application for conversion of heating method from natural gas to electric on a previously permitted oven. EME also submitted one application for a new electric oven construction. Both these ovens will comply with Rule 1147, as they will be electrically heated. The VOC emissions will remain the same for the modification of the oven project. The VOC emissions from the new oven are expected to be negligible. The special parts to be cured in this oven will be air-dried first for more than 24 hours after the coating application. Then the parts will be cured in the new oven for 24 hours at a lower temperature of 140<sup>0</sup> F for the aerospace specification compliance. Most of the VOC emissions are emitted during coating and air drying operations. The emissions are already accounted for in the spray booth permits. Thus, no VOC offsets will be required for this project. Also, this project will comply with the current BACT requirements.

The District database shows no notices of violations issued to this company in the last two years. One notice to comply was issued during the last two years to provide some records. The facility was operating in compliance on the follow-up inspection. Also, the database did not show any complaint against this facility for nuisance odors or visible emissions in the last two years.

This facility is located in an industrial area and no schools are located within 1000 feet from the property-line. There are no carcinogenic air toxic emission increases from the above applications, thus there will not be any increase in the equipment MICR. Also, emissions of the criteria pollutants from this project are expected to be below the threshold limits and within the facility cap. Thus, Rule 212 public notice is not required for this project.

A Title V renewal permit for this facility is under review currently. The previous renewal was issued on July 28, 2008. The proposed project is considered a “de minimis significant permit revision” to the renewed Title V permit, as described in Regulation XXX evaluation.

<b>PROCESS DESCRIPTION</b>
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This is a aerospace component plating and coating job-shop. The aerospace components are spray coated using liquid coatings in the spray booth. Chromate containing primers are applied in the above described spray booths. With high efficiency four stage filtering system, the applicant reduces the chromate emissions. Liquid coatings are applied to metal components using HVLP spray equipment. 65% transfer efficiency is assumed for the calculations.

Average primer usage with maximum chromate content is 2 gal/day (max. 2.94 lbs/gal VOC). The topcoat maximum usage is 1.0 gal/day (max. 3.5 lb/gal VOC). The spray-gun clean-up solvent and surface preparation solvent maximum usage is 1.0 gal/day (max. 0 lb/gal VOC). Thus the company is expected to comply with the R1171 requirements. HVLP spray equipment is cleaned with a Rule 1171 compliant solvent in an enclosed spray gun washer. Hand wipe is used for surface preparation.

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The above described new booth will also be used to apply chromium containing coatings such as primers. By installing a HEPA filtering system with at least 99.997% PM10 control efficiency on the booth, the applicant reduces chromate emissions and demonstrate compliance with Rules 1401 (T-BACT) and 1469.1 requirements. Liquid coatings are applied using HVLP spray guns. 65% transfer efficiency is assumed.

**OPERATING HOURS**

Average : 10 hour/day, 5 day/week, 52 weeks/year  
Maximum: 24 hour/day, 7 day/week, 52 weeks/year

**EMISSION CALCULATIONS**

Application Nos. 551727 and 551729

These are administrative change permit applications to allocate a separate VOC emission limit. They operate under a group VOC limit and a facility VOC emission limit. The group VOC limit is reduced from 39 pounds to 38 pounds. Thus, previous application emission data will be re-entered here with a slight reduction in VOC per hour. The equipment operates under the facility VOC emission cap.

Application Nos. 551728

As explained in the evaluation above, VOC emissions are increased for this equipment from 1 pound to 30 pounds. Hence emissions will be adjusted for this change. However, overall there will not be any VOC emission changes, as the equipment operates under the facility VOC emission cap.

Application Nos. 551730

Under this project no natural gas combustion emissions are expected from this equipment. The previous NSR entries indicated 2 lb/day NOx emissions. The NSR entries for this application will show reduction of those NOx emissions. The VOC emissions are assigned to the spray booth permits. Also, overall there will not be any VOC emission changes, as the equipment operates under the facility VOC emission cap.

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Application Nos. 551734

Under this project an electric-fired oven is being installed at the facility. Hence no combustion emissions are expected from this equipment. Negligible VOC emissions are expected from this oven. As explained in the evaluation report, parts are already air-dried before they are cured in the oven. Also, VOC are entered in the spray booth permits. Also, overall there will not be any VOC emission changes, as the equipment operates under the facility VOC emission cap.

**RULES/REGULATION EVALUATION**

▣ **RULE 212, PUBLIC NOTIFICATION**

v **SECTION 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. These sources are not located within 1,000 feet from the outer boundary of a school. Therefore, public notice is not required by this section.

v **SECTION 212(c)(2):**

This section requires a public notice for all new or modified facilities which have on-site emission increases exceeding any of the daily maximums as specified in subdivision (g). As shown in the following table, the emission increases are below the daily maximum limits specified by Rule 219(g). Therefore, public notice is not required by this section.

LB/DAY	CO	NOX	PM <sub>10</sub>	ROG	SOX	Pb
<b>MAX. LIMIT</b>	220	40	30	30	60	3
<b>INCREASES</b>	0	0	0	0	0	0

v **SECTION 212(c)(3):**

There are no carcinogenic air toxic emission increases expected from this project. Therefore, public notice is not required by this section.

v **SECTION 212(g):**

This section requires a public notice for all new or modified sources which undergo construction or modifications which have emissions increases exceeding any of the daily maximum limits specified in the table below. As shown in the following table, the emission increases are below the daily maximum limits. Therefore, public notice is not required by this section.

LB/DAY	CO	NOX	PM <sub>10</sub>	ROG	Lead	SOX
<b>MAX. LIMIT</b>	220	40	30	30	3	60
<b>INCREASES</b>	0	0	0	29	0	0

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▣ **RULES 401 & 402, VISIBLE EMISSIONS & NUISANCE**

With the use of a panel filter, bag filters and HEPA filters for liquid coating spray booths, compliance with the provisions of these rules is expected. The AQMD database has no records of any visible emissions or nuisance violations against this company.

▣ **RULES 404 & 405, PARTICULATE MATTER CONCENTRATION & WEIGHT**

Compliance with these provisions is expected with the proper operation of the equipment.

▣ **RULE 481, SPRAY COATING OPERATIONS**

v **SECTION (a)**

The use of HVLP spray equipment complies with these requirements.

▣ **RULE 1124, AEROSPACE ASSEMBLY AND COMPONENT MANUFACTURING OPERATIONS**

v **SECTION (C)(1), VOC CONTENT OF COATINGS**

This facility is proposing to use compliant coatings in the spray booths. The recent inspection report of the facility dated 7/31/12 indicated compliance with the Rule 1124.

v **SECTION (c)(4), TRANSFER EFFICIENCY**

The use of HVLP spray equipment complies with these requirements.

▣ **RULE 1147, NOX REDUCTIONS FROM MISCELLANEOUS SOURCES**

The use of electric power for the ovens exempts the equipment these NOx requirements.

▣ **RULE 1171, SOLVENT CLEANING OPERATIONS**

Applicant uses acetone (exempt solvent) to clean the spray guns. This will comply with the provisions of this rule.

▣ **RULE 1171, SOLVENT CLEANING METHODS**

The use of enclosed gun cleaning system will provide compliance with these requirements.

**REGULATION XIII**

▣ **RULE 1303(a), BEST AVAILABLE CONTROL TECHNOLOGY (BACT)**

(a) VOC EMISSIONS

Since the VOC emissions from this project will not exceed 39 lbs/day, the installation and operation of add-on control equipment is not achieved in practice for this category of source (spray booths).

(b) PM10 EMISSIONS (SPRAY BOOTHS)

The use of four stage filtering system with HEPA filters satisfies BACT requirements for PM10 emissions.

⊙ **RULE 1303(b)(1), MODELING**

No detailed modeling analysis required for VOC and < 0.41 lbs/day PM10 emissions.

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⊙ **RULE 1303 (b)(2), EMISSION OFFSETS**

The facility will operate in the existing 143 lbs/day facility VOC emission limit. Hence, emission offsets are not required for the equipment.

▣ **RULE 1401, NEW SOURCE REVIEW OF CARCINOGENIC AIR CONTAMINANTS**

As discussed in the evaluation report, the coatings used by this facility contains toxic air contaminants and with the usage limits imposed in the permit, this equipment is expected to comply with the rule requirements.

⊙ **RULE 1469.1, SPRAYING OPERATIONS USING COATINGS CONTAINING CHROMIUM**

The use of an approved HEPA filter system with 99.999% control efficiency provides compliance with these requirements.

**REGULATION XXX**

**PLEASE REFER TO SEPARATE REG XXX EVALUATION**

**RECOMMENDATION**

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “de minimis 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.