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**PERMIT TO OPERATE EVALUATION
ANODIZING AND PASSIVATION LINES**

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

EQUIPMENT DESCRIPTION

Application No. 480175 (C/C, Previous P/N GXXXXX, A/N 454985)

SULFURIC ACID ANODIZING LINE CONSISTING OF:

1. TANK NO. 2A, ALKALINE CLEANING, OAKITE 61B (SODIUM CARBONATE, TRISODIUM PHOSPHATE, SODIUM METASILICATE, PHOSPHATES), STEAM HEATED.
2. TANK NO. 16B, ALKALINE ETCHING, OAKITE 160 (SODIUM HYDROXIDE, SODIUM CARBONATE) STEAM HEATED.
3. TANK NO. 4A, DEOXIDIZING, OAKITE LNC (NITRIC ACID, FERRIC SULFATE), STEAM HEATED.
4. TANK NO. 17, RINSING, SODIUM BICARBONATE, STEAM HEATED, WITH AIR SPARGING.
5. TANK NO. 7A, ANODIZING, SULFURIC ACID, BORIC ACID, RECTIFIED, STEAM HEATED.
6. TANK NO. 7, ANODIZING, SULFURIC ACID, RECTIFIED, STEAM HEATED.
7. TANK NO. 15A, CHEM FILM, ALODINE 1500 (CHROMIC ACID, AMMONIUM HEXAFLUOROZIRCONATE), HEATED.

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8. TANK NO. 15, CHEM FILM, IRRIDITE 14-2 (CHROMIUM TRIOXIDE, SODIUM SILICOFLUORIDE, FERRICYANIDE, BARIUM NITRATE), STEAM HEATED.
9. TANK NO. 11C, SEALING, SODIUM DICHROMATE, STEAM HEATED.
10. TANK NO. 11A, SEALING, DILUTE SODIUM CHROMATE, CHROMIC ACID, STEAM HEATED.
11. TANK NO. C5, ETCHING, HYDROFLUORIC ACID, NITRIC ACID, STEAM HEATED.
16. TANK NO. C3, DESMUT, NITRIC ACID, STEAM HEATED.
17. ASSOCIATED RINSE TANKS.

Application No. 480192 (C/C, Previous P/N F50021, A/N 375276)

CHROMIC ACID ANODIZING LINE CONSISTING OF:

1. TANK NO. 2, DEGREASING TANK, ALKALINE SOLUTION (BRULIN 815GD), STEAM HEATED.
2. TANK NO. 2C, ALKALINE CLEANER TANK, ALKALINE SOLUTION (D909) WITH SODIUM METASILICATE, TRISODIUM PHOSPHATE, SODIUM TRIPOLY PHOSPHATE AND SURFACTANT, 1'-5" W. X 15'-6" L. X 4'-0" H., STEAM HEATED.
3. TANK NO. 55A, ETCH TANK, NITRIC AND HYDROFLUORIC ACIDS, STEAM HEATED.
4. TANK NO. 16C, TRI-ACID ETCH TANK, SULFURIC, CHROMIC AND HYDROFLUORIC ACIDS, STEAM HEATED.
5. TANK NO. 51B2, PASSIVATE TYPE VI TANK, NITRIC ACID, STEAM HEATED.
6. TANK NO. 51-2, PASSIVATE TYPE VIII, NITRIC ACID, STEAM HEATED.
7. TANK NO. 16A, ALKALINE ETCH TANK, OAKITE 160 (SODIUM HYDROXIDE, SODIUM CARBONATE), STEAM HEATED.
8. TANK NO. 4, CHROMATE DEOXIDIZING TANK, OAKITE LNC (NITRIC ACID, FERRIC SULFATE), STEAM HEATED.
9. TANK NO. 6, CHROMIC ACID ANODIZING TANK, CHROMIC ACID, STEAM HEATED, RECTIFIED.

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7. TANK NO. 11D, DILUTE CHROMATE SEALER TANK, SODIUM DICHROMATE AND CHROMIC ACID, STEAM HEATED.
11. ASSOCIATED RINSE TANKS.

Application No. 480196 (C/C, Previous P/N F50028, A/N 377778)

PASSIVATION LINE CONSISTING OF:

1. TANK NO. 1, ALKALINE CLEANER, BRULIN 815GD, STEAM HEATED.
2. TANK NO. 36, ALKALINE CLEANER, D909 (TRISODIUM PHOSPHATE, SODIUM TRIPOLYPHOSPHATE, SODIUM METASILICATE), STEAM HEATED.
3. TANK NO. 38, HCL DESMUT TANK, HYDROCHLORIC ACID, RODINE (ISOPROPYL ALCOHOL, PROPARGYL ALCOHOL, HYDROGEN CHLORIDE), UNHEATED.
4. TANK NO. 51C, TYPE 7 PASSIVATE TANK, NITRIC ACID, STEAM HEATED.
5. TANK NO. 51, TYPE 8 PASSIVATE VIII TANK, NITRIC ACID, STEAM HEATED.
6. TANK NO. 51A, TYPE II PASSIVATE TANK, NITRIC ACID AND SODIUM DICHROMATE, STEAM HEATED.
7. TANK NO. 51B, TYPE VI PASSIVATE TANK, NITRIC ACID, STEAM HEATED.
8. TANK NO. 55, ACID TANK, NITRIC ACID AND HYDROFLUORIC ACID, STEAM HEATED.
9. TANK NO. 56, CHROMATE RINSE, SODIUM DICHROMATE, STEAM HEATED.
10. TANK NO. 51D, TYPE HP4-8 PASSIVATE TANK, NITRIC ACID AND SODIUM DICHROMATE, STEAM HEATED.
11. TANK NO. 53, ELECTROPOLISH TANK, PHOSPHORIC ACID AND SULFURIC ACID, STEAM HEATED AND RECTIFIED.
12. ASSOCIATED RINSE TANKS.

Application No. 480191 (C/C, Previous P/N F50024, A/N 377773)

ALUMINUM ETCH LINE CONSISTING OF:

1. TANK NO. 2B, ALKALINE CLEAN TANK, SODIUM BORATE, STEAM HEATED.

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2. TANK NO. 16, ALUMINUM ETCH TANK, SODIUM HYDROXIDE, STEAM HEATED.
3. TANK NO. 4B, DEOXIDIZER TANK, NITRIC ACID, FERRIC SULFATE, STEAM HEATED.
4. ASSOCIATED RINSE TANKS.

HISTORY

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 30 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 tanks 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.

EME has filed above applications for modification to their sulfuric acid & chromic acid anodizing lines, aluminum etching line and passivation line, currently operating under existing permits. The modification involves modification of the size of the tanks to accommodate different parts, change of chemical composition of some solutions and change in operating temperatures. The sulfuric acid anodizing line has an active permit to construct (P/C 454985) issued on September 22, 2006. The modification under permit to construct has been completed a long time ago, however, a permit to operate was not issued till now. Under this project the P/C (# 454985) will be converted to P/O which will be again modified under application no. 480175. A 45-day EPA review will be requested concurrently for this process line. The PM10 emission increases from this modification project are expected to be <0.5 lb/day. Thus, no offsets are required for this project. Also, it does not trigger BACT requirements.

The district database shows no notices to comply or violations are issued to this company in the last two years. Also, the database shows no complaint against this facility for nuisance odors or visible emissions in the last two years.

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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 process lines, thus there will not be any increase in the facility MICR. Also, emissions of the criteria pollutants from this project are expected to be below the threshold limits. Thus, Rule 212 public notice is not required for this project.

A Title V renewal permit for this facility 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.

PROCESS DESCRIPTION

The sulfuric acid or chromic acid anodizing lines consist of a number of main tanks and other associated water rinse tanks. The main tanks include various cleaning tanks, an alkaline etch tank, bicarbonate rinse, chromate and nickel seal tanks, chem film tanks (including the patented Alodine[®] and Irridite[®] processes typically used in aerospace applications), and chromic acid, sulfuric acid and boric acid anodizing tanks. The tanks contain a variety of chemicals at varying concentrations and temperatures; some of the tanks are rectified and some tanks employ agitation equipment. None of the tanks are vented to air pollution control equipment. Various parts are processed in various tanks depending on the desired result for that component. Components can be immersed via overhead hoist/crane or using baskets or racks, depending on part weight and geometry. After processing, parts are rinsed and ready for other types of processing (e.g. painting) or, if done, packaged for shipment.

The passivation line also consists of a number of tanks and other associated rinse tanks. Most of these tanks are used to clean or etch the different metal parts. The main function of the passivation tank is to create a protective film of oxide on the surface of the components. Most of the time the parts are immersed in the passivation tanks for a minute or so, to achieve this film formation.

OPERATING HOURS

Average : 16 hour/day, 7 day/week, 52 weeks/year
Maximum: 24 hour/day, 7 day/week, 52 weeks/year

EMISSION CALCULATIONS

Application No. 480192 (Chromic Acid Anodizing Line)

District Toxic unit excel worksheets were used to calculate the emissions from the proposed and previous anodizing line (see attached copies). The calculations show proposed PM10 emissions are to be 0.69 lbs/hr (16.56 lbs/day). The previous anodizing line had PM10 emissions 0.816 lbs/hr

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(19.584 lbs/day). Thus, there is decrease in PM10 emissions under this project. There are nitric acid emission decreases under this project. Compliance is expected with Rule 1401 and BACT.

Application No. 480175 (Sulfuric Acid Anodizing Line)

District Toxic unit excel worksheets were used to calculate the emissions from the proposed and previous sulfuric acid anodizing line (see attached copies). The calculations show proposed PM10 emissions are to be 0.0817 lbs/hr (1.961 lbs/day). The previous anodizing line had PM10 emissions 0.0853 lbs/hr (2.047 lbs/day). Thus, there is reduction of PM10 emissions under this project. There are no toxic emission increases under this project. Compliance is expected with Rule 1401 and BACT.

Application No. 480191 (Aluminum Etching Line)

District Toxic unit excel worksheets were used to calculate the emissions from the proposed and previous aluminum etching line (see attached copies). The calculations show proposed PM10 emissions are to be 0.0003 lbs/hr. The previous anodizing line had PM10 emissions 0.0011 lbs/hr. Thus, there is reduction of PM10 emissions under this project. There are no toxic emission increases under this project. Compliance is expected with Rule 1401 and BACT.

Application No. 480196 (Passivation Line)

District Toxic unit excel worksheets were used to calculate the emissions from the proposed and previous aluminum etching line (see attached copies). The calculations show proposed PM10 emissions are to be 0.031 lbs/hr (0.74 lbs/day). The previous anodizing line had PM10 emissions 0.059 lbs/hr (1.42 lbs/day). Thus, there is decrease in PM10 emissions under this project. There are nitric acid emission decreases under this project. Compliance is expected with Rule 1401 and BACT.

NOx Emissions:

During the stainless steel passivation process only free iron contamination from the surface is removed by acidic dissolution. Free iron or iron compounds are deposited on the surface during the machining and fabricating of the components. These contaminants are potential corrosion initiating sites on the surface for the components' failures, if not removed from the surface. In addition, passivation process creates a thin layer of an oxide film on the surface of the part. This layer provides protection against selective corrosion. Thus, the metal removal in this process is very minimal. Thus, it is assumed here that the NOx emissions from the passivation line are negligible.

The following Table summarizes PM10 emissions from the project.

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Application No.	PM10 Emission Changes Lbs/day
480192	- 3.02
480175	- 0.09
480191	Negligible
480196	- 0.68
Total	- 3.79

RULES/REGULATION EVALUATION

▣ *RULE 212, PUBLIC NOTIFICATION*

√ *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. This source is not located within 1,000 feet from the outer boundary of a school. Therefore, public notice is not required by this section.

√ *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, this application will not be subject to this section.

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

√ *SECTION 212(c)(3):*

There are no carcinogenic air toxic emissions expected from this equipment. Therefore, this application will not be subject to this section.

√ *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, this application will not be subject to this section.

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

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

No visible emissions are expected with the proper operation and maintenance of the equipment.

REGULATION XIII

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

(b) PM10 EMISSIONS

With no increase in the PM10 emissions, BACT is not triggered.

□ **RULE 1303(b)(1), MODELING**

With no increase in the PM10 emissions, modeling is not triggered.

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

With no increase in the PM10 emissions, offsets are not required.

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

With no increase in the toxic emissions, compliance with these requirements is expected.

REGULATION XXX

PLEASE REFER TO SEPARATE REG XXX EVALUATION

This proposed project is the 2nd permit revision to the Title V renewal permit issued to this facility on July 28, 2008. This revision consists of two projects which were evaluated separately.

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.