

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

ENGINEERING DIVISION

**APPLICATION PROCESSING AND CALCULATIONS**

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**APPLICANT'S NAME:** Northrop Grumman Space and Mission Systems Corporation

**FACILITY PERMIT ID#** 800409

**CONTACT PERSON:** ANTONIO S. LU

**MAILING ADDRESS:** ONE SPACE PARK DRIVE,  
BLDG CS1/1800  
REDONDO BEACH, CA 90278

**EQUIPMENT ADDRESS:** ONE SPACE PARK DRIVE,  
BLDG M3/1153  
REDONDO BEACH, CA 90278

**Title V Permit Revision:**  
Application No. 521842

**PERMIT TO CONSTRUCT  
Section H**

**Equipment Description:**

<b>PROCESS 1: FABRICATED METALS SYSTEM #1: SURFACE PREPARATION</b>					
Equipment	Device ID	Connected To	Source Type/ Monitoring Unit	Emissions	Equipment Specific Conditions
PROCESS TANK, NO. 1, ALKALINE CLEANING, HEATED, WIDTH: 19IN; LENGTH: 48IN; DEPTH: 24IN; 9-KW  Reference A/N 545764521846	D276				A.433.1, C6.5, E193.1
PROCESS TANK, NO. 4, ALKALINE SOAK, HEATED, WIDTH: 26IN; LENGTH: 32IN; DEPTH: 95.5IN; 27-KW  Reference A/N 545764521846	D277	C162			A.433.1, C6.6 E193.1
PROCESS TANK, NO. 6, ALKALINE ETCH, SODIUM HYDROXIDE, HEATED, WIDTH: 26IN; LENGTH: 32IN 4IN; DEPTH: 95.5IN; 27-KW  Reference A/N 545764521846	D278	C162			A.433.1, C6.6, E193.1

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<p>PROCESS TANK, NO. 8, CONVERSION COATING, SULFURIC ACID, INORGANIC ACID, <u>NITRIC ACID</u>, UNHEATED, AIR SPARGED, WIDTH: 26IN; LENGTH: 32IN; DEPTH: 95.5IN;</p> <p>Reference A/N <u>515761521846</u></p>	D279	C162			A.433.1, E193.1
<p>PROCESS TANK, NO. 10, CHEM FILM, CHROMIC ACID, BARIUM NITRATE, SODIUM SILICOFLUORIDE, FERRICYANIDE, UNHEATED, WIDTH: 26IN; LENGTH: 32IN; DEPTH: 95.5IN;</p> <p>Reference A/N <u>515761521846</u></p>	D280	C162			A.433.1, E193.1
<p>PROCESS TANK, NO. 76, COVERED, UNHEATED, ACID ETCH/MILL, TRISODIUM PHOSPHATE, SODIUM FLUORIDE, HYDROCHLORIC ACID, HYDROFLUORIDE, WIDTH: 14IN; LENGTH: 32IN; DEPTH: 35.5IN;</p> <p>Reference A/N <u>515761521846</u></p>	D317	C162			A.433.1, E193.1
<p>PROCESS TANK, NO. 77, COVERED, UNHEATED, ACID ETCH/MILL, NITRIC ACID, CHROMIC ACID, HYDROFLUORIC HYDROFLUOSILICIC ACID, WIDTH: 14IN; LENGTH: 32IN; DEPTH: 35.5IN;</p> <p>Reference A/N <u>515761521846</u></p>	D318	C162			A.433.1, E193.1
<p>PROCESS TANK, NO. 79, COVERED, UNHEATED, ACID CLEAN, NITRIC ACID, HYDROFLUORIC ACID, WIDTH: 14IN; LENGTH: 32IN; DEPTH: 35.5IN;</p> <p>Reference A/N <u>515761521846</u></p>	D319	C162			A.433.1, E193.1
<p>PROCESS TANK, NO. 80, COVERED, UNHEATED, ACID CLEAN, NITRIC ACID, HYDROFLUORIC ACID, TRISODIUM PHOSPHATE, SODIUM FLUORIDE, WIDTH: 14IN; LENGTH: 32IN; DEPTH: 35.5IN;</p> <p>Reference A/N <u>515761521846</u></p>	D320	C162			A.433.1, E193.1
<p>PROCESS TANK, NO. 82, UNHEATED, PASSIVATION, NITRIC ACID, WIDTH: 20IN; LENGTH: 32IN; DEPTH: 35.5IN;</p> <p>Reference A/N <u>515761521846</u></p>	D321				A.433.1, E193.1

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<p>PROCESS TANK, NO. 84, HEATED, PASSIVATION, SODIUM METASILICATE, SODIUM HYDROXIDE, SODIUM TRIPOLYPHOSPHATE, ROSEN SOAP, WIDTH: 20IN; LENGTH: 32IN; DEPTH: 35.5IN: 9-KW</p> <p>Reference A/N <u>515764521846</u></p>	D322				A.433.1, C6.15, E193.1
<p>PROCESS TANK, NO. 85, COVERED, HEATED, ALKALINE CLEAN, DETERGENT, SODIUM HYDROXIDE, WIDTH: 14IN; LENGTH: 32IN; DEPTH: 23.5IN: 4-KW</p> <p>Reference A/N <u>515764521846</u></p>	D323				A.433.1, C6.7, E193.1
<p>PROCESS TANK, NO. 86, HEATED, AIR SPARGED, CLEANING, ALKALINE DETERGENT, WIDTH: 56IN; LENGTH: 20IN; DEPTH: 47.5IN: 24-KW</p> <p>Reference A/N <u>515764521846</u></p>	D324	C162			A.433.1, C6.8, E193.1
<p>PROCESS TANK, NO. 88, HEATED, ACID CLEAN, SULFURIC ACID, SODIUM DICHROMATE, WIDTH: 56IN; LENGTH: 20IN; DEPTH: 47.5IN: 18-KW</p> <p>Reference A/N <u>515764521846</u></p>	D325	C162			A.433.1, C6.6, E193.1
<p>PROCESS TANK, NO. 89, HEATED, CONVERSION COATING, SODIUM HYDROXIDE, WIDTH: 12IN; LENGTH: 18IN; DEPTH: 18IN.: 3-KW</p> <p>Reference A/N <u>515764521846</u></p>	D326				A.433.1, C6.9, E193.1
<p>BENCH, HEATED, CHEMICAL ANALYSIS, TECHNISTRIP AU/ENSTRIP AU-78, LENGTH: 25IN, WIDTH: 25IN, HEIGHT: 36IN, HEATED</p> <p>Reference A/N <u>515764521846</u></p>	D329	C162			A433.5, C6.13, E193.1
<p>BENCH, HEATED, ETCHING/STRIPPING, NITRIC ACID, SULFURIC ACID, SODIUM HYDROXIDE, LENGTH: 32IN, WIDTH: 32IN, HEIGHT: 36IN</p> <p>Reference A/N <u>515764521846</u></p>	D330	C162			A433.6, C6.12, E193.1

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## APPLICATION PROCESSING AND CALCULATIONS

**Conditions:**

- A433.1 THE OPERATOR SHALL NOT USE IN THIS EQUIPMENT ANY TOXIC AIR CONTAMINANTS (TAC) IDENTIFIED IN SCAQMD RULE 1401, AS AMENDED SEPT. 10, 2010, EXCEPT AS IDENTIFIED BELOW UP TO THE FOLLOWING CONTENT LIMIT.

POLLUTANT	TANK NO.	MAX CONTENT (WT%)
Sodium Hydroxide	6,84, 85, 89	30.0
Chrome Compounds	88	5.0
Chrome Compounds	10	2.0
<u>Chrome Compounds</u>	<u>77</u>	<u>10</u>
<u>Diethanolamine</u>	<u>84</u>	<u>5</u>
Nitric Acid	77	45
Nitric Acid	82	50
Nitric Acid	79, 80	35
<u>Nitric Acid</u>	<u>8</u>	<u>10</u>
Hydrogen Fluoride	<del>77</del> , 79, 80	11
Hydrogen Fluoride	76	10.0
Sulfuric Acid	8	20
Sulfuric Acid	88	40
Hydrochloric Acid	76	15

- A433.5 THE OPERATOR SHALL NOT USE IN THIS EQUIPMENT ANY TOXIC AIR CONTAMINANTS (TAC) IDENTIFIED IN SCAQMD RULE 1401, AS AMENDED MARCH 4, 2005, EXCEPT AS IDENTIFIED BELOW UP TO THE FOLLOWING CONTENT LIMIT.

POLLUTANT	Device No.	MAX CONTENT (WT%)
Lead Compounds	D329	1.0

- A433.6 THE OPERATOR SHALL NOT USE IN THIS EQUIPMENT ANY TOXIC AIR CONTAMINANTS (TAC) IDENTIFIED IN SCAQMD RULE 1401, AS AMENDED MARCH 4, 2005, EXCEPT AS IDENTIFIED BELOW UP TO THE FOLLOWING CONTENT LIMIT.

POLLUTANT	Device No.	MAX CONTENT (WT%)
Sodium Hydroxide	D330	10.0
Nitric Acid	D330	50.0
Sulfuric Acid	D330	50.0

- C6.5 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING

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MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 175 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

- C6.6 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 170 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

- C6.7 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 185 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

- C6.8 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 140 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

- C6.9 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 230 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

- C6.12 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 200 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

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C6.13 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 160 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

C6.15 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 210 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

E193.1 THE OPERATOR SHALL RESTRICT THE OPERATION OF THIS EQUIPMENT AS FOLLOWS:

TANKS CONTAINING CHROME COMPOUNDS SHALL NOT BE AIR SPARGED OR RECTIFIED.

**PERMIT TO CONSTRUCT  
Section H**

**Equipment Description:**

<b>PROCESS 1: FABRICATED METALS SYSTEM #4: PRECIOUS METAL PLATING</b>					
Equipment	Device ID	Connected To	Source Type/ Monitoring Unit	Emissions	Equipment Specific Conditions
PROCESS TANK, NO.38, GOLD PLATEING, WITH A 15V, 2550 AMP RECTIFIER, HEATED, POTASSIUM CYANOAUATE, THALLIUM COMPOUND, OROTEMP SOLUTION, WIDTH: 1 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH:2FT 8 IN  A/N: 515760 521841	D294	C162			A433.4, C6.13, E448.1
PROCESS TANK, NO.39, GOLD PLATEING, WITH A 15V, 2550 AMP	D295	C162			A433.4, C6.13, E448.1

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RECTIFIER, HEATED, POTASSIUM CYANOaurate, THALLIUM COMPOUND, OROTEMP SOLUTION, WIDTH: 1 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH:2FT 8 IN  A/N:-515760 521841					
PROCESS TANK, NO.41, ALKALINE RINSE, UNHEATED, SODIUM HYDROXIDE, WIDTH: 1 FT 2 IN; HEIGHT: 1 FT 11.5 IN; LENGTH:2FT 8 IN  A/N:-515760 521841	D327				<u>A433.4</u>
PROCESS TANK, NO.42, GOLD PLATEING, POTASSIUM AUROCYNIDE, COBALT COMPLEX, NICKEL COMPLEX, POTASSIUM CITRATE, CITRIC ACID, MONOPOTASSIUM PHOSPHATE, WITH A 15V, 50100 AMP. RECT, WIDTH: 1 FT 8 IN; HEIGHT: 1FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N:-515760 521841	D296	C162			<u>A433.4</u> , C6.10, E448.1
PROCESS TANK, NO.43, GOLD PLATEING, POTASSIUM AUROCYNIDE, COBALT COMPLEX, NICKEL COMPLEX, POTASSIUM CITRATE, CITRIC ACID, MONOPOTASSIUM PHOSPHATE, WITH A 15V, 50100 AMP. RECT, WIDTH: 1 FT 8 IN; HEIGHT: 1FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N:-515760 521841	D297	C162			<u>A433.4</u> , C6.10, E448.1
PROCESS TANK, NO.45, GOLD PLATEING, WITH A 20V, 100 AMP RECTIFIER, HEATED, POTASSIUM CITRATE, CITRIC ACID, MONOPOTASSIUM PHOSPHATE, POTASSIUM CYANOaurate, WIDTH: 1 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N:-515760 521841	D298	C162			<u>A433.4</u> , C6.10, E448.1
PROCESS TANK, NO.73, GOLD PLATEING, WITH A 10V, 2550 AMP RECTIFIER, HEATED, POTASSIUM GOLD CYANIDE, AMMONIUM HYDROXIDE, WIDTH: 1 FT 2 IN; HEIGHT: 2 FT 11.5 IN; LENGTH:2FT 8 IN  A/N:-515760 521841	D316	C162			<u>A433.4</u> , C6.1, E448.1
PROCESS TANK, NO.47, TIN/LEAD PLATEING, WITH A 15V, 50100 AMP. RECTIFIER, UNHEATED, TIN FLUOBORATE, LEAD FLUOBORATE, BORIC ACID, FLUORBORIC ACID, PEPTON, WIDTH: 2 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN	D299	C162			<u>A433.4</u> , E448.1

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A/N: <del>515760</del> 521841					
PROCESS TANK, NO.48, TIN PLATEING, WITH A 15V, <del>50</del> 100 AMP RECTIFIER, UNHEATED, TIN FLUOBORATE, LEAD FLUOBORATE, BORIC ACID, FLUORBORIC ACID, PEPTON, WIDTH: 2 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN	D300	C162			<u>A433.4</u> , E448.1
A/N: <del>515760</del> 521841					
PROCESS TANK, NO.59, SILVER PLATEING, WITH A 20V, <del>400</del> 150 AMP. RECTIFIER, UNHEATED, POTASSIUM SILVER CYANIDE, POTASSIUM CYANIDE, POTASSIUM CARBONATE, KOH, WIDTH: 1 FT 9 IN; HEIGHT: 2 FT 6 IN; LENGTH: 2 FT 6 IN	D306	C162			<u>A433.4</u> , E448.1
A/N: <del>515760</del> 521841					
PROCESS TANK, NO.60, SILVER STRIKE, WITH A 20V, <del>400</del> 150 AMP RECTIFIER, UNHEATED, POTASSIUM SILVER CYANIDE, POTASSIUM CYANIDE, POTASSIUM CARBONATE, WIDTH: 1 FT 9 IN; HEIGHT: 2 FT 6 IN; LENGTH: 2 FT 6 IN	D307	C162			<u>A433.4</u> , E448.1
A/N: <del>515760</del> 521841					
PROCESS TANK, NO.61, SILVER PLATE, WITH A 15V, <del>50</del> 100 AMP. RECTIFIER, UNHEATED, POTASSIUM SILVER CYANIDE, POTASSIUM CYANIDE, POTASSIUM CARBONATE, WIDTH: 1 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN	D308	C162			<u>A433.4</u> , E448.1
A/N: <del>515760</del> 521841					
PROCESS TANK, NO.62, SILVER PLATE, WITH A 15V, <del>50</del> 100 AMP RECTIFIER, UNHEATED, POTASSIUM SILVER CYANIDE, POTASSIUM CYANIDE, POTASSIUM ANTIMONY TRATRATE, WIDTH: 2 FT 2 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN	D309	C162			<u>A433.4</u> , E448.1
A/N: <del>515760</del> 521841					

**Conditions:**

Not to use Toxic air contaminants unless listed in description

A433.4 THE OPERATOR SHALL NOT USE IN THIS EQUIPMENT ANY TOXIC AIR CONTAMINANTS (TAC) IDENTIFIED IN SCAQMD RULE 1401, AS AMENDED SEPT. 10, 2010, EXCEPT AS IDENTIFIED BELOW UP TO THE FOLLOWING CONTENT LIMIT.

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POLLUTANT	CAS NO.	MAX CONTENT (WT%)
Lead Compounds	47,48	3.0
Sodium Hydroxide	41	30
Nickel Compounds	42,43	0.5

C6.1 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 185 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

C6.10 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 145 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

C6.13 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 160 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

E448.1 THE OPERATOR SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS

Rule 1426 recordkeeping  
[RULE 1426, 5-2-2003]

**PERMIT TO CONSTRUCT  
Section H**

ENGINEERING DIVISION

## APPLICATION PROCESSING AND CALCULATIONS

**Equipment Description:**

<b>PROCESS 1: FABRICATED METALS SYSTEM #3: NICKEL PLATING</b>					
Equipment	Device ID	Connected To	Source Type/ Monitoring Unit	Emissions	Equipment Specific Conditions
PROCESS TANK, NO.12, COVERED, ETCH, UNHEATED, NITRIC ACID, HYDROFLUORIC ACID, WIDTH:1 FT 2 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 7.25 IN  A/N:-515759521843	D281	C162			<u>A433.3</u> , E448.1
PROCESS TANK, NO.14, ACID CLEAN, UNHEATED, NITRIC ACID, WIDTH: 1 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N:-515759521843	D282				<u>A433.3</u> , E448.1
PROCESS TANK, NO.16, ALKALINE ETCH, UNHEATED, SODIUM HYDROXIDE, ZINC OXIDE WIDTH: 1 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N:-515759521843	D283				<u>A433.3</u> , E448.1
PROCESS TANK, NO.19, COVERED, ELECTROLESS NICKEL, HEATED, ACETIC ACID, TETRASOD SALT,SOD HYPOPHOSPHITE, NH3, LEAD ACE, NI SULFATE, H2SO4, WIDTH: 2 FT ; HEIGHT: 2 FT 4 IN; LENGTH: 3FT  A/N:-515759521843	D284	C162			<u>A433.3</u> , C6.12 E448.1
PROCESS TANK, NO.20, COVERED, ELECTROLESS NICKEL, HEATED, ACETIC ACID, TETRASOD SALT, SOD HYPOPHOSPHITE, NH3, LEAD ACE, NI SULFATE, H2SO4, WIDTH: 2 FT ; HEIGHT: 2 FT 4 IN; LENGTH: 3 FT  A/N:-515759521843	D285	C162			<u>A433.3</u> , C6.12, E448.1
PROCESS TANK, NO.23, COVERED,-STRIPPING, UNHEATED, NITRIC ACID, WIDTH: 1 FT 2 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N:-515759521843	D286	C162			<u>A433.3</u> , E448.1
PROCESS TANK, NO.25, COVERED, SOLDER STRIP, UNHEATED, AMMONIUM BIFLUORIDE, HYDROGEN	D287	C162			<u>A433.3</u> , E448.1

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PEROXIDE, WIDTH: 1FT 2 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515759521843</u>					
PROCESS TANK, NO.26, COVERED, SOLDER STRIP, UNHEATED, AMMONIUM BIFLUORIDE, HYDROGEN PEROXIDE, WIDTH: 1FT 2 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515759521843</u>	D288	C162			<u>A433.3</u> , E448.1
PROCESS TANK, NO.27, ALKALINE CLEAN, HEATED, SODIUM HYDROXIDE, SODIUM METASILICATE, SODIUM CARBONATE, WIDTH: 1 FT 8IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515759521843</u>	D289				<u>A433.3</u> , C6.6, E448.1
PROCESS TANK, NO.29, ACID CLEAN, UNHEATED, HYDROCHLORIC ACID, WIDTH: 1FT 2 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515759521843</u>	D290	C162			<u>A433.3</u> , E448.1
PROCESS TANK, NO.31, NICKEL STRIKE, WITH A 20V, 150200 AMP RECTIFIER, UNHEATED, NICKEL CHLORIDE, HYDROCHLORIC ACID, WIDTH: 1 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515759521843</u>	D291	C162			<u>A433.3</u> , E448.1
PROCESS TANK, NO.33, NICKEL PLATE, WITH A 15V, 25100 AMP RECTIFIER, HEATED, NICKEL SULFAMATE, NICKEL BROMIDE, BORIC ACID, WIDTH: 2 FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515759521843</u>	D292	C162			<u>A433.3</u> , C6.14, E448.1
PROCESS TANK, NO.35, ALKALINE ETCH, UNHEATED, AMMONIUM PERSULFATE, SODIUM BISULFATE, WIDTH: 1 FT 2 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515759521843</u>	D293				<u>A433.3</u> , E448.1

**Conditions:**

Not to use Toxic air contaminants unless listed in description

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- A433.3 THE OPERATOR SHALL NOT USE IN THIS EQUIPMENT ANY TOXIC AIR CONTAMINANTS (TAC) IDENTIFIED IN SCAQMD RULE 1401, AS AMENDED SEPTEMBER 10, 2010, EXCEPT AS IDENTIFIED BELOW UP TO THE FOLLOWING CONTENT LIMIT.

POLLUTANT	TANK NO.	MAX CONTENT (WT%)
Sodium Hydroxide	16,27	30.0
Nickel Compounds	31,33	46.0
Nitric Acid	14,23	60
Nitric Acid	12	60
Hydrogen Fluoride	12	16
Ammonia	19,20	1.0
Lead Compound	19,20	3.0
Sulfuric Acid	19,20	20
Hydrochloric Acid	31	15
Hydrochloric Acid	29	25

- C6.6 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 170 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

- C6.12 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 200 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

- C6.14 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 150 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

- E448.1 THE OPERATOR SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS

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[RULE 1426, 5-2-2003]

**PERMIT TO CONSTRUCT  
Section H**

**Equipment Description:**

<b>PROCESS 1: FABRICATED METALS SYSTEM #2: COPPER PLATING</b>					
Equipment	Device ID	Connected To	Source Type/ Monitoring Unit	Emissions	Equipment Specific Conditions
PROCESS TANK, NO.49, ACID CLEAN, UNHEATED, FLUORBORIC ACID, WIDTH:1FT 2 IN; HEIGHT:1FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515758521844</u>	D301				A433.2, E448.1
PROCESS TANK, NO.51, COPPER PLATE, WITH A 15V, 50100 AMP RECTIFIER, HEATED, COPPER PYROPHOSPHATE, AMMONIA, LEAD METHANE SULFONATE, WIDTH: 2 FT 8 IN; HEIGHT: 2 FT; LENGTH:2FT 8IN  A/N: <u>515758521844</u>	D302	C162			A433.2, C6.10 E448.1
PROCESS TANK, NO.52, COPPER PLATE, WITH A 15V, 50100 AMP RECTIFIER, HEATED, COPPER PYROPHOSPHATE, AMMONIA, LEAD METHAN SULFONATE, WIDTH: 2 FT 8 IN; HEIGHT: 2 FT; LENGTH:2FT 8IN  A/N: <u>515758521844</u>	D303	C162			A433.2, C6.10 E448.1
PROCESS TANK, NO.54, ACID CLEAN, UNHEATED, SULFURIC ACID, WIDTH:1FT 2IN; HEIGHT: 1FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515758521844</u>	D304				A433.2, E448.1
PROCESS TANK, NO.56, COPPER PLATE, WITH A 20V, 400150 AMP RECTIFIER, HEATED, COPPER CYANIDE, SODIUM CYANIDE, SODIUM CARBONATE, POTASSIUM SODIUM TARTRATE, WIDTH:1FT 8 IN; HEIGHT: 1 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>515758521844</u>	D305	C162			A433.2, C6.11 E448.1

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PROCESS TANK, NO.64, COPPER PLATE, WITH A 15V, 25100 AMP RECTIFIER, UNHEATED, AIR SPARGED, COPPER SULFATE, SULFURIC ACID, HYDROCHLORIC ACID, WIDTH: 3 FT 9 IN; HEIGHT: 2 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>545758521844</u>	D310	C162				<u>A433.2,</u> <u>E448.1</u>
PROCESS TANK, NO.65, COPPER PLATE, WITH A 15V, 25100 AMP RECTIFIER, UNHEATED, AIR SPARGED, COPPER SULFATE, SULFURIC ACID, SULFURIC ACID, HYDROCHLORIC ACID, WIDTH: 3FT 9 IN; HEIGHT: 2 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>545758521844</u>	D311	C162				<u>A433.2,</u> <u>E448.1</u>
PROCESS TANK, NO.67, COVERED, ACID CLEAN, UNHEATED, SULFURIC ACID, WIDTH: 1 FT 2 IN; HEIGHT:2FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>545758521844</u>	D312					<u>A433.2,</u> <u>E448.1</u>
PROCESS TANK, NO.68, COPPER CLEAN, HEATED, DETERGENT, WIDTH:1FT 2 IN; HEIGHT: 2 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>545758521844</u>	D313					<u>A433.2,</u> <u>E448.1</u>
PROCESS TANK, NO.70, COVERED, ACID CLEAN, UNHEATED, NITRIC ACID, PHOSPHORIC ACID, ACETIC ACID, WIDTH: 1 FT 2 IN; HEIGHT: 2 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>545758521844</u>	D314					<u>A433.2,</u> <u>E448.1</u>
PROCESS TANK, NO.71, COVERED, ACID CLEAN, UNHEATED, NITRIC ACID, PHOSPHORIC ACID, ACETIC ACID, WIDTH: 1 FT 2 IN; HEIGHT: 2 FT 11.5 IN; LENGTH: 2 FT 8 IN  A/N: <u>545758521844</u>	D315					<u>A433.2,</u> <u>E448.1</u>

**Conditions:**

Not to use Toxic air contaminants unless listed in description

A433.2 THE OPERATOR SHALL NOT USE IN THIS EQUIPMENT ANY TOXIC AIR CONTAMINANTS (TAC) IDENTIFIED IN SCAQMD RULE 1401, AS AMENDED SEPTEMBER 10, 2010, EXCEPT AS IDENTIFIED BELOW UP TO THE FOLLOWING CONTENT LIMIT.

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POLLUTANT	TANK NO.	MAX CONTENT (WT%)
Copper compounds	51, 52, 56, 64, 65	67.0
Nitric Acid	70, 71	20
Lead compounds	51, 52	3.0
Ammonia	51, 52	1.0
Sulfuric Acid	54, 64, 65, 67	20
Hydrochloric Acid	64, 65	15
Phosphoric Acid	70, 71	55

C6.10 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 145 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

C6.11 THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 155 DEGREE FAHRENHEIT.

The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the process tank.

E448.1 THE OPERATOR SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS

Rule 1426 recordkeeping

[RULE 1426, 5-2-2003]

**Background**

Northrop Grumman Space and Missions Systems is engaged in the development and manufacture of advanced semiconductors including fabrication and assembly of electronic components and hard wares for integration into satellite and space vehicle. The company also performs

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research and development relating to chemical lasers, rocket engine thrusters and energy related programs for commercial and non-commercial applications. These operations are currently performed at two major sites within the South Coast Air Basin and they are: Redondo Beach and Manhattan Beach.

Application no. 521846 was submitted to the District on April 27, 2011 as a change of condition to remove the word “covered” from the equipment description of process tanks D317 thru D320 and D323. Removal of the cover will not represent an increase since the original emissions calculations did not take into consideration that the tanks were covered. Tank D323 is not vented but only uses salts that have no vapor pressure. The other tanks are vented to a scrubber. Also Northrop is asking to allow D322( tank 84) and D318(tank 77) to use other chemicals to conduct passivation and etching of different substrates. D322 is proposed to use a different material which for the material “Turco 5578”, require an increasing the operating temperature from 170 F to 210 F. Also the MSDS for “Turco HTC” shows it contains Diethanolamine (CAS# 111-42-2) less than 5.0wt% which is listed in Rule 1401. This compound will be added to A433.1. D318 will be using Hydrofluosilic Acid up to 20 wt% instead of hydrofluoric acid and Chromic Acid up to 10wt%. D322 is vent to general exhaust and D318 is vented to a scrubber, C162. Chemical currently allowed by the current permit will still be used. Finally, D279(tank8) will be using Nitric Acid up to 10wt% and will be included in condition A433.1. A permit to construct was issued on 3/22/2011 for application no. 515761.

Application no. 521841 was submitted to the District on April 27, 2011 as a modification to D294 thru D300, D306 thru D309 & D316 to increase the rectifier ratings. No change in chemical concentration will occur. Since these tanks are used for precious metal plating, the only increase is applied to the nickel compounds. This line was issued a Permit to Construct on 03/22/11 under application no. 515760.

Application no. 521843 was submitted to the District on April 27, 2011 as a modification to D291 & D292 to increase the rectifier ratings. Northrop would also like to remove the word “covered” from the equipment description of process tanks D281, D284 thru D288. Removal of the cover will not represent an increase since the original emissions calculations did not take into consideration that the tanks were covered and they are vented to air pollution control. This line was

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issued a Permit to Construct on 03/22/11 under application no. 515759.

Application no. 521844 was submitted to the District on April 27, 2011 as a modification to D302, D303, D305, D310 & D311 to increase the rectifier ratings. Northrop would also like to remove the word “covered” from the equipment description of process tanks D312, D314 & D315. The emissions increase has been determined using the “open process tank” spread sheet in the following section. This line was issued a Permit to Construct on 03/22/11 under application no. 515758.

This is a RECLAIM Cycle 2 and title V facility. The proposed project is considered as a “de minimis significant permit revision to this facility title V permit.

The District records indicate that during the last two years Northrop Grumman was issued two Notices to Comply (NC). Notice NCD23904 was issued on 5/21/2009 for failure to repair and maintain the pH meter for the scrubber C162. The second notice NC D23906 was issued on 5/28/2009 for the following:

- tank 31, D291 - locate or install amp-hr meter
  - tank 85, D323 - install temperature gauge
  - D329 - comply with or apply for change of condition to C6.13
  - D330 - comply with or apply for change of condition to C6.12
- Post the Permit

These issues have been resolved and Northrop is now in full compliance. There are no other Notices of Violation, Notices to Comply or Complaints issued against this facility as of 1/31/11.

**Emissions Calculations:**

Application 521846(Process 1, System 1 Surface Preparation)

Change of condition to add the following compound concentrations:

Tank #	Device #	Compound	Previous Concentration (wt%)	New Concentration (wt%)
8	D279	Nitric Acid	0	10.0
77	D318	Chromic acid	0	10.0

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		Hydrofluosilicic Acid	0.0	20.0
84	D322	Diethanolamine	0	5.0
		Temperature change	170 F	210 F
76, 77,79,80,85	D317-320,323	Remove "Covered" reference		

- Device 279 is not heated or rectified but it is air sparged.
- Device D318 is neither heated nor air sparged. Hydrofluosilicic Acid has a vapor pressure of 17.5mmhg @ ambient conditions. Hydrofluosilicic Acid is not a toxic and will be replacing the usage of Hydrofluoric Acid. Chromic Acid has no vapor pressure.
- Device D322 has diethanolamine which has a vapor pressure of 0.01 mbar @ 20 C. Assuming linear, @ 210 F, its vapor pressure would be 0.0494 mbar. The organic emissions from diethanolamine are essentially zero at 0.0006 lbs/hr or 0.014 lbs/day.
- No emission reductions were considered by the covering of Devices D317-320 & D323. The removal of the coverings will not have an impact on the calculated emissions. Device 317-320 are vented to a scrubber. D323 is not vented and is heated, but only contain alkaline detergents which have no vapor pressure. No emission increase is expected by the removal of these covers.

The change in chemicals caused an increase in emissions which has been calculated using the "open process tank" spread sheet with a 95% scrubber efficiency.

Delta emission increase:

R1 = 3.35E-01 lbs/hr PM10

R2 = 1.69E-02 + 3.652E-05 (sparging) = 1.694E-02 lbs/hr PM10

Application 521841(Process 1, System 4 Precious Metal Plating)

Modify to increase the rectifiers ratings:

Tank #	Device #	Previous Rectifier	New Rectifier
38	D294	25	50
39	D295	25	50

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Tank #	Device #	Previous Rectifier	New Rectifier
42	D296	50	100
43	D297	50	100
73	D316	25	50
47	D299	50	100
48	D300	50	100
59	D306	100	150
60	D307	100	150
61	D308	50	100
62	D309	50	100

Increasing the rectifier ratings of the precious metal plating tanks will have an increase in emissions from the nickel containing tanks 42 and 43. The increase in nickel compounds are 1.39E-07 lbs/hr determined from the open process tank spread sheet.

Application 521843(Process 1, System 3 Nickel Plating)

Modification to increase the rectifier rating of the following tanks:

Tank #	Device #	Previous Rectifier	New Rectifier
31	D291	150	200
33	D292	25	100

The increase in the rectifier rating for tanks 31 & 33 will have the following increases:

R1 PM10 = 5.539E-04 lbs/hr

R2 PM10 = 1.662E-04 lbs/hr

Application 521844(Process 1, System 2 Copper Plating)

Modification to increase the rectifier rating of the following tanks:

Tank #	Device #	Previous Rectifier	New Rectifier
51	D302	50	100
52	D303	50	100
56	D305	100	150
64	D310	25	100
65	D311	25	100

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The increase in the rectifier rating for tanks 51, 52, 56, 64 & 65 will have the following increase in emissions:

R1 PM10 = 3.568E-03 lbs/hr

R2 PM10 = 1.071E-03 lbs/hr

**Emissions Summary**

Application no	Controlled Hourly PM10 Emission Increase (lbs/hr)	Daily PM10 Emission Increase (lbs/day)
521846	1.694E-02	0.406
521841	1.39E-07	0.0000003
521843	1.66E-04	0.004
521844	1.071E-03	0.0257
Total	1.814E-02	0.436

**Total Emissions**

Application no	Total PM10 Emission (lbs/day)
521846	0.6906
521841	0.000315
521843	0.3788
521844	0.0348
Total	1.1045

**Risk Assessment:****Toxic Emissions Summary**

Application no	Compound	Emission increase
521841	Nickel Compounds	1.39E-07 lbs/hr
521843	Nickel Compounds	1.662E-04 lbs/hr
521844	Copper Compounds	8.392E-4
	Lead Compounds	3.34E-08
	Ammonia	1.670E-06
	Sulfuric Acid	5.428E-05
	Hydrochloric Acid	3.758E-05
521846	Diethanolamine	1.11E-04
	Nitric Acid	3.652E-05

The combined emissions from the increased rectifier rating and concentrations resulted in the following MICR (Tier 2 screening):

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MICR	Residential	Commercial
	1.37E-07	3.81E-08
	Passed	Passed

The Hazard Index for the targeted organs remains less than 1.

**Evaluation & Rule Review**

Rule 212 (c)(1):This section requires a public notice for all new or modified permit units that emit air contaminants located within 1,000 feet from the outer boundary of a school.

No public notice is required since no school is located within 1,000 ft from the above site.

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).

The proposed project will result in a small emission increase for the entire facility. A Rule 212(c) (2) notice will not be triggered since the changes will not result in an emission increase that exceeds the daily maximum under Rule 212(g).

Rule 212(c)(3):This section requires a public notice for all new or modified permit unit with increases in emissions of toxic air contaminants listed in Table I of Rule 1401 resulting in MICR greater than 1E-6 per permit unit or greater than 10E-6 per facility.

The proposed project will result in an emission increase of toxic emissions associated with the plating operation. However, as discussed in additional detail in the evaluation, the toxic emissions from this equipment will not result in an increase in MICR of more than  $1 \times 10^{-6}$  nor a hazard index greater than 1.0. Public notice is not required under this section of the rule.

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

The modifications to the plating lines had a negligible impact. The following summarizes the emissions:

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	Maximum Daily Emissions					
	<u>ROG</u>	<u>NO<sub>x</sub></u>	<u>PM<sub>10</sub></u>	<u>SO<sub>2</sub></u>	<u>CO</u>	<u>Pb</u>
Emission increase	0	0	<0.5	0	0	0
MAX Limit (lb/day)	<b>30</b>	<b>40</b>	<b>30</b>	<b>60</b>	<b>220</b>	<b>3</b>
Compliance Status	Yes	Yes	Yes	Yes	Yes	Yes

No public notice is required since the emission increase is below the thresholds.

Rule 401: With proper operation and maintenance compliance with this rule is expected.

Rule 402: With proper operation and maintenance compliance with this rule is expected.

REGULATION XIII: Though Northrop Grumman is a NO<sub>x</sub> RECLAIM facility, compliance with Reg. XIII is still required. The proposed project will result in an increase in PM<sub>10</sub> emissions. The overall increase is 0.43 lbs/day.

<b>PM10 (lb/day)</b>
0.43

RULE 1303(a)(1): BACT for surface preparation and plating tanks is a scrubber. This line is currently vented to a scrubber which will satisfy the BACT requirements.

RULE 1303(b)(1): Modeling for PM<sub>10</sub> is not required since the hourly emissions are less than the allowable limits.

<b>Modeling Analysis</b>	<b>PM10 (lb/hr)</b>
Total Hourly Emissions	0.018
Allowable Limit	0.41

RULE 1303(b)(2): The total emission increase from all the changes proposed by applications 521841-846 is 0.43 lbs/day. Offsets are not required.

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RULE 1303(b)(4): The facility is expected to be in full compliance with all applicable rules and regulations of the District.

RULES 1303(b)(5)(A) & 1303(b)(5)(D): The proposed project does not qualify as a major modification at a major polluting facility. Further, the proposed project is exempt from CEQA according to the responses Northrop Grumman provided on Form 400-CEQA for this project. Their responses in "Review of Impacts Which May Trigger CEQA" on Form 400-CEQA were all marked "No".

RULE 1303(b)(5)(B): The Increase in emissions associated with the proposed modification of the plating line does not qualify as a major modification at an existing major polluting facility.

RULE 1303(b)(5)(C): A modeling analysis for plume visibility is not required since the net emission increase from the proposed project does not exceed 15 ton/yr of PM10 or 40 ton/yr of NOx.

Rule 1401: Toxics: Rule 1401 contains the following requirements:

- 1) *(d)(1) MICR and Cancer Burden* - The cumulative increase in MICR which is the sum of the calculated MICR values for all toxic air contaminants emitted from the new, relocated or modified permit unit will not result in any of the following:
  - (A) an increased MICR greater than one in one million ( $1.0 \times 10^{-6}$ ) at any receptor location, if the permit unit is constructed without T-BACT;
  - (B) an increased MICR greater than ten in one million ( $1.0 \times 10^{-5}$ ) at any receptor location, if the permit unit is constructed with T-BACT;
  - (C) a cancer burden greater than 0.5.
- 2) *(d)(2) Chronic Hazard Index* - The cumulative increase in total chronic HI for any target organ system due to total emissions from the new, relocated or modified permit unit will not exceed 1.0 at any receptor location.
- 3) *(d)(3) Acute Hazard Index* - The cumulative increase in total acute HI for any target organ system due to total emissions from the new, relocated or modified permit unit will not exceed 1.0 at any receptor location.

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The combined increased toxic emissions from these plating operations under application nos. 521841-846 subject to Reg 14 passed Tier 2 screening. The Risk assessment was performed using the Risk Assessment Module and is attached in the appendix:

The MICR is as follows:

Residential	Commercial
1.37E-07	3.81E-08
< 1E-6	< 1E-6
Passed	Passed

The HIA/HIC for all target organs did not exceed 1.0. Compliance with this rule is expected

REG. XX: This modification has a negligible impact on NOx. Compliance with this Regulation is expected.

**REGULATION XXX:**

This facility is in the RECLAIM program. The proposed project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants or hazardous air pollutants (HAPs), and a “minor permit revision” for RECLAIM pollutants to the RECLAIM/Title V permit for this facility.

**Non-RECLAIM Pollutants or HAPs**

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:

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

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\* Not applicable if this is a RECLAIM pollutant

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 Title V renewal permit shall be accumulated and compared to the above threshold levels. This proposed project is the 2<sup>nd</sup> permit revision to the Title V renewal permit issued to this facility on June 8, 2010. The following table summarizes the cumulative emission increases resulting from all permit revisions since the Title V renewal permit was issued:

<b>Revision</b>	<b>HAP</b>	<b>VOC</b>	<b>NO<sub>x</sub>*</b>	<b>PM10</b>	<b>SO<sub>x</sub></b>	<b>CO</b>
Previous Permit Revision Total Cummulative to date. Title V permit renewed June 8, 2010	0	0	0	1.0	0	0
2nd permit revision;						
<u>A/N 521842</u> Facility permit revision to add a replacement boiler, increase the following rectifier ratings and change chemical in specified tanks						
<u>A/N 521845</u> Replacement of D93 with an equivalent rated boiler, device no. D339	0	0.0	-3.0	0.0	0	12.0
<u>A/N 521841</u> increase rectifier ratings for the precious metal plating tanks.						
<u>A/N 521843</u> increase rectifier ratings for the nickel plating tanks.						
<u>A/N 521844</u> increase rectifier ratings for the copper plating tanks and remove “covered” in the description of devices D312, 314 & 315.	0	0	0	0	0	0
<u>A/N 521846</u> Change the chemistry in tanks D318, D279 & D322 and remove “covered” in the description of devices D317, 320 & 323						
<b>Cumulative Total</b>	<b>0</b>	<b>0</b>	<b>0*</b>	<b>1.0</b>	<b>0</b>	<b>12.0</b>
<b>Maximum Daily</b>	<b>30</b>	<b>30</b>	<b>40*</b>	<b>30</b>	<b>60</b>	<b>220</b>

\* RECLAIM pollutant, not subject to emission accumulation requirements

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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 minimis significant permit revision” for non-RECLAIM pollutants or HAPs.

RECLAIM Pollutants

Rule 3000(b)(12)(A)(v) defines a “minor permit revision” as any Title V permit revision that does not result in an emission increase of RECLAIM pollutants over the facility starting Allocation plus nontradeable Allocations, or higher Allocation amount which has previously undergone a significant permit revision process.

Since NO<sub>x</sub> is a RECLAIM pollutant for this facility, a separate analysis shall be made to determine if the proposed permit revision is considered a “minor permit revision” for RECLAIM pollutants. The replacement of the boiler will result in a decrease in NO<sub>x</sub> emissions due to the low-NO<sub>x</sub> burner. As a result, this proposed project is considered as a “minor permit revision” for RECLAIM pollutants.

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” for non-RECLAIM pollutants and a “minor permit revision”, for RECLAIM pollutant, 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 raise any objections within the review period, a revised Title V permit will be issued to this facility.

Conclusion:

The Boiler will operate in compliance with all District Rule and Regulations. A Permit to Construct is recommended for application number 521845 subject to preceding conditions.

The plating operations will operate in compliance with all District Rule and Regulations. A Permit to Construct is recommended for application number 521841, 521843, 521844 & 521846 subject to preceding conditions.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

ENGINEERING DIVISION

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Previous Cumulative Emissions:

Application no. 521846 (Previous515761)(Assumption Scrubber Eff. 95%)

PM10 emissions from the modification of surface prep line

R1 = 1.24E-01 lbs/hr

R2 = 6.22E-03 lbs/hr, 0.149 lbs/day (increase)

Previous A/N 503256

R1=R2 = 0.0 lbs/hr (-2.81E-05 lbs/hr) reduction

Previous A/N 474170

R1 = 9.6E-02 lbs/hr

R2 = 2.92E-02 lbs/day (increase)

Previous A/N 470064

R1 = 2.098E-01 lbs/day

R2 = 1.061E-01 lbs/day (original)

**Total: R2 = 2.846E-01 lbs/day**Application no. 521841 (Previous515760)(Assumption Scrubber Eff. 95%)

PM10 emissions from the modification of Precious Metal line

R1 = 2.17E-06 lbs/hr

R2 = 1.086E-07 lbs/hr, 2.606E-06 lbs/day (increase)

Previous A/N 481867

R1= 2.6E-04 lbs/hr

R2 = 1.3E-05, 3.12E-04 lbs/day

Previous A/N 470066

R1 = R2 = 0.0 lbs/day (original)

**Total: R2 = 3.15E-04 lbs/day**Application no. 521843 (Previous515759)(Assumption Scrubber Eff. 95%)

PM10 emissions from the modification of Nickel Plating line

R1 = 5.15E-02 lbs/hr

R2 = 1.64E-02 lbs/hr, 3.94E-01 lbs/day (increase)

Previous A/N 509885

R1= 2.3E-02 lbs/hr

R2 = 1.15E-03, 2.76E-02 lbs/day (increase)

Previous A/N 481865

R2 = -0.003lbs/hr, 7.2E-02 lbs/day (reduction)

Previous A/N 468911

R1= 2.838E-02 lbs/hr

R2 = 1.05E-02, 2.521E-02 lbs/day (original)

**Total: R2 = 3.748E-01 lbs/day**Application no. 521844 (Previous515758)(Assumption Scrubber Eff. 95%)

PM10 emissions from the modification of Copper Plating Line

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R1 = R2 = 9.95E-05 lbs/hr, 2.39E-03 lbs/day (increase)

Previous A/N 470065

R1= 5.6E-03 lbs/hr

R2 = 2.80E-04, 6.72E-03 lbs/day (original)

Total: R2 = 9.11E-03 lbs/day

Combined controlled emissions from all four lines total:

R2 = 6.69E-01 lbs PM10/day