



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

June 9, 2010

Mr. Gerardo C. Rios  
Chief, Permit Office  
US EPA Region IX Air 3  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Dear Mr. Rios:

Subject: International Rectifier Hexfet America (I.D. 48522) Title V Permit Revision

International Rectifier Hexfet America has proposed to revise their Title V permit by modifying one integrated circuit manufacturing system, two wet chemical processing and solvent cleaning systems, and two associated air pollution control systems. This is an integrated circuits manufacturing facility (SIC 3674) located at 41915 Business Park Drive, Temecula, CA 92590. This proposed permit revision is considered as a "de minimis significant permit revision" to their Title V permit. Enclosed for your review are the permit evaluation and the proposed permit. With your receipt of the proposed Title V permit revision today, we will note that the EPA 45-day review period begins on June 9, 2010.

If you have any questions or need additional information regarding the proposed permit revision, please contact Mr. Kien Huynh at (909) 396-2635.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brian L. Yeh", is written over a faint, larger version of the same signature.

Brian L. Yeh  
Senior Manager  
Chemical/Mechanical Operations

BLY:kh

Enclosures

*ENGINEERING & COMPLIANCE*

## APPLICATION PROCESSING AND CALCULATIONS

Applicant's Name: International Rectifier

Mailing Address: 41915 Business Park Dr.  
Temecula, CA 92590

Equipment Location: Same

Equipment Descriptions:APPLICATION NO. 510417:

ALTERATION TO INTEGRATED CIRCUIT FABRICATION SYSTEM PERMIT TO OPERATE G8261 (A/N 503218) BY:  
THE ADDITION OF:

- TWO ION IMPLANTERS, APPLIED MATERIALS MODEL 9500
- ONE ION IMPLANTER, VARIAN MODEL E500

APPLICATION NO. 510419:

ALTERATION TO WET CHEMICAL/SOLVENT CLEANING SYSTEM PERMIT TO OPERATE G8255 (A/N 503215) BY:  
THE ADDITION OF:

- TWO ACID ETCH/CLEAN MACHINES, FSI MODEL MERCURY , 3' - 4"W. x 2' - 5"L. x 5' - 7"H.
- TWO ACID ETCH/CLEAN MACHINES, FSI MODEL MERCURY , 6' - 1"W. x 3' - 4"L. x 4' - 3"H.

APPLICATION NO. 510420:

ALTERATION TO WET CHEMICAL/SOLVENT CLEANING SYSTEM PERMIT TO OPERATE G1978 (A/N 492804) BY:  
THE REMOVAL OF:

- TWO ACID ETCH/CLEAN MACHINES, FSI, MODEL MERCURY , 3' - 4"W. x 2' - 5"L. x 5' - 7"H.

APPLICATION NO. 510421:

ALTERATION TO AIR POLLUTION CONTROL SYSTEM PERMIT TO OPERATE G8256 (A/N 503216) BY:  
THE ADDITION OF:

- TWO DRY SCRUBBERS

THE VENTING ADDITION OF :

- THREE ION IMPLANTERS
- FOUR ACID ETCHERS

APPLICATION NO. 510422:

ALTERATION TO AIR POLLUTION CONTROL SYSTEM PERMIT TO OPERATE G8263 (A/N 503221) BY:  
THE VENTING REMOVAL OF :

- TWO ETCHERS

HISTORY:

Application(s) received on: 4/30/10

Equipment modified: No

<b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE</b>  <b>APPLICATION PROCESSING AND CALCULATIONS</b>	Page 2 of 5 A/N 510417 et al Processed By KH Checked By Date 5/29/10
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Violations recorded: 1 Notice of Violation has been issued in the last two years. The notice, P30664, was issued for a violation on 1-16-09 for exceeding permitted throughput limits on four chemical storage tanks, chemical usage limit on one integrated circuit manufacturing system, and fuel consumption limit on an oxidizer. The facility has since corrected the problem and is currently operating in compliance with all applicable rules and regulations.

Facility type: RECLAIM Title V  
                                  No           Yes

The company filed several applications to modify their equipment and requested for expediting processing under the provisions of Rule 301(u). However, due to the time constraint on the modification of some of the permit units associated with the applications to meet the contractual production demand, they have requested that only those few permit units below be accepted for expedite processing now and they would come back with new applications for the remaining permit units.

Below is a brief explanation of the requested modifications. Please see application submittal for more details.

A/Ns.	Descriptions	Previous		Processing Types	Remarks
		A/Ns.	Permits		
510417	I C Manufacturing	503218	G8261	Mod P/C	Add tools and change chemical usage limits (See details below)
510419	Wet Chemical/Solvent Cleaning System	503215	G8255	Mod P/C	Add/remove tools
510420	Wet Chemical/Solvent Cleaning System	492804	G1978	Mod P/C	Remove tools
510421	Scrubber	503216	G8256	Mod P/C	Add 2 dry scrubbers and venting points
510422	Scrubber	503221	G8263	Mod P/C	Remove venting points

APPLICATION NO. 510417:

Tools:

Adding two ion implanters that use arsine and one ion implanter that does not use arsine.

## ENGINEERING &amp; COMPLIANCE

## APPLICATION PROCESSING AND CALCULATIONS

Chemical usage limits:

Chemicals	Changed, lb/month	
	From	To
CHF <sub>3</sub>	8	20
TEOS	3,100	2,000

Even though the two Wet Chemical/Solvent Cleaning Systems also have tools venting to McGill and Zink oxidizers for VOC control, applications for the oxidizers are not required because the modifications to the two systems concerning only those tools venting to the wet scrubbers (A/Ns 510421 & 510422). There will be no modification to exhaust systems of the two oxidizers.

PROCESS DESCRIPTION

The equipment is for semiconductor device manufacturing. Wet scrubbers are used for PM control. Dry scrubbers are used to control arsine emissions from ion implanters that use arsine.

CALCULATIONS

Emissions are as specified below. See ATTACHMENTS for more details.

A/N 510417 I C Manufacturing

	NH <sub>3</sub>		PM10	
	Uncontrolled	Controlled	Uncontrolled	Controlled
lb/hr	0.19	0.19	0.32	0.02
lb/day	4.67	4.67	8	0.39
lb/yr	-	1,698.67	-	141.93

A/N 510419 Wet Chemical/Solvent Cleaning System

	VOC		PM10	
	Uncontrolled	Controlled	Uncontrolled	Controlled
lb/hr	0.23	0.002	6.41	0.08
lb/day	5.58	0.06	154	1.92
lb/yr	-	20.30	-	698.88

A/N 510420 Wet Chemical/Solvent Cleaning System

	VOC		PM10	
	Uncontrolled	Controlled	Uncontrolled	Controlled
lb/hr	1.00	0.02	0.69	0.07
lb/day	24.02	0.37	17	1.66
lb/yr	-	20.30	-	602.78

Table 1

Project PM10 Emission Increase

Applications		PM10 Emissions, lb/day		
Current	Previous	Current	Previous	Increases
510417	503218	0.39	0.38	0.01
510419	503215	1.92	1.92	-
510420	492804	1.66	1.66	-
Total project impact				0.01

**RULE EVALUATION****Rule 212:****(c) (1): Emissions near a school**

The equipment is not located within 1000 feet from the outer boundary of a school. (The nearest school, Mountain View Christian School, is 3168 feet from the facility). The equipment is not subject to the public notice requirements of subdivision (c).

River Springs Charter School, located at 43466 Business Park Dr., CA 92590, is listed 0.1 mile from the facility. However, a check on the maps shows that the distance is actually more than 0.3 mile. Also, further investigation reveals that River Springs Charter School, located at 43466 Business Park Dr., CA 92590 is only an administration building, and there is no class held at the location.

**(c) (2): On-site emission increases exceeding the daily maximums**

The emission increases do not exceed any of the daily maximums specified in subdivision (g) of this rule. The equipment is not subject to the public notice requirements of subdivision (c).

**(c) (3): Emissions of toxic air contaminants**

Results of Tier 1 analysis show that MICR is less 1 in a million and HIs are less than 1. The equipment is not subject to the public notice requirements of subdivision (c).

**(g) Emission increases exceeding the daily maximums**

The emission increases do not exceed any of the daily maximums specified in subdivision (g) of this rule. The equipment is not subject to the public notice requirements specified in subdivision (g).

**Rule 401 - Visible Emissions:**

Based on experience with this type of equipment, compliance with this rule is expected.

**Rule 402 - Nuisances:**

Nuisance problems due to the equipment operation are unlikely.

**Rule 1164 - Semiconductor Manufacturing:**

VOC emissions from solvent benches and photoresist operations at the facility are controlled by over 90%. Complies.

*ENGINEERING & COMPLIANCE*

## APPLICATION PROCESSING AND CALCULATIONS

Regulation XIII:BACT:

Scrubbers for PM control are BACT for the equipment. Complies.

Modeling:

Currently, no modeling is required for VOC. The PM10 emissions are lower than the limit in Table A-1 of Rule 1303. No further evaluation is necessary.

Offsets:CO:

CO is in attainment. See Rule 1703 evaluation.

VOC:

The facility has a VOC facility limit of 1,830 pounds in one calendar month. This limit is not expected to be exceeded with the new installation, modification and change of conditions. Reported VOC emissions from January 2007 to December 2008 08 show that VOC emissions from this facility were less than 1,460 lbs/month. Reported VOC emissions for 10 months of 2009 show that VOC from this facility were less than 540 lbs/month. The reason for the decrease was from the removal of several VOC emitting tools. With the new tools which are in the process of being installed, VOC emissions will be increased. The expected VOC emissions from the facility after the new tools are installed, however, will be below the 1,830 lbs/month limit.

The facility VOC potential to emit is 61 lb/day (=1,830 lb/month/30 days/month). However, the company has removed some permit units in the last few years. Since the permits associated with those permit units have been inactivated, the associated VOC emissions have been removed. The facility VOC NSR account currently shows only 12 lb/day. The account will be fixed to show the correct PTE of 61 lb/day.

NOx/SOx

There is no emission increase due to the modification. No external offsets are required.

PM10

The emission increase is less than 0.5 lb/day. No offsets are required.

Rule 1401:APPLICATION NO. 510417:

MICR is less than 1 in a million and HI is less than 1. Complies.

APPLICATION NOS. 510419-20:

There are no emission increases of toxic air contaminants due to the modification.

Rule 1703 - PSD Analysis:

There is no CO emission increase due the modification, all requirements of Regulation XVII - Prevention of Significant Deterioration - are not applicable.

DISCUSSIONS

Based on information submitted with the applications and the above evaluation, it is expected that the equipment will operate in compliance with all the applicable rules and regulations of the District.

RECOMMENDATIONS:

Issue permits subject to the permit conditions as stated in Section D.

**ATTACHMENT A**  
*Integrated Circuit*

Previous:

503218 G8261

A/N: 510417

Breakdown Information (From 2006 IPCC  
Guidelines for National Greenhouse Gas  
Inventories)

Given:

	MW	Process	Through Vector	lb/month	Used Ui	Transformed		Reacted to Form Acids
						To	Amount	
AsH <sub>3</sub>	77.95							
PH <sub>3</sub>	34.00	Diffusion	100%	3				
SiH <sub>4</sub>	32.12	Poly		20				
SiH <sub>4</sub>	32.12	LTO	100%	12				
SiH <sub>2</sub> Cl <sub>2</sub>	101.01			10				
BF <sub>3</sub>	67.81			2				
BCl <sub>3</sub>	117.169			4				
C <sub>2</sub> F <sub>6</sub>	138.01	Etch		30	0.6	CF4	0.4	0.2
CHF <sub>3</sub>	70.0141	Etch		20	0.6	CF4	0.07	0.53
CF <sub>4</sub>	88.00	Etch		10	0.3			0.3
Cl <sub>2</sub>	70.906			40				
SF <sub>6</sub>	146.05	Etch		20	0.8			0.8
HBr	80.9119			22				
SiCl <sub>4</sub>	169.90							
NH <sub>3</sub>	17.03			140				
N <sub>2</sub> O								
NF <sub>3</sub>	71.0019	Etch		12	0.8			0.8
Metex L5B		-						
POCl <sub>3</sub>	153.33	Diffusion		8				
Isopropanol		-						
Acetone		-						
CH <sub>3</sub> CCl <sub>3</sub>	133.40	(TCA)		45				
CHCl <sub>3</sub>	119.38							

C<sub>8</sub>H<sub>20</sub>SiO<sub>4</sub> (TEOS)      208.33    Diffusion      2000

Molecular weight (MW)

	AsH <sub>3</sub>	PH <sub>3</sub>	SiH <sub>4</sub>	BF <sub>3</sub>	CF <sub>4</sub>	POCl <sub>3</sub>	H <sub>3</sub> PO <sub>4</sub>	SiO <sub>2</sub>	H <sub>3</sub> BO <sub>3</sub>
MW	77.95	34.00	32.12	67.81	88.00	153.3322	98	60.08	61.83

	HCl	H <sub>2</sub> SO <sub>4</sub>	BCl <sub>3</sub>	C <sub>2</sub> F <sub>6</sub>	SF <sub>6</sub>	HBr	NH <sub>3</sub>	HF	CHCl <sub>3</sub>
MW	36.46	98.07	303.33	138.01	146.05	80.9119	17.03	20.01	119.3779

Operating schedule:

hrs/day	24 hrs/day
days/wk	7 days/wk
wks/yr	52 wks/yr

**ATTACHMENT A**  
*Integrated Circuit*

**Main scrubber control efficiencies**

(Information from HEE Environmental Engineering)

HCl	95%
HF	95%
H <sub>2</sub> SO <sub>4</sub>	95%
H <sub>3</sub> PO <sub>4</sub>	95%
HBr	95%
H <sub>3</sub> BO <sub>3</sub>	95%
SiO <sub>2</sub>	90%
Scrubber NH <sub>3</sub> control efficiency (Assumed)	0%
Diffusion furnaces integrated filters control efficiency:	
SiO <sub>2</sub>	98%
P <sub>2</sub> O <sub>5</sub>	0%
PM10 in PM	96%
Exhaust flow rate:	60,000 cfm
H <sub>2</sub> SO <sub>4</sub>	98.07
(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	132.13
HCl	36.46
NH <sub>4</sub> Cl	53.49
H <sub>3</sub> PO <sub>4</sub>	98.00
(NH <sub>4</sub> ) <sub>3</sub> PO <sub>4</sub>	149.09

Note: Arsine emissions will be calculated separately.

Computations: Except where indicated, all chemicals are used up in the process.

NH<sub>3</sub> emissions:

NH<sub>3</sub> emissions:

lb/day

Uncontrolled	140 lb/month/30 days/month =	4.67 lb/day
Controlled	4.67 lb/day*(1-0) =	4.67 lb/day

lb/hr

Uncontrolled	4.67 lb/day/24 hrs/day =	0.19 lb/hr
Controlled	4.67 lb/day/24 hrs/day =	0.19 lb/hr

lb/yr

4.67 lb/day\*7 days/wk\*52 wks/yr = 1,698.67 lb/yr

NH<sub>3</sub> concentration, ppm (in exhaust)

0.19 lb/hr/60 min/hr/60000 cfm\*10<sup>6</sup> = 0.05 ppm

Note: This ammonia concentration is at the exhaust of the wet scrubber. At ground level, the concentration is much lower. Even at the wet scrubber exhaust, the ammonia concentration is well below the ACGIH (American Conference of Governmental Industrial Hygienist) threshold level of 25 ppm.

NH<sub>3</sub> Summary:

	NH <sub>3</sub>	
	Uncontrolled	Controlled
lb/hr	0.19	0.19
lb/day	4.67	4.67
lb/yr	-	1,698.67

**ATTACHMENT A**  
*Integrated Circuit*

Emissions from other chemicals:

*Emissions, lb/hr:*

<b>H3PO4 from PH3</b>		The ratio 1/1 means 1 mole of H3PO4 is created per mole of PH3	
<b>PM</b>			
Uncontrolled	With diffusion furnaces integrated filters control efficiency being counted		
	3 lb/month/30 days/month/24 hrs/day*(1/1)*98.00 lb/lbmole/34.00 lb/lbmole*(1-0) =	0.01 lb/hr	
Controlled		0.01 lb/hr*(1-0.95) =	0.0006 lb/hr
<b>PM10</b>			
Uncontrolled		0.01 lb/hr*0.96 =	0.0115 lb/hr
Controlled		0.0006 lb/hr*0.96 =	0.00058 lb/hr
<b>SiO2 from SiH4 Poly</b>			
<b>PM</b>			
Uncontrolled	With diffusion furnaces integrated filters control efficiency being counted		
	20 lb/month/30 days/month/24 hrs/day*(1/1)*60.08 lb/lbmole/32.12 lb/lbmole*(1-0.98) =	0.001 lb/hr	
Controlled		0.001 lb/hr*(1-0.9) =	0.0001 lb/hr
<b>PM10</b>			
Uncontrolled		0.001 lb/hr*0.96 =	0.001 lb/hr
Controlled		0.0001 lb/hr*0.96 =	0.0001 lb/hr
<b>SiO2 from SiH4 LTO</b>			
<b>PM</b>			
Uncontrolled	With diffusion furnaces integrated filters control efficiency being counted		
	12 lb/month/30 days/month/24 hrs/day*(1/1)*60.08 lb/lbmole/32.12 lb/lbmole*(1-0.98) =	0.001 lb/hr	
Controlled		0.001 lb/hr*(1-0.9) =	0.0001 lb/hr
<b>PM10</b>			
Uncontrolled		0.001 lb/hr*0.96 =	0.001 lb/hr
Controlled		0.0001 lb/hr*0.96 =	0.0001 lb/hr
<b>SiO2 from SiH2Cl2</b>			
<b>PM</b>			
Uncontrolled	With diffusion furnaces integrated filters control efficiency being counted		
	10 lb/month/30 days/month/24 hrs/day*(1/1)*60.08 lb/lbmole/101.01 lb/lbmole*(1-0.98) =	0.00017	
Controlled		0.00017 lb/hr*(1-0.9) =	0.00002
<b>PM10</b>			
Uncontrolled		0.00017 lb/hr*0.96 =	0.0002
Controlled		0.00002 lb/hr*0.96 =	0.00002
<b>HCl from SiH2Cl2</b>			
<b>PM</b>			
Uncontrolled	10 lb/month/30 days/month/24 hrs/day*(2/1)*36.46 lb/lbmole/101.01 lb/lbmole =	0.01	
Controlled		0.01 lb/hr*(1-0.95) =	0.0005
<b>PM10</b>			
Uncontrolled		0.01 lb/hr*0.96 =	0.01
Controlled		0.001 lb/hr*0.96 =	0.0005
<b>H3BO3 from BF3</b>			
<b>PM</b>			
Uncontrolled	2 lb/month/30 days/month/24 hrs/day*(1/1)*61.83 lb/lbmole/67.81 lb/lbmole =	0.003 lb/hr	
Controlled		0.0025 lb/hr*(1-0.95) =	0.0001 lb/hr
<b>PM10</b>			
Uncontrolled		0.0025 lb/hr*0.96 =	0.002 lb/hr
Controlled		0.0001 lb/hr*0.96 =	0.0001 lb/hr

**ATTACHMENT A**  
*Integrated Circuit*

HF from BF3

PM

Uncontrolled	$2 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day}*(3/1)*20.01 \text{ lb/lbmole}/67.81 \text{ lb/lbmole} =$	0.002 lb/hr
Controlled	$0.0025 \text{ lb/hr}*(1-0.95) =$	0.00012 lb/hr

PM10

Uncontrolled	$0.0025 \text{ lb/hr}*0.96 =$	0.002 lb/hr
Controlled	$0.00012 \text{ lb/hr}*0.96 =$	0.00012 lb/hr

H3BO3 from BC13

PM

Uncontrolled	$4 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day}*(3/1)*61.83 \text{ lb/lbmole}/117.17 \text{ lb/lbmole} =$	0.003 lb/hr
Controlled	$0.003 \text{ lb/hr}*(1-0.95) =$	0.0001 lb/hr

PM10

Uncontrolled	$0.003 \text{ lb/hr}*0.96 =$	0.003 lb/hr
Controlled	$0.003 \text{ lb/hr}*0.96 =$	0.0001 lb/hr

HCl from BC13

PM

Uncontrolled	$4 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day}*(3/1)*36.46 \text{ lb/lbmole}/117.17 \text{ lb/lbmole} =$	0.0052 lb/hr
Controlled	$0.0052 \text{ lb/hr}*(1-0.95) =$	0.0003 lb/hr

PM10

Uncontrolled	$0.0052 \text{ lb/hr}*0.96 =$	0.005 lb/hr
Controlled	$0.005 \text{ lb/hr}*0.96 =$	0.0002 lb/hr

HF from C2F6

PM

Uncontrolled	$30 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day}*(6/1)*20.01 \text{ lb/lbmole}/138.01 \text{ lb/lbmole}*0.2 =$	0.0072
Controlled	$0.0072 \text{ lb/hr}*(1-0.95) =$	0.0004

PM10

Uncontrolled	$0.0072 \text{ lb/hr}*0.96 =$	0.007
Controlled	$0.007 \text{ lb/hr}*0.96 =$	0.0003

HF from CHF3

PM

Uncontrolled	$20 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day}*(3/1)*20.01 \text{ lb/lbmole}/70.01 \text{ lb/lbmole}*0.53 =$	0.013 lb/hr
Controlled	$0.013 \text{ lb/hr}*(1-0.95) =$	0.00063 lb/hr

PM10

Uncontrolled	$0.013 \text{ lb/hr}*0.96 =$	0.012 lb/hr
Controlled	$0.0006 \text{ lb/hr}*0.96 =$	0.00061 lb/hr

HF from CF4

PM

Uncontrolled	$10 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day}*(4/1)*20.01 \text{ lb/lbmole}/88.00 \text{ lb/lbmole}*0.3 =$	0.004 lb/hr
Controlled	$0.004 \text{ lb/hr}*(1-0.95) =$	0.0002 lb/hr

PM10

Uncontrolled	$0.004 \text{ lb/hr}*0.96 =$	0.004 lb/hr
Controlled	$0.0002 \text{ lb/hr}*0.96 =$	0.00018 lb/hr

HCl from Cl2

PM

Uncontrolled	$40 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day}*(2/1)*36.46 \text{ lb/lbmole}/70.91 \text{ lb/lbmole} =$	0.06 lb/hr
Controlled	$0.06 \text{ lb/hr}*(1-0.95) =$	0.003 lb/hr

**ATTACHMENT A**

*Integrated Circuit*

PM10			
Uncontrolled		$0.06 \text{ lb/hr} * 0.96 =$	0.055 lb/hr
Controlled		$0.003 \text{ lb/hr} * 0.96 =$	0.0027 lb/hr
HF from SF6			
PM			
Uncontrolled	$20 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day} * (6/1) * 20.01 \text{ lb/lbmole}/146.05 \text{ lb/lbmole} * 0.8 =$		0.018 lb/hr
Controlled		$0.018 \text{ lb/hr} * (1-0.95) =$	0.0009 lb/hr
PM10			
Uncontrolled		$0.018 \text{ lb/hr} * 0.96 =$	0.018 lb/hr
Controlled		$0.0009 \text{ lb/hr} * 0.96 =$	0.0009 lb/hr
H2SO4 from SF6			
PM			
Uncontrolled	$20 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day} * (1/1) * 98.07 \text{ lb/lbmole}/146.05 \text{ lb/lbmole} * 0.8 =$		0.015 lb/hr
Controlled		$0.0149 \text{ lb/hr} * (1-0.95) =$	0.00075 lb/hr
PM10			
Uncontrolled		$0.0149 \text{ lb/hr} * 0.96 =$	0.014 lb/hr
Controlled		$0.000746 \text{ lb/hr} * 0.96 =$	0.0007 lb/hr
HBr from HBr			
PM			
Uncontrolled	$22 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day} * (1/1) * 80.91 \text{ lb/lbmole}/80.91 \text{ lb/lbmole} =$		0.031 lb/hr
Controlled		$0.031 \text{ lb/hr} * (1-0.95) =$	0.0015 lb/hr
PM10			
Uncontrolled		$0.031 \text{ lb/hr} * 0.96 =$	0.029 lb/hr
Controlled		$0.0015 \text{ lb/hr} * 0.96 =$	0.0015 lb/hr
HF from NF3			
PM			
Uncontrolled	$12 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day} * (3/1) * 20.01 \text{ lb/lbmole}/71.00 \text{ lb/lbmole} * 0.8 =$		0.0113 lb/hr
Controlled		$0.0113 \text{ lb/hr} * (1-0.95) =$	0.0006 lb/hr
PM10			
Uncontrolled		$0.0113 \text{ lb/hr} * 0.96 =$	0.011 lb/hr
Controlled		$0.0006 \text{ lb/hr} * 0.96 =$	0.0005 lb/hr
H3PO4 from POCl3			
PM			
Uncontrolled	$1/1 \text{ means } 1 \text{ mole of } H_3PO_4 \text{ is produced per mole of } POCl_3$ $8 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day} * (1/1) * 98.00 \text{ lb/lbmole}/153.33 \text{ lb/lbmole} =$		0.007 lb/hr
Controlled		$0.007 \text{ lb/hr} * (1-0.95) =$	0.00036 lb/hr
PM10			
Uncontrolled		$0.007 \text{ lb/hr} * 0.96 =$	0.007 lb/hr
Controlled		$0.00036 \text{ lb/hr} * 0.96 =$	0.0003409 lb/hr
HCl from POCl3			
PM			
Uncontrolled			
Controlled	$8 \text{ lb/month}/30 \text{ days/month}/24 \text{ hrs/day} * (3/1) * 36.46 \text{ lb/lbmole}/153.33 \text{ lb/lbmole} =$		0.008 lb/hr
PM10			
Uncontrolled		$0.008 \text{ lb/hr} * 0.96 =$	0.008 lb/hr
Controlled		$0.00040 \text{ lb/hr} * 0.96 =$	0.00038 lb/hr

**ATTACHMENT A**  
*Integrated Circuit*

HCl from CH<sub>3</sub>CCl<sub>3</sub>

PM

Uncontrolled 45 lb/month/30 days/month/24 hrs/day\*(3/1)\*36.46 lb/lbmole/133.40 lb/lbmole = 0.051 lb/hr  
Controlled 0.051 lb/hr\*(1-0.95) = 0.00256 lb/hr

PM10

Uncontrolled 0.051 lb/hr\*0.96 = 0.049 lb/hr  
Controlled 0.00256 lb/hr\*0.96 = 0.00246 lb/hr

SiO<sub>2</sub> from C<sub>8</sub>H<sub>20</sub>SiO<sub>4</sub>

PM

Uncontrolled 2000 lb/month/30 days/month/24 hrs/day\*(1/1)\*60.08 lb/lbmole/208.33 lb/lbmole\*(1-0.98) = 0.016 lb/hr  
Controlled 0.016 lb/hr\*(1-0.95) = 0.0008 lb/hr

PM10

Uncontrolled 0.016 lb/hr\*0.96 = 0.0154 lb/hr  
Controlled 0.0008 lb/hr\*0.96 = 0.0008 lb/hr

		PM		PM10		
Emission	From	Uncontr.	Contr.	Uncontr.	Contr.	
lb/hr	H <sub>3</sub> PO <sub>4</sub>	PH <sub>3</sub>	0.012	0.0006	0.012	0.00058
	SiO <sub>2</sub>	SiH <sub>4</sub> Poly	0.001	0.0001	0.001	0.00010
	SiO <sub>2</sub>	SiH <sub>4</sub> LTO	0.001	0.0001	0.001	0.00006
	SiO <sub>2</sub>	SiH <sub>2</sub> Cl <sub>2</sub>	0.0002	0.00002	0.0002	0.000016
	HCl	SiH <sub>2</sub> Cl <sub>2</sub>	0.01	0.00050	0.0096	0.00048
	H <sub>3</sub> BO <sub>3</sub>	BF <sub>3</sub>	0.003	0.0001	0.002	1.22E-04
	HF	BF <sub>3</sub>	0.002	0.0001	0.002	1.18E-04
	H <sub>3</sub> BO <sub>3</sub>	BCl <sub>3</sub>	0.003	0.000	0.003	0.0001
	HCl	BCl <sub>3</sub>	0.005	0.0003	0.005	0.0002
	HF	C <sub>2</sub> F <sub>6</sub>	0.007	0.000	0.01	0.000
	HF	CHF <sub>3</sub>	0.013	0.0006	0.012	6.06E-04
	HF	CF <sub>4</sub>	0.004	0.0002	0.004	1.82E-04
	HCl	Cl <sub>2</sub>	0.057	0.003	0.055	0.0027
	HF	SF <sub>6</sub>	0.01827	0.0009	1.75E-02	0.0009
	H <sub>2</sub> SO <sub>4</sub>	SF <sub>6</sub>	0.015	0.0007	1.43E-02	0.0007
	HBr	HBr	0.03	0.002	0.03	0.0015
	HF	NF <sub>3</sub>	0.01	0.001	0.01	0.0005
	H <sub>3</sub> PO <sub>4</sub>	POCl <sub>3</sub>	0.007	0.0004	0.007	0.0003
	HCl	POCl <sub>3</sub>	0.008	0.0004	0.008	0.00038
	HCl	CH <sub>3</sub> CCl <sub>3</sub>	0.05	0.0026	0.05	0.0025
	HCl	CHCl <sub>3</sub>	-	-	-	-
SiO <sub>2</sub>	C <sub>8</sub> H <sub>20</sub> SiO <sub>4</sub>	0.016	0.0008	0.015	0.0008	
	<b>Total</b>	<b>0.26</b>	<b>0.01</b>	<b>0.25</b>	<b>0.01</b>	
lb/day				5.97	0.30	
lb/yr					109.40	

**ATTACHMENT A**  
*Integrated Circuit*

PM10 emission increase due to the reactions of NH<sub>3</sub> with H<sub>2</sub>SO<sub>4</sub>, HCl, and H<sub>3</sub>PO<sub>4</sub> in the exhaust to form salts (NH<sub>4</sub>SO<sub>4</sub>, NH<sub>4</sub>Cl, NH<sub>4</sub>PO<sub>4</sub>), sources of PM10: Assume 100% conversion. Since acids are limited agents, amounts of salts will depend on the available acids.

Conversion from H<sub>2</sub>SO<sub>4</sub> to (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> will cause the following emission increases:

PM:	Uncontr.	0.0149 lb/hr*(132.13/98.07-1) =	0.01 lb/hr
	Contr.	0.0007 lb/hr*(132.13/98.07-1) =	0.0003 lb/hr
PM10	Uncontr.	0.0143 lb/hr*(132.13/98.07-1) =	0.005 lb/hr
	Contr.	0.0007 lb/hr*(132.13/98.07-1) =	0.0002 lb/hr

Conversion from HCl to NH<sub>4</sub>Cl will cause the following emission increases:

PM:	Uncontr.	(0.01+0.005+0.057+0.008+0.051+0) lb/hr*(53.49/36.46-1) =	0.06 lb/hr
	Contr.	(0.001+0.0003+0.0029+0.0004+0.0026+0) lb/hr*(53.49/36.46-1) =	0.003 lb/hr
PM10	Uncontr.	(0.01+0.005+0.055+0.008+0.049+0) lb/hr*(53.49/36.46-1) =	0.06 lb/hr
	Contr.	(0.00+0.0002+0.0027+0.0004+0.0025+0) lb/hr*(53.49/36.46-1) =	0.003 lb/hr

Conversion from H<sub>3</sub>PO<sub>4</sub> to (NH<sub>4</sub>)<sub>3</sub>PO<sub>4</sub> will cause the following emission increases:

PM:	Uncontr.	(0.012+0.007) lb/hr*(149.09/98.00-1) =	0.01 lb/hr
	Contr.	(0.001+0.0004) lb/hr*(149.09/98.00-1) =	0.0005 lb/hr
PM10	Uncontr.	(0.012+0.007) lb/hr*(149.09/98.00-1) =	0.01 lb/hr
	Contr.	(0.001+0.0003) lb/hr*(149.09/98.00-1) =	0.0005 lb/hr

Subtotal increases due to NH<sub>3</sub> & acids reactions

PM:	Uncontr.	(0.005+0.061+0.010) lb/hr =	0.08 lb/hr
	Contr.	(0.0003+0.003+0.0005) lb/hr =	0.004 lb/hr
PM10	Uncontr.	(0.005+0.059+0.010) lb/hr =	0.07 lb/hr
	Contr.	(0.0002+0.003+0.0005) lb/hr =	0.004 lb/hr

Total emission increases (Including salts formed from NH<sub>3</sub> & acids reactions)

PM:	Uncontr.	lb/hr	0.34 lb/hr
	Contr.	lb/hr	0.02 lb/hr
PM10	Uncontr.	lb/hr	0.32 lb/hr
		lb/day	0.32 lb/hr*24 hrs/day = 7.73 lb/day
	Contr.	lb/hr	0.02 lb/hr
		lb/day	0.02 lb/hr*24 hrs/day = 0.39 lb/day
		lb/yr	0.39 lb/day*7 days/wk*52 wks/yr = 141.93 lb/yr

**ATTACHMENT A**  
*Integrated Circuit*

Rule 1401 chemicals

For Rule 1401 analysis, we will assume there are no reactions between NH<sub>3</sub> and acids (Conservative).

(lb/hr from the table above)

NH <sub>3</sub>	lb/hr		0.19 lb/hr
	lb/yr		1,698.67 lb/yr
H <sub>3</sub> PO <sub>4</sub>	lb/hr	0.0006+0.0004 =	0.001 lb/hr
	lb/yr	0.001 lb/hr*24 hrs/day*7 days/wk*52 wks/yr =	8.35 lb/yr
HCl	lb/hr	0.0005+0.0003+0.003+0.0004+0.0026+0.0000 =	0.007 lb/hr
	lb/yr	0.007 lb/hr*24 hrs/day*7 days/wk*52 wks/yr =	57.45 lb/yr
HF	lb/hr	0.00012+0.00036+0.00063+0.00019+0.0009+0.001 =	0.0028 lb/hr
	lb/yr	0.0028 lb/hr*24 hrs/day*7 days/wk*52 wks/yr =	24.31 lb/yr
H <sub>2</sub> SO <sub>4</sub>	lb/hr		0.00075 lb/hr
	lb/yr	0.0007 lb/hr*24 hrs/day*7 days/wk*52 wks/yr =	6.52 lb/yr

NSR & AEIS Inputs:

	PM	PM10
lb/hr		
Uncontr.	0.34	0.32
Contr.	0.02	0.02
lb/day		
Uncontr.		8
Contr.		0.39
lb/yr (Contr.)		141.93

Permit limits:

PH <sub>3</sub>		3 lb/month
SiH <sub>4</sub>	20+12 =	32 lb/month
SiH <sub>2</sub> Cl <sub>2</sub>		10 lb/month
BF <sub>3</sub>		2 lb/month
BCl <sub>3</sub>		4 lb/month
C <sub>2</sub> F <sub>6</sub>		30 lb/month
CHF <sub>3</sub>		20 lb/month
CF <sub>4</sub>		10 lb/month
Cl <sub>2</sub>		40 lb/month
SF <sub>6</sub>		20 lb/month
HBr		22 lb/month
NH <sub>3</sub>		140 lb/month
NF <sub>3</sub>		12 lb/month
POCl <sub>3</sub>		8 lb/month
CH <sub>3</sub> CCl <sub>3</sub>		45 lb/month
C <sub>8</sub> H <sub>20</sub> SiO <sub>4</sub>		2,000 lb/month

**Arsine Emissions**  
**4 Ion Implanters Using Arsine**

A/N 510417

Given:

1 Arsine flow rate to implanter		0.0138 L/min
2 Operating schedule:		
a Hours/day		24
b Days/week		7
c Weeks/year		52
3 Sensor analyzing time (collecting sample & analyzing) (6 times: 3 at breakthrough at main canister and 3 at breakthrough at standby canister, 60 sec each)		360 sec
4 Time period between the time sensor detects break through at outlet of main canister and the time that effluent from implanter is completely switched to standby canister (Interlocks for automatic switching are required) - 3 times at 30 seconds each.		90 sec
5 Time period between the time sensor detects break through at outlet of standby canister and the time that arsine flow to implanter is shut down (Interlocks for automatic shutdown are required) - 3 times at 30 seconds each.		90 sec
6 Scrubber replacements each year		2
7 Number of scrubbers in the permit unit		4
Molecular weights:		
Arsine		77.95 lb/lbmole
Arsenic		74.92 lb/lbmole
Ionization efficiency		90%
Arsenic in arsine		0.96 lb/lb
Implant efficiency		45%
Control efficiency:		99%
Ideal gas molar volume	@ 60 F & 1 atmosphere	379.49 ft <sup>3</sup> /lbmole
Conversion from liters to ft <sup>3</sup> :		0.035 ft <sup>3</sup> /L

Computations:

For 1 resin canister:

(a) During normal operation:

Arsine usage:		
0.0138 L/min*0.035 cf/L*60 min/hr*24 hrs/day*7 days/wk*52 wks/yr/379.49 cf/lbmole*77.95 lb/lbmole =		52.4 lb/yr
Arsenic emissions:		
Uncontrolled	52.43 lb/yr*0.96 lb arsenic/lb arsine *((1-0.9)+0.9*(1-0.45)) =	29.98 lb/yr
	29.98 lb/yr/52 wks/yr/7 days/wk/24 hrs/day =	0.00343 lb/hr
Controlled	29.98 lb/yr*(1-0.99) =	0.300 lb/yr
	0.00343 lb/hr*(1-0.99) =	3.43E-05 lb/hr

(b) During other periods:

(Switching from main canister to standby canister and shutdown)

Amount of time when arsine is not controlled:	(360 sec+90 sec+90 sec)*2 times/yr =	1080 sec/yr
Arsine used:		
0.0138 L/min/60 sec/min*1080 sec/yr*0.035 cf/L/379.49 cf/lbmole*77.95 lb/lbmole =		0.00180 lb/yr
Arsenic emissions:	0.0018 lb/yr*0.96 lb arsenic/lb arsine*((1-0.9)+0.9*(1-0.45)) =	0.00103 lb/yr

(c) Total arsenic emissions:

	0.3 lb/yr+0.00103 lb/yr =	0.301 lb/yr
	0.301 lb/yr/52 wks/yr/7 days/wk/24 hrs/day =	3.444E-05 lb/hr

Arsine usage  $0.0138 \text{ L/min} * 60 \text{ min/hr} * 24 \text{ hrs/day} * 7 \text{ days/wk} * 52 \text{ wks/yr} = 7,227.55 \text{ L/yr}$   
 $7,227.55 \text{ L/yr} * 0.035 \text{ cf/L} / 379.49 \text{ cf/lbmole} * 77.95 \text{ lb/lbmole} = 52.43 \text{ lb/yr}$   
 Overall control efficiency:  $1 - 0.301 / 29.98 = 98.997\%$

For a maximum of 4 canisters:

Total arsenic emissions:  $0.301 \text{ lb/yr-canister} * 4 \text{ canisters} = 1.203 \text{ lb/yr}$   
 $1.203 \text{ lb/yr} / 52 \text{ wks/yr} / 7 \text{ days/wk} / 24 \text{ hrs/day} = 1.38E-04 \text{ lb/hr}$

Results of risk analysis:

	Residential	Commercial
MICR	9.95E-07	3.43E-07

HIA	6.55E-03
HIC	6.83E-03

Arsine flow rate limit (per canister) 0.0138 L/min

NSR input: lb/hr \* 10<sup>6</sup>

Uncontrolled arsenic emission  $0.00343 \text{ lb/hr/can} * 4 \text{ cans} * 10^6 = 13,729$   
 Controlled arsenic emission  $0.000138 \text{ lb/hr} * 10^6 = 138$



# TIER 3 SCREENING RISK ASSESSMENT REPORT

A/N: 510417  
 Fac: International Rectifier

Application deemed complete date: 04/30/10

## 2. Tier 2 Data

MET Factor	1.00
4 hr	0.85
6 or 7 hrs	0.71

### Dispersion Factors tables

3	For Chronic X/Q
6	For Acute X/Q

### Dilution Factors (ug/m3)/(tons/yr)

Receptor	X/Q	X/Qmax
Residential	0.099368645	5.440433333
Commercial	0.183465753	10.04475

### Adjustment and Intake Factors

	AFann	DBR	EVF
Residential	1	302	0.96
Worker	1	149	0.38





A/N: 510417

Application deemed complete date: 04/30/10

**TIER 3 RESULTS**

**5a. MICR**

MICR = CP (mg/(kg-day))<sup>-1</sup> \* Q (ton/yr) \* (X/Q) \* AFann \* MET \* DBR \* EVF \* 1.E-6 \* MP

Compound	Residential	Commercial
Ammonia		
Arsenic and arsenic compounds (inorganic)	9.95E-07	3.43E-07
Phosphoric acid		
Hydrogen chloride (hydrochloric acid)		
Hydrogen fluoride (hydrofluoric acid)		
Sulfuric acid (and oleum)		
<b>Total</b>	<b>9.95E-07</b>	<b>3.43E-07</b>
	<b>PASS</b>	<b>PASS</b>

No Cancer Burden, MICR < 1.0E-6

<b>5b. Cancer Burden</b>	<b>no</b>
X/Q for one-in-a-million:	
Distance (meter)	2236.97
Area (km <sup>2</sup> ):	1.57E+01
Population:	109989
<b>Cancer Burden:</b>	<b>1.09E-01</b>

**6. Hazard Index**

HIA = [Q(lb/hr) \* (X/Q)max] \* AF / Acute REL

HIC = [Q(ton/yr) \* (X/Q) \* MET \* MP] / Chronic REL

Target Organs	Acute	Chronic	Acute Pass/Fail	Chronic Pass/Fail
Alimentary system (liver) - AL			Pass	Pass
Bones and teeth - BN			Pass	Pass
Cardiovascular system - CV		6.83E-03	Pass	Pass
Developmental - DEV	6.55E-03	6.83E-03	Pass	Pass
Endocrine system - END			Pass	Pass
Eye	7.58E-04		Pass	Pass
Hematopoietic system - HEM			Pass	Pass
Immune system - IMM			Pass	Pass
Kidney - KID			Pass	Pass
Nervous system - NS		6.83E-03	Pass	Pass
Reproductive system - REP	6.55E-03		Pass	Pass
Respiratory system - RES	8.21E-04	2.07E-03	Pass	Pass
Skin			Pass	Pass

A/N: 510417

Application deemed complete date: 04/30/10

6a. Hazard Index Acute

$HIA = [Q(\text{lb/hr}) * (X/Q)_{\text{max}}] * AF / \text{Acute REL}$

Compound	HIA - Residential									
	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Ammonia				3.31E-04					3.31E-04	
Arsenic and arsenic compounds (inorganic)			3.55E-03					3.55E-03		
Phosphoric acid										
Hydrogen chloride (hydrochloric acid)				1.70E-05					1.70E-05	
Hydrogen fluoride (hydrofluoric acid)				6.31E-05					6.31E-05	
Sulfuric acid (and oleum)									3.38E-05	
<b>Total</b>			3.55E-03	4.11E-04				3.55E-03	4.45E-04	

Compound	HIA - Commercial									
	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Ammonia				6.10E-04						
Arsenic and arsenic compounds (inorganic)			6.55E-03					6.55E-03	6.10E-04	
Phosphoric acid										
Hydrogen chloride (hydrochloric acid)				3.15E-05					3.15E-05	
Hydrogen fluoride (hydrofluoric acid)				1.16E-04					1.16E-04	
Sulfuric acid (and oleum)									6.25E-05	
<b>Total</b>			6.55E-03	7.58E-04				6.55E-03	8.21E-04	

6b. Hazard Index Chronic

$$HIC = [Q(\text{ton/yr}) * (X/Q) * MET * MP] / \text{Chronic REL}$$

Compound	HIC - Residential												
	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Ammonia												4.22E-04	
Arsenic and arsenic compounds (inorganic)			3.80E-03	3.80E-03						3.80E-03			
Phosphoric acid												5.93E-05	
Hydrogen chloride (hydrochloric acid)												3.17E-04	
Hydrogen fluoride (hydrofluoric acid)													
Sulfuric acid (and oleum)												3.24E-04	
<b>Total</b>			3.80E-03	3.80E-03						3.80E-03		1.12E-03	

6b. Hazard Index Chronic (cont.)

A/N: 510417

Application deemed complete date:

04/30/10

Compound	HIC - Commercial												
	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Ammonia													
Arsenic and arsenic compounds (inorganic)			6.83E-03	6.83E-03								7.79E-04	
Phosphoric acid										6.83E-03			
Hydrogen chloride (hydrochloric acid)												1.09E-04	
Hydrogen fluoride (hydrofluoric acid)												5.86E-04	
Sulfuric acid (and oleum)												5.98E-04	
<b>Total</b>			6.83E-03	6.83E-03						6.83E-03		2.07E-03	



NO	400.	79.46	6	1.0	1.1	10000.0	40.30	41.48	26.29
NO	500.	76.76	6	1.0	1.1	10000.0	40.30	50.72	31.07
NO	600.	69.51	6	1.0	1.1	10000.0	40.30	59.70	35.55
NO	700.	61.68	6	1.0	1.1	10000.0	40.30	68.43	39.76
NO	800.	54.53	6	1.0	1.1	10000.0	40.30	76.93	43.74
NO	900.	48.36	6	1.0	1.1	10000.0	40.30	85.19	47.51
NO	1000.	43.14	6	1.0	1.1	10000.0	40.30	93.24	51.10
NO	1100.	38.73	6	1.0	1.1	10000.0	40.30	101.09	54.53
NO	1200.	35.00	6	1.0	1.1	10000.0	40.30	108.74	57.82
NO	1300.	31.82	6	1.0	1.1	10000.0	40.30	116.21	60.97
NO	1400.	29.10	6	1.0	1.1	10000.0	40.30	123.51	64.01
NO	1500.	26.76	6	1.0	1.1	10000.0	40.30	130.64	66.95
NO	1600.	24.72	6	1.0	1.1	10000.0	40.30	137.62	69.79
NO	1700.	22.94	6	1.0	1.1	10000.0	40.30	144.45	72.54
NO	1800.	21.38	6	1.0	1.1	10000.0	40.30	151.14	75.20
NO	1900.	19.99	6	1.0	1.1	10000.0	40.30	157.70	77.80
NO	2000.	18.76	6	1.0	1.1	10000.0	40.30	164.13	80.32
NO	2100.	17.66	6	1.0	1.1	10000.0	40.30	170.45	82.78
NO	2200.	16.67	6	1.0	1.1	10000.0	40.30	176.64	85.18
NO	2300.	15.78	6	1.0	1.1	10000.0	40.30	182.73	87.52
NO	2400.	14.97	6	1.0	1.1	10000.0	40.30	188.71	89.81
NO	2500.	14.23	6	1.0	1.1	10000.0	40.30	194.59	92.05
NO	2600.	13.56	6	1.0	1.1	10000.0	40.30	200.37	94.24
NO	2700.	12.94	6	1.0	1.1	10000.0	40.30	206.06	96.39
NO	2800.	12.38	6	1.0	1.1	10000.0	40.30	211.66	98.49
NO	2900.	11.85	6	1.0	1.1	10000.0	40.30	217.17	100.56
NO	3000.	11.37	6	1.0	1.1	10000.0	40.30	222.60	102.59

3500.	9.426	6	1.0	1.1	10000.0	40.30	248.62	112.23
NO								
4000.	8.025	6	1.0	1.1	10000.0	40.30	272.97	121.16
NO								
4500.	6.974	6	1.0	1.1	10000.0	40.30	295.91	129.51
NO								
5000.	6.158	6	1.0	1.1	10000.0	40.30	317.62	137.39
NO								
5500.	5.507	6	1.0	1.1	10000.0	40.30	338.28	144.85
NO								
6000.	4.978	6	1.0	1.1	10000.0	40.30	358.01	151.96
NO								
6500.	4.539	6	1.0	1.1	10000.0	40.30	376.91	158.76
NO								
7000.	4.170	6	1.0	1.1	10000.0	40.30	395.07	165.29
NO								
7500.	3.855	6	1.0	1.1	10000.0	40.30	412.56	171.58
NO								
8000.	3.583	6	1.0	1.1	10000.0	40.30	429.46	177.65
NO								
8500.	3.347	6	1.0	1.1	10000.0	40.30	445.80	183.52
NO								
9000.	3.139	6	1.0	1.1	10000.0	40.30	461.65	189.22
NO								
9500.	2.956	6	1.0	1.1	10000.0	40.30	477.03	194.75
NO								
10000.	2.792	6	1.0	1.1	10000.0	40.30	491.99	200.13
NO								
15000.	1.792	6	1.0	1.1	10000.0	40.30	623.68	247.64
NO								
20000.	1.318	6	1.0	1.1	10000.0	40.30	733.37	287.46
NO								
25000.	1.041	6	1.0	1.1	10000.0	40.30	829.19	322.41
NO								
30000.	.8603	6	1.0	1.1	10000.0	40.30	915.28	353.93
NO								
40000.	.7228	4	1.0	1.1	320.0	68.44	1552.30	1553.23
NO								
50000.	.6427	4	1.0	1.1	320.0	68.44	1745.81	1750.07
NO								

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 25. M:

418.	79.65	6	1.0	1.1	10000.0	40.30	43.25	27.23
NO								

DWASH= MEANS NO CALC MADE (CONC = 0.0)  
 DWASH=NO MEANS NO BUILDING DOWNWASH USED  
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED  
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED  
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3\*LB

\*\*\*\*\*  
 \*\*\* SCREEN DISCRETE DISTANCES \*\*\*  
 \*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING  
DISTANCES \*\*\*

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)
1000.	43.14	6	1.0	1.1	10000.0	40.30	93.24	51.10

NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)  
 DWASH=NO MEANS NO BUILDING DOWNWASH USED  
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED  
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED  
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3\*LB

\*\*\*\*\*  
 \*\*\* SUMMARY OF SCREEN MODEL RESULTS \*\*\*  
 \*\*\*\*\*

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	79.65	418.	0.

\*\*\*\*\*  
 \*\* REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS \*\*  
 \*\*\*\*\*



**ATTACHMENT**  
**Wet Chemical/Solvent Cleaning System**

A/N 510419

Previous: G8255 503215  
 Previous to previous: 498035, 492803

The system has been modified several times. For PM10 emissions, the emissions from previous permits have been used for subsequent applications. In March 2009, the system was permitted under A/N 492803. The number of tools for wet chemicals under A/N 492803 is more than that for the modified unit. The operation before and after modification remains the same. PM10 emissions after the modification are not expected to be higher than as recorded for A/N 492803. We will use PM10 emissions as recorded before modification as PM10 emissions after modification.

Because this facility has a VOC cap of 1,800 lbs in any one calendar month, we will use VOC emissions for the previous A/N 503215 for VOC emission recording purpose.

Information excerpted from A/N 503215 folder:

Operating schedule:

hrs/day	24 hrs/day
days/wk	7 days/wk
wks/yr	52 wks/yr

Emissions:

		VOC	PM/PM10
lb/hr	Uncontr.	0.23	6.41
	Contr.	0.002	0.08
lb/day	Uncontr.	6	154
	Contr.	0	1.92
lb/yr		20.30	698.88

Rule 1401:

Because chemical usage is expected to be less than before modification, there will be no emission increases of toxic air contaminants due to the modification. No Rule 1401 analysis is necessary.

**ATTACHMENT  
Wet Chemical/Solvent Cleaning System**

A/N 510420

Previous: G1978 492804

The applicant proposes to remove two tools from the permit unit. Therefore, it is expected that there will be no emission increase from the modification. We will use emission data from the previous application.

Information excerpted from A/N 492804:

Operating schedule:

hrs/day	24 hrs/day
days/wk	7 days/wk
wks/yr	52 wks/yr

Emissions:

	VOC	Acetone	TOG	PM/PM10
<b>lb/hr</b>				
Uncontr.	1.00	1.84	2.84	0.69
Contr.	0.02	0.02	0.04	0.07
<b>lb/day</b>				
Uncontr.	24	44	68	17
Contr.	0	1	1	1.66
<b>lb/yr</b>	134.37	209.44	343.81	602.78

Rule 1401:

It is assumed that the chemical usage is the same as for previous application. Therefore, there is no emission increase for toxic air contaminants.

**Comparison of Wet Chemical Tools**  
**A/Ns 510419 & 492802**

A/N 510419	
ACID ETCH/CLEAN MACHINES	6
ACID WET BENCHES	2
WET PROCESS STATIONS	4
WET NITRIDE ETCH BENCH	1
	<hr/>
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A/N 492802	
ACID ETCH/CLEAN MACHINES	17
ACID WET BENCH	3
WET PROCESS STATIONS	2
QUARTZ CLEANING MACHINE	2
	<hr/>
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## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **Facility Equipment and Requirements (Section D)**

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Construct and Permits to Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application number	Permit to Operate number	Equipment description
134696	M56103	STORAGE TANK MISC INORGANIC ACID
134697	M56104	STORAGE TANK MISC MATERIALS
134698	M56105	STORAGE TANK MISC INORGANIC ACID
134699	M56106	STORAGE TANK MISC INORGANIC ACID
134701	M56108	I C E (>500 HP) EM ELEC GEN DIESEL
134709	M56109	STORAGE TANK MISC MATERIALS
134710	M56110	STORAGE TANK MISC INORGANIC ACID
262744	D89083	ACTIVATED CARBON ADSORBER OTHER
293299	D84484	STORAGE TANK MISC ORGANIC ACID
302031	D90395	STORAGE TANK OTHER W/CTL HYDROGEN FLUORI
302032	F52982	SEMICONDUCTOR, SOLVENT CLEANING (<5 PCS)
381811	F54712	STORAGE TANK ORGANIC CHEMICALS MISC
381813	F54714	TANK, SURFACE PREPARATION - OTHER ACIDS
383504	F54708	TANK, SURFACE PREPARATION - OTHER ACIDS
410529	F58209	I C E (50-500 HP) EM FIRE FGHT - DIESEL
432426	F91809	STORAGE TANK MISC INORGANIC ACID
441482	F93346	BOILER (5-20 MMBTU/HR) NAT GAS ONLY C/G
442573	F93347	BOILER (5-20 MMBTU/HR) NAT GAS ONLY C/G
459172	G1986	ACTIVATED CARBON ADSORBER DRUM VENT M.S.
460709	G1988	STORAGE TANK MISC INORGANIC ACID
460711	G1989	STORAGE TANK MISC INORGANIC ACID
460712	G1990	STORAGE TANK MISC INORGANIC ACID
460715	G1993	STORAGE TANK MISC MATERIALS
460728	G1994	STORAGE TANK MISC INORGANIC ACID
460729	G1995	STORAGE TANK MISC INORGANIC ACID
460730	G1996	STORAGE TANK MISC INORGANIC ACID
460732	G1997	STORAGE TANK MISC INORGANIC ACID
460733	G1998	STORAGE TANK MISC INORGANIC ACID
460735	G2000	STORAGE TANK MISC INORGANIC ACID
460744	G2001	STORAGE TANK MISC INORGANIC ACID
460747	G2002	SEMICONDUCTOR, PHOTORESIST (>=5 PIECES)
491984	G4083	STORAGE TANK MISC INORGANIC ACID

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

498032	G4072	WAFER ETCHING AND STRIPPING LINE
498033	G4073	WAFER ETCHING AND STRIPPING LINE
498040	G4080	STORAGE TANK MISC INORGANIC ACID
498041	G4081	STORAGE TANK MISC INORGANIC ACID
498042	G8252	STORAGE TANK MISC INORGANIC ACID
503213	G8253	SEMICONDUCTOR, PHOTORESIST (>=5 PIECES)
503214	G8254	AFTERBURNER, DIRECT FLAME
503217	G8260	SCRUBBER CHEMICAL M.S.
503219	G8262	STORAGE TANK ORGANIC CHEMICALS MISC
503222	G8264	AFTERBURNER, DIRECT FLAME
503223	G8265	STORAGE TANK MISC INORGANIC ACID
503224	G8266	STORAGE TANK MISC INORGANIC ACID
503225	G8267	STORAGE TANK MISC INORGANIC ACID
504815	G8268	SEMICONDUCTOR, INTEGRATED CIRCUIT>=5 PC
510417		SEMICONDUCTOR, INTEGRATED CIRCUIT>=5 PC
510419		WET CHEMICAL AND SOLVENT CLEANING
510420		WET CHEMICAL AND SOLVENT CLEANING
510421		SCRUBBER CHEMICAL M.S.
510422		SCRUBBER CHEMICAL M.S.

**NOTE:** EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS TO OPERATE NUMBER ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **FACILITY WIDE CONDITION(S)**

**Condition(s):**

1. EXCEPT FOR OPEN ABRASIVE BLASTING OPERATIONS, THE OPERATOR SHALL NOT DISCHARGE INTO THE ATMOSPHERE FROM ANY SINGLE SOURCE OF EMISSIONS WHATSOEVER ANY AIR CONTAMINANT FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR WHICH IS:
  - A. AS DARK OR DARKER IN SHADE AS THAT DESIGNATED NO. 1 ON THE RINGELMANN CHART, AS PUBLISHED BY THE UNITED STATES BUREAU OF MINES; OR
  - B. OF SUCH OPACITY AS TO OBSCURE AN OBSERVER'S VIEW TO A DEGREE EQUAL TO OR GREATER THAN DOES SMOKE DESCRIBED IN SUBPARAGRAPH (A) OF THIS CONDITION. [RULE 401]
2. THE TOTAL QUANTITY OF VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS FROM THIS FACILITY SHALL NOT EXCEED 1830 POUNDS IN ANY CALENDAR MONTH. TO ENSURE COMPLIANCE WITH THE EMISSION LIMIT OF THIS CONDITION, THE OPERATOR SHALL:
  - A. IN ADDITION TO THE RECORDKEEPING REQUIREMENTS IN RULE 109, KEEP ADEQUATE RECORDS FOR ALL EQUIPMENT AND OPERATIONS AT THIS FACILITY TO VERIFY THE DAILY VOC EMISSIONS IN POUNDS AND THE VOC CONTENT OF EACH MATERIAL AS APPLIED (INCLUDING WATER AND EXEMPT COMPOUNDS).
  - B. WITHIN 14 CALENDAR DAYS AFTER THE END OF EACH MONTH, TOTAL AND RECORD VOC EMISSIONS FOR THE MONTH FROM ALL EQUIPMENT AND OPERATIONS THAT ARE REQUIRED TO HAVE WRITTEN PERMITS OR ARE EXEMPT FROM WRITTEN PERMITS PURSUANT TO RULE 219. 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.
  - C. MAINTAIN A SINGLE LIST WHICH INCLUDES ONLY THE NAME AND ADDRESS OF EACH PERSON FROM WHOM THE FACILITY ACQUIRED VOC-CONTAINING MATERIALS REGULATED BY THE DISTRICT THAT WERE USED OR STORED AT THE FACILITY DURING THE PRECEDING 12 MONTHS.
  - D. 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. [RULE 1303 (b) (2)-OFFSETS]
3. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE PREPARED IN A FORMAT WHICH IS ACCEPTABLE TO THE DISTRICT, SHALL BE RETAINED AT THE FACILITY FOR AT LEAST FIVE YEARS, AND SHALL BE MADE AVAILABLE TO ANY DISTRICT REPRESENTATIVE UPON REQUEST. [RULE 1303 (b) (2)-OFFSETS]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

**PERMIT TO OPERATE**

**Permit No. M56103  
A/N 134696**

**Equipment Description:**

STORAGE TANK T-175, HYDROGEN FLUORIDE, 4' -6" DIA. x 7' -3" H. 500 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

**PERMIT TO OPERATE**

**Permit No. M56104  
A/N 134697**

**Equipment Description:**

STORAGE TANK T-185, BUFFERED OXIDE ETCH, 4' -6" DIA. x 7' -3" H. 500 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]

# FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

## PERMIT TO OPERATE

Permit No. M56105  
A/N 134698

### Equipment Description:

STORAGE TANK T-12, WASTE ACID, 10' -0" DIA. x 11' -6" L., 5728 GALLON CAPACITY, WITH TWO TRANSFER PUMPS EACH 10 H.P.

### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]

# FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

## PERMIT TO OPERATE

Permit No. M56106  
A/N 134699

### Equipment Description:

STORAGE TANK T-13, WASTE ACID, 10' -0" DIA. x 11'-6" L., 5728 GALLON CAPACITY, WITH TWO TRANSFER PUMPS, EACH 10 H.P.

### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. M56108  
A/N 134701

#### Equipment Description:

INTERNAL COMBUSTION ENGINE, DIESEL FIRED, MITSUBISHI, MODEL S12N-PTA-2, 1450 H.P. DRIVING A 1000 K.W. EMERGENCY ELECTRIC GENERATOR.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. DIESEL FUEL SUPPLIED TO THIS ENGINE SHALL HAVE A SULFUR CONTENT OF LESS THAN 0.05% BY WEIGHT.  
[RULE 431.2]
4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.  
[RULE 1304 (a) (4)]
5. THE OPERATING TIME OF THIS ENGINE SHALL NOT EXCEED 199 HOURS IN ANY ONE YEAR.  
[RULE 1304 (a) (4)]
6. AN ENGINE OPERATING LOG LISTING THE DATE OF OPERATION, THE ELAPSED TIME, IN HOURS, AND THE REASON FOR OPERATION SHALL BE KEPT AND MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

#### Emissions And Requirements:

7. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

**PERMIT TO OPERATE**

**Permit No. M56109  
A/N 134709**

**Equipment Description:**

MIX TANK 181, BUFFERED OXIDE ETCH, 4' - 6" DIA. X 6' - 11" H. 500 GALLON CAPACITY, WITH A 1/2 H.P. MIXER.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

**PERMIT TO OPERATE**

**Permit No. M56110  
A/N 134710**

**Equipment Description:**

MIX TANK 171, HYDROGEN FLUORIDE, 4' -6" DIA. X 6'-10" H. 500 GALLON CAPACITY WITH A 1/2 H.P. MIXER.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. D89083  
A/N 262744

#### Equipment Description:

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. CARBON ADSORBER, CAMERON-YAKIMA, MODEL TSU 2000, CANISTER TYPE, WITH TWO PARALLEL CANISTERS, EACH WITH 2000 LBS. OF CARBON AND A 4' - 9" BED DEPTH.
2. EXHAUST SYSTEM WITH A 15 HP FAN VENTING TWO WET BENCHES.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. A GAUGE SHALL BE INSTALLED AND MAINTAINED TO INDICATE, IN INCHES OF WATER COLUMN, THE STATIC PRESSURE DIFFERENTIAL ACROSS EACH CARBON BED. WHEN IN OPERATION, THIS PRESSURE DIFFERENTIAL SHALL NOT EXCEED 18 INCHES OF WATER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THIS EQUIPMENT SHALL BE OPERATED WITH ONLY ONE CARBON CANISTER IN SERVICE AT ANY ONE TIME.  
[RULE 204]
5. THE HYDROCARBON (VOC) CONCENTRATION IN THE EXHAUST GAS FROM THE CARBON ADSORBER SHALL BE TESTED, BY A GAS DETECTION TUBE MEASUREMENT (DRAGER OR EQUIVALENT) OR OTHER METHOD WITH PRIOR DISTRICT APPROVAL, DAILY FOR THE FIRST 15 DAYS SINCE CARBON REPLACEMENT AND EVERY TWELVE HOURS OF OPERATION THEREAFTER. IF THE RESULTS OF THIS TEST SHOW A VOC CONCENTRATION EXCEEDING 10.0 PPMV (SUBJECT TO REVISION), THE EXHAUST FLOW SHALL BE SHIFTED TO A FRESH CARBON CANISTER IMMEDIATELY.  
[RULE 3004 (a) (4)]
6. THIS EQUIPMENT SHALL OPERATE WITH AN OVERALL VOC CONTROL EFFICIENCY (COLLECTION AND DESTRUCTION) EXCEEDING 95.0% BY WEIGHT.  
[RULE 1303 (b) (2)-OFFSETS]
7. RECORDS OF DATES OF CARBON REPLACEMENT, AND DAILY HYDROCARBON MEASUREMENTS SHALL BE MAINTAINED AND RETAINED ON FILE FOR FIVE YEARS. THESE RECORDS SHALL BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. D84484  
A/N 293299

#### Equipment Description:

STORAGE TANK T-145, PAD ETCH ACID, 3'-0"DIA. x 6'-5"H., 300 GALLON CAPACITY.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS TANK SHALL NOT BE USED FOR STORING ORGANIC LIQUID HAVING AN ORGANIC COMPOSITE VAPOR PRESSURE OF 25 mm Hg (0.5 psia) OR GREATER UNDER ACTUAL STORAGE CONDITIONS.  
[RULE 1303 (b) (2)-OFFSETS]
4. THROUGHPUT TO THIS TANK SHALL NOT EXCEED 300 GALLONS PER DAY. THROUGHPUT RECORDS SHALL BE MAINTAINED AND RETAINED ON FILE FOR A FIVE YEAR PERIOD, AND SHALL BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]
5. THIS TANK SHALL NOT BE USED TO STORE ANY COMPOUND CONTAINING A CARCINOGENIC SUBSTANCE AS SPECIFIED IN TABLE I OF RULE 1401.  
[RULE 1401]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

**PERMIT TO OPERATE**

**Permit No. D90395  
A/N 302031**

**Equipment Description:**

STORAGE TANK, HYDROFLUORIC ACID, 5000 GALLON CAPACITY, 7'-0"DIA. X 20'-6"L.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS TANK SHALL NOT BE USED FOR STORING HYDROFLUORIC ACID HAVING A CONCENTRATION EXCEEDING 50 PERCENT, BY WEIGHT.  
[RULE 1303 (b) (2)-OFFSETS]
4. THIS EQUIPMENT SHALL NOT STORE LIQUID UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT OR A PERMIT TO CONSTRUCT BY THE DISTRICT.  
[RULE 1303 (b) (2)-OFFSETS]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. F52982  
A/N 302032

#### Equipment Description:

SOLVENT BENCH, SEMIFAB, MODEL WPS600, 3'-0"W. X 8'-0"L. X 5'- 7"H., 1.8 KVA.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE TOTAL AMOUNT OF VOLATILE ORGANIC COMPOUND (VOC) EMISSION FROM THIS FACILITY SHALL NOT EXCEED 1,830 POUNDS IN ANY ONE CALENDAR MONTH. THE AMOUNT OF VOC EMISSION FROM THIS EQUIPMENT SHALL BE THE TOTAL AMOUNT OF SOLVENT USED IN THIS EQUIPMENT, EXCLUDING SALVAGE SOLVENT, DISCOUNTED BY THE NON-VOLATILE PORTION OF THE SOLVENT, AND THEN DISCOUNTED BY 98.7% (THE CONTROL EFFICIENCY OF THE CONTROL SYSTEM VENTING THIS EQUIPMENT).  
[RULE 1303 (b) (2)-OFFSETS]
5. RECORDS SHALL BE KEPT TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. F54712  
A/N 381811**

**Equipment Description:**

STORAGE TANK, WASTE SOLVENT, 8'-0" W. X 15'-6" L. X 7'-0" H., 5000 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF WASTE SOLVENT TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 5000 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. F54714  
A/N 381813**

**Equipment Description:**

MIX TANK T-161, MIXED ACID ETCH, 4'-6" DIA. X 5'-6" H., 500 GALLON CAPACITY, WITH A 1/2-HP MIXER.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF MATERIAL TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 917 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. F54708  
A/N 383504**

**Equipment Description:**

HOLD TANK T-165, MIXED ACID ETCH, 4'-6" DIA. X 5'-6" H., 500 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF MATERIAL TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 917 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. F58209  
A/N 410529

#### Equipment Description:

INTERNAL COMBUSTION ENGINE, CLARK MODEL JW6H-UF30 (JOHN DEERE JD6D-06WA)  
TURBOCHARGED/AFTERCOOLED, 6 CYLINDERS, 265 HP, DIESEL-FUELED, WITH A 300 GALLON DIESEL  
FUEL TANK, DRIVING AN EMERGENCY FIRE PUMP.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL OPERATE IN COMPLIANCE WITH RULE 431.2.  
[RULE 431.2]
4. THE FUEL INJECTION TIMING OF THIS ENGINE SHALL BE SET AND MAINTAINED AT 9 DEGREES RETARDED RELATIVE TO STANDARD TIMING.  
[RULE 1303 (a) (1)-BACT]
5. THE OPERATING TIME OF THIS ENGINE SHALL NOT EXCEED 199 HOURS IN ANY ONE CALENDAR YEAR.  
[RULE 1304 (a) (4)]
6. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.  
[RULE 1304 (a) (4)]
7. THIS ENGINE SHALL BE OPERATED ONLY DURING EMERGENCIES OR FOR MAINTENANCE AND TESTING PURPOSES.  
[RULE 1304 (a) (4)]
8. AN ENGINE OPERATING LOG LISTING THE DATE OF OPERATION, THE ELAPSED TIME IN HOURS, AND THE REASON FOR OPERATION SHALL BE KEPT AND MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. F91809  
A/N 432426

#### Equipment Description:

##### WASTE ACID NEUTRALIZATION LINE CONSISTING OF:

1. TANK NO. T-16, ACID NEUTRALIZATION, 10' - 0"DIA. x 11' - 6"H., 5,728 GALLON CAPACITY, WITH ONE 3-HP MIXER.
2. TANK NO. T-17, ACID NEUTRALIZATION/EQUALIZATION, 10' - 0"DIA. x 11' - 6"H., 5,728 GALLON CAPACITY, WITH ONE 3-HP MIXER.
3. TANK NO. T-301, ACID NEUTRALIZATION, 7' - 0"DIA. x 9' - 0"H., 2,600 GALLON CAPACITY, WITH ONE 3-HP MIXER.
4. TANK NO. T-302, ACID NEUTRALIZATION, 7' - 0"DIA. x 9' - 0"H., 2,600 GALLON CAPACITY, WITH ONE 3-HP MIXER.
5. TANK NO. T-303, ACID NEUTRALIZATION/STORAGE, 6' - 6"DIA. x 9' - 0"H., 2,200 GALLON CAPACITY, WITH TWO 10-HP TRANSFER PUMPS, ONE A STANDBY.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO CONSTRUCT/OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. A NON-RESETTABLE FLOW METER SHALL BE INSTALLED TO INDICATE THE AMOUNT OF WASTE WATER, IN GALLONS, PUMPED OUT OF THIS EQUIPMENT.  
[RULE 1303 (b) (2)-OFFSETS]
5. THE AMOUNT OF WASTE WATER PUMPED OUT OF THIS EQUIPMENT SHALL NOT EXCEED 4,000,000 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

6. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 5. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

**Permit No. F93346  
A/N 441482**

**Equipment Description:**

BOILER NO. 2, STONE-JOHNSTON, FIRE TUBE TYPE, MODEL PFTA 300 4LG 30W, 13,230,000 BTU PER HOUR, NATURAL GAS- FIRED, WITH ONE INDUSTRIAL COMBUSTION, MODEL NTD126NGX-09S-5P, BURNER.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES

[RULE 204]

3. THE NOX AND CO CONCENTRATIONS, IN PARTS PER MILLION BY VOLUME (PPMV), ON A DRY BASIS CORRECTED TO 3% OXYGEN, SHALL NOT EXCEED THE FOLLOWING:

<u>POLLUTANTS</u>	<u>PPMV</u>
NOX	12
CO	50

[RULE 1303 (a) (1)-BACT]

4. THE BOILER SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE COMBUSTION AIR AND FUEL AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED AT LEAST ONCE EVERY SIX MONTHS ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO MAINTAIN ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME FIRING RANGE. NOX, O<sub>2</sub>, AND CO SHALL BE MEASURED AND RECORDED ALONG WITH THE TUNE-UP PROCEDURES.

[RULE 1303 (a) (1)-BACT]

5. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 3 AND 4. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

[RULE 3004 (a) (4)]

**Periodic Monitoring:**

6. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE CO EMISSION LIMIT(S) EITHER BY:  
(a) CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY FIVE YEARS USING AQMD METHOD 100.1 OR 10.1; OR (b) CONDUCTING A TEST AT LEAST ANNUALLY USING A PORTABLE

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

ANALYZER AND AQMD-APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.

[RULE 3004 (a) (4)]

7. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE NOX EMISSION LIMIT(S) EITHER BY: (a) CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY FIVE YEARS USING AQMD METHOD 100.1 OR 7.1; OR (b) CONDUCTING A TEST AT LEAST ANNUALLY USING A PORTABLE ANALYZER AND AQMD-APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.

[RULE 3004 (a) (4)]

### **Emissions And Requirements:**

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: 0.1 GR/SCF, RULE 409  
CO: 2000 PPMV, RULE 407  
CO: 400 PPMV, RULE 1146  
NOX: 30 PPMV, RULE 1146

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. F93347  
A/N 442573

#### Equipment Description:

BOILER NO. 1, STONE-JOHNSTON, FIRE TUBE TYPE, MODEL PFTA 300 4LG 30W, 13,230,000 BTU PER HOUR, NATURAL GAS- FIRED, WITH ONE INDUSTRIAL COMBUSTION, MODEL NTD126NGX-09S-5P, BURNER.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES

[RULE 204]

3. THE NOX AND CO CONCENTRATIONS, IN PARTS PER MILLION BY VOLUME (PPMV), ON A DRY BASIS CORRECTED TO 3% OXYGEN, SHALL NOT EXCEED THE FOLLOWING:

<u>POLLUTANTS</u>	<u>PPMV</u>
NOX	12
CO	50

[RULE 1303 (a) (1)-BACT]

4. THE BOILER SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE COMBUSTION AIR AND FUEL AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED AT LEAST ONCE EVERY SIX MONTHS ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO MAINTAIN ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME FIRING RANGE. NOX, O<sub>2</sub>, AND CO SHALL BE MEASURED AND RECORDED ALONG WITH THE TUNE-UP PROCEDURES.

[RULE 1303 (a) (1)-BACT]

5. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 3 AND 4. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

[RULE 3004 (a) (4)]

#### Periodic Monitoring:

6. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE CO EMISSION LIMIT(S) EITHER BY:  
(a) CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY FIVE YEARS USING AQMD METHOD 100.1 OR 10.1; OR (b) CONDUCTING A TEST AT LEAST ANNUALLY USING A PORTABLE

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

ANALYZER AND AQMD-APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.

[RULE 3004 (a) (4)]

7. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE NOX EMISSION LIMIT(S) EITHER BY: (a) CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY FIVE YEARS USING AQMD METHOD 100.1 OR 7.1; OR (b) CONDUCTING A TEST AT LEAST ANNUALLY USING A PORTABLE ANALYZER AND AQMD-APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.

[RULE 3004 (a) (4)]

### **Emissions And Requirements:**

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: 0.1 GR/SCF, RULE 409  
CO: 2000 PPMV, RULE 407  
CO: 400 PPMV, RULE 1146  
NOX: 30 PPMV, RULE 1146

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. G1986  
A/N 459172

#### Equipment Description:

##### AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. ADSORBER, CAMERON-YAKIMA MODEL RADIAL 1600, CANISTER TYPE, CONSISTING OF THREE PARALLEL TRAINS (ONE STANDBY), EACH TRAIN WITH THREE CANISTERS IN SERIES, EACH CANISTER WITH 1,430 POUNDS OF ACTIVATED CARBON.
2. EXHAUST SYSTEM WITH ONE 50-HP BLOWER VENTING TWENTY-TWO PHOTOLITHOGRAPHIC TRACKS, TWO SOLVENT BENCHES, AND ONE WASTE SOLVENT STORAGE TANK.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. VOC CONCENTRATIONS AT THE OUTLETS OF THE SECONDARY ADSORBERS SHALL BE MEASURED, BY A DISTRICT APPROVED ANALYZER, AND RECORDED AT LEAST ONCE IN ANY OPERATING DAY.  
[1303 (a) (1)-BACT, RULE 1303 (b) (2)-OFFSETS, RULE 3004 (a) (4)]
4. WHENEVER THE VOC CONCENTRATION AT THE OUTLET OF THE SECONDARY ADSORBER OF THE OPERATING TRAIN IS GREATER THAN 10 PPMV AS METHANE, THAT TRAIN SHALL BE SHUT DOWN IMMEDIATELY AND ADSORBENT IN ALL THREE ADSORBERS IN THAT TRAIN SHALL BE REPLACED WITH FRESH ADSORBENT BEFORE IT IS PLACED INTO SERVICE AGAIN.  
[1303 (a) (1)-BACT, RULE 1303 (b) (2)-OFFSETS]
5. RECORDS SHALL BE KEPT TO PROVE COMPLIANCE WITH CONDITION NOS. 3 AND 4. THE RECORDS SHALL BE MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 1303 (a) (1)-BACT, RULE 1303 (b) (2)-OFFSETS]

# FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

## PERMIT TO OPERATE

Permit No. G1988  
A/N 460709

### Equipment Description:

STORAGE TANK T-408, SCALE INHIBITOR, 2' - 0"DIA. x 2' - 6"H., 50 GALLON CAPACITY.

### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THE MAXIMUM AMOUNT OF MATERIAL TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 150 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
4. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT HYDROGEN CHLORIDE, SULFURIC ACID AND PHOSPHORIC ACID SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
5. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 3 AND 4. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. G1989  
A/N 460711**

**Equipment Description:**

STORAGE TANK T-511, WASTE ACIDS, 1' - 8"W. x 3' - 0.5"L. x 1' - 8"H., 50 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THE MAXIMUM AMOUNT OF WASTE ACIDS TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 45,000 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
4. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT HYDROGEN CHLORIDE, NITRIC ACID, PHOPHORIC ACID, SULFURIC ACID AND HYDROGEN FLUORIDE, SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
5. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 3 AND 4. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

**PERMIT TO OPERATE**

**Permit No. G1990  
A/N 460712**

**Equipment Description:**

STORAGE TANK T-501, WASTE SULFURIC ACID, 4' - 3"W. x 7' - 8"L. x 2' - 0"H., 375 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF WASTE SULFURIC ACID TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 670,000 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. G1993  
A/N 460715**

**Equipment Description:**

STORAGE TANK T-504, WASTE AMMONIUM HYDROXIDE, 4' - 2"W. x 7' - 4.5"L. x 1' - 10"H., 375 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF WASTE AMMONIUM HYDROXIDE TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 120,450 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. G1994  
A/N 460728

**Equipment Description:**

STORAGE TANK T-141, ALUMINUM ETCH, 7' - 0"DIA. x 20' - 6"L., 5,000 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.
4. THE MAXIMUM AMOUNT OF MATERIAL TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 8,648 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT NITRIC ACID AND PHOSPHORIC ACID, SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
6. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. G1995  
A/N 460729**

**Equipment Description:**

MIXING TANK T-151, POLY ETCH, 4' - 6"DIA. x 5' - 6"H., 500 GALLON CAPACITY, WITH ONE 0.43 HP MIXER.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF MATERIAL TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 11,348 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT NITRIC ACID, SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
6. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. G1996  
A/N 460730**

**Equipment Description:**

HOLDING TANK T-155, POLY ETCH, 4' - 6"DIA. x 5' - 6"H., 500 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF MATERIAL TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 11,348 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT NITRIC ACID, SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
6. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. G1997  
A/N 460732

**Equipment Description:**

MIXING TANK T-191, ALUMINUM ETCH, 4' - 6"DIA. x 5' - 6"H., 500 GALLON CAPACITY, WITH ONE 0.43 HP MIXER.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF MATERIAL TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 6,244 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT NITRIC ACID AND PHOSPHORIC ACID, SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
6. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. G1998  
A/N 460733**

**Equipment Description:**

HOLDING TANK T-195, ALUMINUM ETCH, 4' - 6"DIA. x 5' - 6"H., 500 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF MATERIAL TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 6,244 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT NITRIC ACID, AMMONIA AND PHOSPHORIC ACID SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
6. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

**PERMIT TO OPERATE**

**Permit No. G2000  
A/N 460735**

**Equipment Description:**

HOLDING TANK T-405, WASTE SULFURIC ACID, 2' - 6"DIA. x 4' - 0"H., 140 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT RECEIVE MORE THAN 126,900 GALLONS OF WASTE SULFURIC ACID IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
4. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 3. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

# FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

## PERMIT TO OPERATE

Permit No. G2001  
A/N 460744

### Equipment Description:

HOLDING TANK T-406, WASTE SULFURIC ACID, 2' - 7"DIA. x 2' - 9"H., 100 GALLON CAPACITY.

### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT RECEIVE MORE THAN 93,132 GALLONS OF WASTE SULFURIC ACID IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
4. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 3. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. G2002  
A/N 460747

#### Equipment Description:

##### PHOTOLITHOGRAPHIC SYSTEM CONSISTING OF:

1. PHOTOLITHOGRAPHIC TRACK, SVG, MODEL 86 SERIES, 4' - 2"W. x 6' - 4"L. x 3' - 4"H., 21.6 KVA.
2. TWENTY-ONE PHOTOLITHOGRAPHIC TRACKS, SVG, MODEL 88 SERIES, 4' - 2"W. x 9' - 0"L. x 3' - 4"H., 21.6 KVA.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1164]
4. VOC EMISSIONS FROM THIS EQUIPMENT SHALL BE CALCULATED AND RECORDED. THE VOC EMISSIONS SHALL BE THE TOTAL AMOUNT OF PHOTORESIST USED IN THIS EQUIPMENT, EXCLUDING SALVAGE PHOTORESIST, DISCOUNTED BY THE NON-VOLATILE PORTION OF THE PHOTORESIST, AND THEN DISCOUNTED BY 98.7% (THE CONTROL EFFICIENCY OF THE CONTROL SYSTEM VENTING THIS EQUIPMENT).  
[RULE 1303 (b) (2)-OFFSETS]
5. RECORDS SHALL BE KEPT TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. G4083  
A/N 491984

**Equipment Description:**

STORAGE TANK T-506, WASTE WATER, 4' - 0"W. x 7' - 3"L. x 1' - 11"H., 375 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]
4. THIS EQUIPMENT SHALL NOT RECEIVE MORE THAN 1,839,600 GALLONS OF WASTE WATER IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS USED IN THIS EQUIPMENT SHALL NOT CONTAIN ANY TOXIC AIR CONTAMINANTS IDENTIFIED IN RULE 1401, TABLE I, WITH AN EFFECTIVE DATE OF MARCH 7, 2008 OR EARLIER, EXCEPT FOR AMMONIA (CAS # 7664-41-7), SULFURIC ACID (CAS # 7664-93-9), HYDROCHLORIC ACID (CAS # 7647-01-0), NITRIC ACID (CAS # 7697-37-2), PHOSPHORIC ACID (CAS # 7664-38-2), AND HYDROFLUORIC ACID (CAS # 7664-39-3).  
[RULE 1401]
6. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

Permit No. G4072  
A/N 498032

**Equipment Description:**

WAFER ETCHING AND STRIPPING LINE NO. 2, AKRION GAMA SERIES, CONSISTING OF:

1. TANK NO. 1, ETCHING/MILLING, AMMONIUM HYDROXIDE/HYDROGEN PEROXIDE, 0' - 10.82"W. x 1' - 4.38"L. x 0' - 7.15"H., WITH ONE 400-W MEGASONIC CLEANER, AND ONE 3-KW HEATER.
2. TANK NO. 3, HYDROGEN FLUORIDE, 0' - 11.38"W. x 1' - 4.38"L. x 0' - 11.2"H. (INSIDE DIMENSIONS), WITH ONE 8-KW HEATER.
3. TANK NO. 4, STRIPPING, HYDROGEN CHLORIDE, 0' - 9.5"W. x 1' - 4.37"L. x 0' - 11.13"H., UNHEATED.
4. TANK NO. 5, RINSING/DRYING, DEIONIZED WATER WITH ISOPROPYL ALCOHOL, 0' - 10"W. x 1' - 5"L. x 0' - 10"H., UNHEATED.
5. ASSOCIATED RINSE TANKS.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS TANKS 1, 3, 4, AND 5 ARE VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT.  
[RULE 1303 (a) (1)-BACT]
4. THE TOTAL AMOUNT OF ISOPROPYL ALCOHOL USED IN THIS EQUIPMENT SHALL NOT EXCEED 10 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. VOC EMISSIONS FROM THIS EQUIPMENT SHALL BE CALCULATED AND RECORDED. THE VOC EMISSIONS SHALL BE THE TOTAL AMOUNT OF ISOPROPYL ALCOHOL USED IN THIS EQUIPMENT DISCOUNTED BY 98.7%.  
[RULE 1303 (b) (2)-OFFSETS]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

6. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITIONS 4 AND 5. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 1303 (b) (2)-OFFSETS, RULE 1401]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

**Permit No. G4073  
A/N 498033**

**Equipment Description:**

WAFER ETCHING AND STRIPPING LINE NO. 1, AKRION GAMA SERIES, CONSISTING OF:

1. TANK NO. 1, ETCHING/MILLING, HYDROGEN FLUORIDE/AMMONIUM FLUORIDE, 0' - 9.5"W. x 1' - 4.5"L. x 0' - 11.5"H., WITH ONE 3-KW HEATER.
2. TANK NO. 4, STRIPPING, SULFURIC ACID/HYDROGEN PEROXIDE, 0' - 9.5"W. x 1' - 4.5"L. x 0' - 11.5"H., WITH ONE 8-KW HEATER.
3. TANK NO. 6, RINSING/DRYING, DEIONIZED WATER WITH ISOPROPYL ALCOHOL, 0' - 9.5"W. x 1' - 4.5"L. x 0' - 11.5"H., WITH ONE 3-KW HEATER.
4. ASSOCIATED RINSE TANKS.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS TANKS 1 AND 4 ARE VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT.  
[RULE 1303 (a) (1)-BACT]
4. THE TOTAL AMOUNT OF ISOPROPYL ALCOHOL USED IN THIS EQUIPMENT SHALL NOT EXCEED 10 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. VOC EMISSIONS FROM THIS EQUIPMENT SHALL BE CALCULATED AND RECORDED. THE VOC EMISSIONS SHALL BE THE TOTAL AMOUNT OF ISOPROPYL ALCOHOL USED IN THIS EQUIPMENT.  
[RULE 1303 (b) (2)-OFFSETS]
6. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITIONS 4 AND 5. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 1303 (b) (2)-OFFSETS, RULE 1401]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

**PERMIT TO CONSTRUCT/OPERATE**

**Permit No. G4080  
A/N 498040**

**Equipment Description:**

STORAGE TANK T-121, PRE-MIX PAE, 7' - 0"DIA. x 6' - 10"L., 2,000 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]
4. THIS EQUIPMENT SHALL NOT RECEIVE MORE THAN 1,000 GALLONS OF MIXED ACIDS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS USED IN THIS EQUIPMENT SHALL NOT CONTAIN ANY TOXIC AIR CONTAMINANTS IDENTIFIED IN RULE 1401, TABLE 1, WITH AN EFFECTIVE DATE OF MARCH 7, 2008 OR EARLIER, EXCEPT FOR NITRIC ACID (CAS # 7697-37-2) AND PHOSPHORIC ACID (CAS # 7664-38-2).  
[RULE 1401]
6. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 3. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. G4081  
A/N 498041

**Equipment Description:**

STORAGE TANK T-411, SCALE INHIBITOR, 1' - 3"DIA. x 1' - 10"H., 20 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT RECEIVE MORE THAN 50 GALLONS OF SCALE INHIBITOR IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
4. MATERIALS USED IN THIS EQUIPMENT SHALL NOT CONTAIN ANY TOXIC AIR CONTAMINANTS IDENTIFIED IN RULE 1401, TABLE I, WITH AN EFFECTIVE DATE OF MARCH 7, 2008 OR EARLIER, EXCEPT FOR HYDROCHLORIC ACID (CAS # 7647-01-0), PHOSPHORIC ACID (CAS # 7664-38-2), AND SULFURIC ACID (CAS # 7664-93-9).  
[RULE 1401]
5. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 3. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. G8252  
A/N 498042

#### Equipment Description:

STORAGE TANK T-525, MIXED ACIDS, 1' - 6"W. x 2' - 0"L. x 1' - 6"H., 30 GALLON CAPACITY, WITH ONE 0.33-HP PUMP.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]
4. THE MAXIMUM AMOUNT OF WASTE ACIDS TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 900 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT HYDROCHLORIC ACID (CAS # 7647-01-0), NITRIC ACID (CAS # 7697-37-2), SULFURIC ACID (CAS # 7664-93-9), HYDROFLUORIC ACID (CAS # 7664-39-3), PHOSPHORIC ACID (CAS # 7664-38-2), SODIUM HYDROXIDE (CAS # 1310732), COPPER AND COPPER COMPOUNDS (CAS # 7440508), CHROMIC TRIOXIDE [AS CHROMIC ACID] (CAS # 1333-82-0), AMMONIA (CAS # 7664-41-7), AND ETHYLENE GLYCOL (CAS # 107-21-1) SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
6. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

Permit No. G8253  
A/N 503213

#### Equipment Description:

##### PHOTOLITHOGRAPHIC SYSTEM CONSISTING OF:

1. TWO PHOTOLITHOGRAPHIC TRACKS, SVG, MODEL 86 SERIES, EACH 4' - 2"W. x 9' - 0"L. x 3' - 4"H., AND EACH 12.5 KVA.
2. TWO PHOTOLITHOGRAPHIC TRACKS, DNS, MODEL 80B, EACH 4' - 8"W. x 13' - 2"L. x 5' - 9"H., AND EACH 40.1 KVA.
3. PHOTORESIST MACHINE, STRIPPING, RHETECH, MODEL CLASS 1, 3' - 6"W. x 6' - 6"L. x 5' - 3"H., 12.5 KVA.
4. PHOTORESIST MACHINE, STRIPPING, RHETECH, MODEL SST-260, 2' - 8"W. x 7' - 0"L. x 5' - 0"H., 18 KVA ELECTRICALLY POWERED.
5. PHOTOLITHOGRAPHIC TRACK, TEL MARK 7, 4' - 6"W. x 14' - 0"L. x 6' - 8"H., 25.6 KVA ELECTRICALLY POWERED.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS FIVE PHOTOLITHOGRAPHIC TRACKS AND TWO PHOTORESIST MACHINES ARE VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1164]
4. VOC EMISSIONS FROM THIS EQUIPMENT SHALL BE CALCULATED AND RECORDED. THE VOC EMISSIONS SHALL BE THE TOTAL AMOUNT OF SOLVENT AND PHOTORESIST USED IN THIS EQUIPMENT, EXCLUDING SALVAGE SOLVENT AND PHOTORESIST, DISCOUNTED BY THE NON-VOLATILE PORTION OF THE PHOTORESIST, AND THEN DISCOUNTED BY 95% IF THE EQUIPMENT VENTS TO MCGILL OXIDIZER, OR 98.7% IF THE EQUIPMENT VENTS TO JOHN ZINK OXIDIZER.  
[RULE 1303 (b) (2)-OFFSETS]

**FACILITY PERMIT TO OPERATE  
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5. RECORDS SHALL BE KEPT TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

Permit No. G8254  
A/N 503214

**Equipment Description:**

**AIR POLLUTION CONTROL SYSTEM CONSISTING OF:**

1. WASTE GAS BLOWER.
2. THERMAL OXIDIZER, MCGILL, MODEL V-100, HORIZONTAL CYLINDRICAL TYPE, WASTE GAS/NATURAL GAS DIRECT FIRED, 5' - 0"DIA. x 10' - 0"L. (COMBUSTION CHAMBER), 5,000,000 BTU PER HOUR.
3. PREHEAT EXCHANGER, E-101, ECLIPSE, PLATE TYPE.
4. EXHAUST SYSTEM WITH ONE 40-HP BLOWER VENTING SIX PHOTOTRACKS, TWO PHOTORESIST MACHINES, ONE WASTE SOLVENT STORAGE TANK, AND ONE SOLVENT BENCH.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. A TEMPERATURE INDICATOR SHALL BE INSTALLED TO MEASURE THE COMBUSTION CHAMBER TEMPERATURE.  
[RULE 1303 (a) (1)-BACT]
4. A TEMPERATURE OF NOT LESS THAN 1400°F SHALL BE MAINTAINED IN THE COMBUSTION CHAMBER WHEN THE EQUIPMENT IT SERVES IS IN OPERATION EXCLUDING A STARTUP PERIOD NOT TO EXCEED 30 MINUTES.  
[RULE 1303 (a) (1)-BACT]
5. THE OVERALL VOC CONTROL EFFICIENCY (COLLECTION AND DESTRUCTION) OF THIS EQUIPMENT SHALL NOT BE LESS THAN 95.0%.  
[RULE 1303 (b) (2)-OFFSETS, RULE 1164]
6. A NON-RESETTABLE FUEL FLOWMETER, INDICATING CUBIC FEET, SHALL BE INSTALLED IN THE NATURAL GAS SUPPLY LINE TO THIS EQUIPMENT.  
[RULE 1303 (b) (2)-OFFSETS; RULE 1401]
7. THE TOTAL QUANTITY OF NATURAL GAS CONSUMED IN THIS OXIDIZER AND JOHN ZINK OXIDIZER SHALL NOT EXCEED 3,428,570 STANDARD CUBIC FEET IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS; RULE 1401]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

8. THIS AIR POLLUTION CONTROL (APC) SYSTEM SHALL NOT BE USED TO VENT ANY EQUIPMENT THAT IS USING HALOGENATED HYDROCARBONS.

[RULE 401]

9. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4, 5, 7, AND 8. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

[RULE 3004 (a) (4)]

### **Periodic Monitoring:**

10. THE OPERATOR SHALL INSTALL AND MAINTAIN A DEVICE TO CONTINUOUSLY RECORD THE TEMPERATURE OF THE COMBUSTION CHAMBER.

[RULE 3004 (a) (4)]

### **Emissions And Requirements:**

11. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 407

PM: 0.1 GR/SCF, RULE 409

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

# FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

## PERMIT TO OPERATE

Permit No. G8260  
A/N 503217

### Equipment Description:

STORAGE TANK T-517, WASTE ACIDS, 4' - 0"DIA. x 5' - 7"L., 500 GALLON CAPACITY.

### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]
4. THIS EQUIPMENT SHALL NOT RECEIVE MORE THAN 400,000 GALLONS OF WASTE ACIDS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS USED IN THIS EQUIPMENT SHALL NOT CONTAIN ANY TOXIC AIR CONTAMINANTS IDENTIFIED IN RULE 1401, TABLE I, WITH AN EFFECTIVE DATE OF MARCH 7, 2008 OR EARLIER, EXCEPT FOR NITRIC ACID (CAS # 7697-37-2), HYDROCHLORIC ACID (CAS # 7647-01-0), SULFURIC ACID (CAS # 7664-93-9), PHOSPHORIC ACID (CAS # 7664-38-2), SODIUM HYDROXIDE (CAS # 1310732), CHROMIC TRIOXIDE [AS CHROMIC ACID] (CAS # 1333-82-0), COPPER AND COPPER COMPOUNDS (CAS # 7440508), ETHYLENE GLYCOL (CAS # 107-21-1), AMMONIA (CAS # 7664-41-7), AND HYDROFLUORIC ACID (CAS # 7664-39-3).  
[RULE 1401]
6. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. G8262  
A/N 503219**

**Equipment Description:**

STORAGE TANK T-928, WASTE SOLVENTS, 7' - 8"DIA. x 14' - 6.5"L., 4,500 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THE MAXIMUM AMOUNT OF WASTE SOLVENT TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 3,900 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
4. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT CRESOL AND ISOPROPYL ALCOHOL (CAS # 67-63-0). SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
5. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 3 AND 4. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

Permit No. G8264  
A/N 503222

#### Equipment Description:

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. THERMAL OXIDIZER, JOHN ZINK, HORIZONTAL TYPE, 5,000,000 BTU PER HOUR, NATURAL GAS-FIRED, WITH AN ECONOMIZER.
2. EXHAUST SYSTEM WITH TWO 25-HP BLOWERS (ONE STANDBY) VENTING TWENTY-SEVEN PHOTOTRACKS, WAFER ETCHING AND STRIPPING LINE NO. 2, TWO PHOTORESIST STRIPPING MACHINES, AND FOUR SOLVENT BENCHES.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. TEMPERATURE MEASUREMENT AND RECORDING DEVICE WITH AN ACCURACY OF  $\pm 20$  DEGREES FAHRENHEIT SHALL BE INSTALLED AND MAINTAINED AT THE OUTLET OF THE COMBUSTION CHAMBER.  
[RULE 3004 (a) (4)]
4. WHENEVER THE OXIDIZER IS IN OPERATION, THE TEMPERATURE AT THE OUTLET OF THE COMBUSTION CHAMBER (AS SHOWN ON THE INSTRUMENT DESCRIBED UNDER CONDITION NO. 3) SHALL NOT BE LESS THAN 1400 DEGREES FAHRENHEIT.  
[RULE 1303 (b) (2)-OFFSETS]
5. THE OVERALL VOC CONTROL EFFICIENCY (COLLECTION AND DESTRUCTION) OF THIS EQUIPMENT SHALL NOT BE LESS THAN 98.7%.  
[RULE 1303 (b) (2)-OFFSETS]
6. THIS AIR POLLUTION CONTROL (APC) SYSTEM SHALL NOT BE USED TO VENT ANY EQUIPMENT THAT IS USING HALOGENATED HYDROCARBONS.  
[RULE 401]
7. A NON-RESETTABLE FUEL FLOWMETER, INDICATING CUBIC FEET, SHALL BE INSTALLED IN THE NATURAL GAS SUPPLY LINE TO THIS EQUIPMENT.  
[RULE 1303 (b) (2)-OFFSETS; RULE 1401]
8. THE TOTAL QUANTITY OF NATURAL GAS CONSUMED IN THIS OXIDIZER AND MCGILL OXIDIZER SHALL NOT EXCEED 3,428,570 STANDARD CUBIC FEET IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS; RULE 1401]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

9. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4, 5, 6 AND 8. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

### **Emissions And Requirements:**

10. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:  
CO: 2000 PPMV, RULE 407  
PM: 0.1 GR/SCF, RULE 409  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **PERMIT TO OPERATE**

**Permit No. G8265  
A/N 503223**

**Equipment Description:**

STORAGE TANK T-502, WASTE ACIDS, 4' - 3"W. x 7' - 8"L. x 2' - 0"H., 375 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF WASTE ACIDS TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 870,000 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT HYDROGEN CHLORIDE, NITRIC ACID, PHOPHORIC ACID, SULFURIC ACID, AMMONIA (CAS # 7664-41-7), AND HYDROGEN FLUORIDE, SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
6. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. G8266  
A/N 503224

**Equipment Description:**

STORAGE TANK T-503, WASTE ACIDS, 4' - 0"W. x 6' - 5"L. x 2' - 0"H., 375 GALLON CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. THE MAXIMUM AMOUNT OF WASTE ACIDS TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 870,000 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
5. MATERIALS CONTAINING ANY TOXIC AIR CONTAMINANTS SPECIFIED IN RULE 1401 AMENDED MAY 2, 2005, EXCEPT HYDROGEN CHLORIDE, NITRIC ACID, PHOPHORIC ACID, SULFURIC ACID, AMMONIA (CAS # 7664-41-7), AND HYDROGEN FLUORIDE, SHALL NOT BE STORED IN THIS EQUIPMENT.  
[RULE 1401]
6. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO OPERATE

Permit No. G8267  
A/N 503225

#### Equipment Description:

STORAGE TANK T-14, WASTE ACIDS, 10' - 0"DIA. x 11' - 6"L., 5,728 GALLON CAPACITY, WITH TWO 10 HP TRANSFER PUMPS.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THE MAXIMUM AMOUNT OF WASTE ACIDS TRANSFERED THROUGH THIS TANK SHALL NOT EXCEED 2,410,000 GALLONS IN ANY ONE CALENDAR MONTH.  
[RULE 1303 (b) (2)-OFFSETS]
4. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.  
[RULE 1303 (a) (1)-BACT]
5. MATERIALS USED IN THIS EQUIPMENT SHALL NOT CONTAIN ANY TOXIC AIR CONTAMINANTS IDENTIFIED IN RULE 1401, TABLE I, WITH AN EFFECTIVE DATE OF MARCH 7, 2008 OR EARLIER, EXCEPT FOR NITRIC ACID (CAS # 7697-37-2), PHOSPHORIC ACID (CAS # 7664-38-2), HYDROFLUORIC ACID (CAS # 7664-39-3), SODIUM HYDROXIDE (CAS # 1310732), CHROMIC TRIOXIDE [AS CHROMIC ACID] (CAS # 1333-82-0), COPPER AND COPPER COMPOUNDS (CAS # 7440508), ETHYLENE GLYCOL (CAS # 107-21-1), SULFURIC ACID (CAS # 7664-93-9), AMMONIA (CAS # 7664-41-7), AND HYDROCHLORIC ACID (CAS # 7647-01-0).  
[RULE 1401]
6. THE OPERATOR SHALL MAINTAIN RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 3 AND 5. THE RECORDS SHALL BE KEPT FOR THE MOST RECENT FIVE YEAR PERIOD AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

Permit No. G8268  
A/N 504815

#### Equipment Description:

##### INTEGRATED CIRCUIT FABRICATION SYSTEM CONSISTING OF:

1. EIGHT ATMOSPHERIC DIFFUSION FURNACES, BTI, MODEL BDF41, 5' - 4"W. x 23' - 1"L. x 9' - 2"H., EACH 168 KVA ELECTRICALLY POWERED, EACH WITH ONE VACUUM PUMP.
2. LPCVD DIFFUSION FURNACE, BTI, MODEL BDF41, 5' - 4"W. x 23' - 1"L. x 9' - 2"H., 168 KVA ELECTRICALLY POWERED , WITH FOUR LTO TUBES, EACH TUBE WITH ONE FILTER TRAP, MASS-VAC, MODEL 355080-S, CONSISTING OF SIX STAINLESS STEEL GAUZE FILTERS AND SIX POLYPRO 2 MICRON FILTERS, AND FOUR VACUUM PUMPS.
3. DIFFUSION FURNACE, BTI, MODEL BDF41, 5' - 4"W. x 23' - 1"L. x 9' - 2"H., 168 KVA ELECTRICALLY POWERED, WITH TWO ATMOSPHERIC TUBES, ONE LPCVD LTO TUBE, AND ONE LPCVD TEOS TUBE, EACH LTO AND TEOS TUBE WITH ONE FILTER TRAP, MASS-VAC, MODEL 355080-S, CONSISTING OF SIX STAINLESS STEEL GAUZE FILTERS AND SIX POLYPRO 2 MICRON FILTERS, AND FOUR VACUUM PUMPS.
4. LPCVD DIFFUSION FURNACE, BTI, MODEL BDF41, 5' - 4"W. x 23' - 1"L. x 9' - 2"H., 168 KVA ELECTRICALLY POWERED , WITH FOUR POLY TUBES, EACH TUBE WITH ONE FILTER TRAP, MASS-VAC, MODEL 355050, CONSISTING OF STAINLESS STEEL GAUZE FILTERS AND FIVE POLYPRO 2 MICRON FILTERS, AND FOUR VACUUM PUMPS.
5. FOUR PECVD MACHINES, NOVELLUS, MODEL CONEPT ONE, 3' - 2"W. x 5' - 8"L. x 6' - 8"H., 18.72 KVA ELECTRICALLY POWERED , EACH WITH ONE FILTER TRAP, MASS-VAC, MODEL 355050, CONSISTING OF STAINLESS STEEL GAUZE FILTERS AND POLYPRO 2 MICRON FILTERS, AND EACH WITH ONE 2.5 HP VACUUM PUMP AND ONE 5 HP VACUUM PUMP.
6. SIXTEEN PLASMA ETCHERS, TEGAL, MODEL T/903E, 3' - 8"W. x 3' - 6"D. x 2' - 2"H., EACH 6.24 KVA, EACH WITH ONE VACUUM PUMP.
7. TWENTY-TWO PLASMA ETCHERS, LAM, MODEL 490, 3' - 8"W. x 3' - 6"D. x 2' - 2"H., EACH 45 KVA, EACH WITH TWO 2 HP VACUUM PUMPS.
8. FIVE ION IMPLANTERS, APPLIED MATERIALS, MODEL 9500, 17' - 0"W. x 11' - 8"L. x 7' - 11"H., EACH 65 KVA, ONE 4 HP VACUUM PUMP, AND ONE 2 HP VACUUM PUMP.
9. TWO ASHERS, GASONICS, MODEL A1000, 2' - 8"W. x 2' - 8"L. x 2' - 4"H., EACH 9 KVA ELECTRICALLY POWERED, AND EACH WITH ONE 5 HP VACUUM PUMP.
10. ETCHER, GASONICS, MODEL AE2001, 2' - 8"W. x 3' - 1"L. x 4' - 7"H., 9 KVA ELECTRICALLY POWERED, WITH ONE 5 HP VACUUM PUMP.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

[RULE 204]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

[RULE 204]

3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS ELEVEN DIFFUSION FURNACES, THIRTY-EIGHT PLASMA ETCHERS, FOUR PECVD MACHINES, FIVE ION IMPLANTERS, AND ONE ETCHER ARE VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

[RULE 1303 (b) (2)-OFFSETS]

4. THE FLOW RATE OF ARSINE TO EACH ION IMPLANTER SHALL NOT EXCEED 0.01 LITER PER MINUTE.

[RULE 1401]

5. THE AMOUNTS OF MATERIALS USED IN THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING IN ANY ONE CALENDAR MONTH:

<u>MATERIALS</u>	<u>LIMITS, LBS</u>
PH <sub>3</sub>	3
SiH <sub>4</sub>	120.5
BF <sub>3</sub>	2
C <sub>2</sub> F <sub>6</sub>	340
CHF <sub>3</sub>	99
Cl <sub>2</sub>	155
SF <sub>6</sub>	160
POCl <sub>3</sub>	13
C <sub>8</sub> H <sub>20</sub> SiO <sub>4</sub>	40
NF <sub>3</sub>	26
CH <sub>3</sub> CCl <sub>3</sub>	70

[RULE 1303 (b) (2)-OFFSETS]

6. RECORDS SHALL BE KEPT TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 4 AND 5. THE RECORDS SHALL BE MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

[RULE 1401]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

Permit No.  
A/N 510417

#### Equipment Description:

#### INTEGRATED CIRCUIT FABRICATION SYSTEM CONSISTING OF:

1. ATMOSPHERIC DIFFUSION FURNACE, BTU/BRUCE, MODEL BDF-4, 5' - 3"W. x 19' - 8"L. x 8' - 8"H., EACH 12 KVA.
2. HORIZONTAL DIFFUSION FURNACE, BTI, MODEL BDF41, 5' - 4"W. x 23' - 1"L. x 9' - 2"H., 168 KVA, WITH ONE ATMOSPHERIC TUBE, TWO NITRIDE TUBES, AND ONE LTO TUBE, EACH NITRIDE AND LTO TUBE WITH ONE FILTER TRAP, MASS-VAC, MODEL 355080, CONSISTING OF SIX STAINLESS STEEL GAUZE FILTERS AND SIX POLYPRO 2 MICRON FILTERS, AND ONE VACUUM PUMP.
3. ATMOSPHERIC HORIZONTAL DIFFUSION FURNACE, BTI, MODEL BDF41, 5' - 4"W. x 23' - 1"L. x 9' - 2"H., 168 KVA.
4. FOUR ION IMPLANTERS, APPLIED MATERIALS, MODEL 9500, 17' - 0"W. x 11' - 8"L. x 7' - 11"H., EACH 65 KVA ELECTRICALLY POWERED, EACH WITH ONE 4 HP VACUUM PUMP AND ONE 2 HP VACUUM PUMP.
5. TWO ION IMPLANTERS, ULVAC, MODEL IW-630, 8' - 9"W. x 21' - 4"L. x 9' - 2"H., EACH 70 KVA ELECTRICALLY POWERED, EACH WITH ONE 4 HP VACUUM PUMP.
6. THREE PLASMA ETCHERS, APPLIED MATERIALS, MODEL P5000, 6' - 6"W. x 6' - 4"L. x 7' - 8"H., EACH 64.7 KVA ELECTRICALLY POWERED, EACH WITH FOUR 2.5 HP VACUUM PUMPS.
7. PLASMA ETCHER, LAM, MODEL 9400 ALLIANCE, 11' - 0"W. x 7' - 10"L. x 6' - 9"H., 143.9 KVA ELECTRICALLY POWERED, WITH ONE 4 HP VACUUM PUMP AND TWO 2 HP VACUUM PUMPS.
8. PLASMA ETCHER, GASONICS, MODEL AE2001, 2' - 8"W. x 3' - 1"L. x 4' - 7"H., 9 KVA ELECTRICALLY POWERED, WITH ONE 5-HP VACUUM PUMP.
9. PLASMA ETCHER, APPLIED MATERIALS, MODEL CENTURA, 7' - 5"W. x 3' - 1"L. x 4' - 7"H., EACH 144 KVA ELECTRICALLY POWERED, WITH FOUR 2.5-HP VACUUM PUMPS.
10. ETCHER, NOVELLUS, MODEL PEP3510A, 4' - 0"W. x 5' - 3"L. x 7' - 11"H., 54 KVA ELECTRICALLY POWERED WITH TWO 5 HP VACUUM PUMPS.
11. PLASMA ETCHER, GASONICS, MODEL L3510, 2' - 6"W. x 3' - 2"L. x 4' - 10"H., 14 KVA ELECTRICALLY POWERED, WITH ONE 5-HP VACUUM PUMP.
12. PECVD MACHINE, APPLIED MATERIALS, MODEL P5000 (DXZ OPTIMA), 6' - 4"W. x 6' - 6"L. x 7' - 8"H., 64.7 KVA ELECTRICALLY POWERED, WITH ONE FILTER TRAP, MASS-VAC, MODEL 355050, CONSISTING OF FIVE STAINLESS STEEL GAUZE FILTERS AND FIVE POLYPRO 2 MICRON FILTERS, FOUR 2.5-HP VACUUM PUMPS.
13. ION IMPLANTER, VARIAN, MODEL E500, 10' - 7.5"W. x 16' - 5.5"L. x 8' - 0"H., 75 KVA ELECTRICALLY POWERED, WITH ONE 4 HP VACUUM PUMP AND ONE 2 HP VACUUM PUMP.

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

[RULE 204]

3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS THREE DIFFUSION FURNACES, EIGHT PLASMA ETCHERS, ONE PECVD MACHINE, AND SEVEN ION IMPLANTERS ARE VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER:

[RULE 1303 (b) (2)-OFFSETS]

4. ARSINE SHALL ONLY BE USED IN FOUR ION IMPLANTERS VENTED BY NOVAPURE DRY SCRUBBERS.

[RULE 1401]

5. THE FLOW RATE OF ARSINE TO EACH OF THE FOUR ION IMPLANTERS SHALL NOT EXCEED 0.0138 LITER PER MINUTE.

[RULE 1401]

6. THE AMOUNTS OF MATERIALS USED IN THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING IN ANY ONE CALENDAR MONTH:

<u>MATERIALS</u>	<u>LIMITS, LBS</u>
PH <sub>3</sub>	3
SiH <sub>4</sub>	32
SiH <sub>2</sub> Cl <sub>2</sub>	10
BF <sub>3</sub>	2
CHF <sub>3</sub>	20
CF <sub>4</sub>	10
Cl <sub>2</sub>	40
SF <sub>6</sub>	20
HBr	22
POCl <sub>3</sub>	8
CH <sub>3</sub> CCl <sub>3</sub>	45
NF <sub>3</sub>	12
BCl <sub>3</sub>	4
C <sub>2</sub> F <sub>6</sub>	30
TEOS	2,000
NH <sub>3</sub>	140

[RULE 1303 (b) (2)-OFFSETS]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

7. RECORDS SHALL BE KEPT TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 5 AND 6. THE RECORDS SHALL BE MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 1401]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

Permit No.  
A/N 510419

#### Equipment Description:

##### WET CHEMICAL/SOLVENT CLEANING SYSTEM CONSISTING OF:

1. ACID WET BENCH, SPEC, 3' - 0"W. x 8' - 0"L. x 6' - 4"H., 1.7 KVA ELECTRICALLY POWERED.
2. SOLVENT BENCH, SPEC, 3' - 0"W. x 7' - 0"L. x 6' - 5"H., 1.7 KVA ELECTRICALLY POWERED.
3. ACID WET BENCH, LUNAIRE, FH-96PP, SERIAL NO. L-1561, 2' - 9"W. x 5' - 0"L. x 6' - 0"H., 0.3 KW.
4. TWO WET PROCESS STATIONS, SPEC, MODEL SBXAT5-80, EACH 9' - 0"W. x 5' - 0"L. x 6' - 8"H., EACH WITH ONE 6-KW HEATER AND ONE 3-KW HEATER.
5. TWO WET PROCESS STATIONS, SPEC, MODEL SBXAT5-80, 9' - 0"W. x 5' - 0"L. x 6' - 8"H., EACH WITH TWO 3-KW HEATERS.
6. FOUR ACID ETCH/CLEAN MACHINES, FSI, MODEL MERCURY, EACH 3' - 4"W. x 2' - 5"L. x 5' - 7"H., 4.4 KVA ELECTRICALLY POWERED.
7. WET NITRIDE ETCH BENCH, SUBMICRON SYSTEMS, 0' - 10.5"W. x 1' - 5"L. x 1' - 0"H.
8. TWO ACID ETCH/CLEAN MACHINES, FSI, MODEL MERCURY, 6' - 1"W. x 3' - 4"L. x 4' - 3"H., 4.4 KVA ELECTRICALLY POWERED.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS SIX ACID ETCH/CLEAN MACHINES, TWO ACID WET BENCHES, ONE SOLVENT BENCH, FOUR WET PROCESS STATIONS, AND ONE WET NITRIDE ETCH BENCH ARE VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

4. VOC EMISSIONS FROM THIS EQUIPMENT SHALL BE CALCULATED AND RECORDED. THE VOC EMISSION SHALL BE THE TOTAL AMOUNT OF SOLVENT USED IN THIS EQUIPMENT, EXCLUDING SALVAGE SOLVENT, DISCOUNTED BY 95% IF THE EQUIPMENT VENTS TO MCGILL OXIDIZER, OR 98.7% IF THE EQUIPMENT VENTS TO JOHN ZINK OXIDIZER.

[RULE 1303 (b) (2)-OFFSETS]

5. RECORDS SHALL BE KEPT TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

[RULE 1303 (b) (2)-OFFSETS]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

Permit No.  
A/N 510420

#### Equipment Description:

#### WET CHEMICAL PROCESSING AND SOLVENT CLEANING SYSTEM CONSISTING OF:

1. ELEVEN ACID ETCH/CLEAN MACHINES, FSI, MODEL MERCURY, EACH 3' - 4"W. x 2' - 5"L. x 5' - 7"H., 4.4 KVA ELECTRICALLY POWERED.
2. TWO ACID ETCHERS, SEZ, MODEL SP203, EACH 3' - 4"W. x 2' - 5"L. x 5' - 7"H., EACH 4.4 KVA ELECTRICALLY POWERED.
3. TWO QUARTZ CLEANING MACHINES, POLY FLOW, EACH 2' - 8"W. x 10' - 11"L. x 4' - 6"H., EACH 1.75 KVA ELECTRICALLY POWERED.
4. ACID WET BENCH, ULTRAFAB, 3' - 0"W. x 8' - 0"L. x 5' - 6"H., 1.8 KVA ELECTRICALLY POWERED.
5. SOURCE CLEANING BENCH, SPEC, MODEL SPH-30SST, 2' - 6"W. x 6' - 0"L. x 6' - 6"H., 1.8 KVA ELECTRICALLY POWERED.
6. MAINTENANCE BENCH, SPEC, MODEL HAC968020W, 2' - 6"W. x 3' - 0"L. x 6' - 4"H., 1.8 KVA ELECTRICALLY POWERED.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.  
[RULE 1303 (b) (2)-OFFSETS]
4. VOC EMISSIONS FROM THIS EQUIPMENT SHALL BE CALCULATED AND RECORDED. THE VOC EMISSIONS SHALL BE THE TOTAL AMOUNT OF SOLVENT USED IN THIS EQUIPMENT, EXCLUDING SALVAGE SOLVENT, AND IF VENTING TO A VOC CONTROL SYSTEM, DISCOUNTED BY 98.7% (THE CONTROL EFFICIENCY OF THE VOC CONTROL SYSTEM VENTING THIS EQUIPMENT).  
[RULE 1303 (b) (2)-OFFSETS]

**FACILITY PERMIT TO OPERATE  
INTERNATIONAL RECTIFIER HEXFET AMERICA**

5. RECORDS SHALL BE KEPT TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 4. THE RECORDS SHALL BE MAINTAINED ON FILE FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

**Permit No.**  
**A/N 510421**

**Equipment Description:**

**AIR POLLUTION CONTROL SYSTEM CONSISTING OF:**

1. THREE BURN BOXES, METRON, MODEL GUARDIAN GS8, EACH 1' - 9"W. x 6' - 4"L. x 4' - 10.2"H. WITH ONE HYDROGEN-FIRED BURNER, 17,496 BTU PER HOUR.
2. DRY SCRUBBER, NOVAPURE, MODEL 400 SERIES, 2' - 0"W. x 4' - 0"L. x 5' - 10"H., DUAL CANISTER CONFIGURATION TYPE (ONE STANDBY), EACH CANISTER WITH A MINIMUM OF 37 GALLONS OF RESIN, VENTING ONE ION IMPLANTER.
3. DRY SCRUBBER, NOVAPURE, MODEL 300 SERIES, 2' - 0"W. x 2' - 0"L. x 5' - 6"H., WITH 32 GALLONS OF RESIN, AND A BY-PASS CANISTER WITH A MINIMUM OF 0.3 GALLON OF RESIN, VENTING ONE ION IMPLANTER.
4. TWO DRY SCRUBBERS, NOVAPURE, MODEL EGS-237, 2' - 1"W. x 2' - 0"L. x 4' - 11"H., EACH WITH A MINIMUM OF 37 GALLONS OF RESIN, EACH VENTING ONE ION IMPLANTER.
5. SCRUBBER NO. 1, HARRINGTON, MODEL ECH 99-4TP, HORIZONTAL PACKED TYPE, 4' - 5"W. x 9' - 0"L. x 9' - 0"H., WITH 9 FEET OF NO. 2 JAEGER TRI-PACKS PACKING, A MIST ELIMINATOR, AND TWO 10-HP RECIRCULATION PUMPS.
6. SCRUBBER NO. 2, HARRINGTON, MODEL ECH 99-4TP, HORIZONTAL PACKED TYPE, 4' - 5"W. x 9' - 0"L. x 9' - 0"H., WITH 9 FEET OF NO. 2 JAEGER TRI-PACKS PACKING, A MIST ELIMINATOR, AND TWO 10-HP RECIRCULATION PUMPS.
7. EXHAUST SYSTEM WITH THREE 50-HP BLOWERS AND ONE 50-HP BACK-UP BLOWER VENTING SEVEN ION IMPLANTERS, THREE DIFFUSION FURNACES, EIGHT GAS CABINETS, THREE PLASMA ETCHERS, SIX ACID ETCHERS, EIGHT ACID WET BENCHES, THIRTY-NINE CHEMICALS STORAGE TANKS, ONE LAM ALLIANCE ETCHER, THREE P5000 ETCHERS, ONE APPLIED MATERIALS CENTURA PLASMA ETCHER, ONE PECVD MACHINE AND ONE RTA UNIT.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

[RULE 204]

3. A FLOW METER, INDICATING GALLONS PER MINUTE (GPM), SHALL BE INSTALLED AND MAINTAINED IN THE SCRUBBING SOLUTION RECIRCULATION LINE TO SCRUBBER NO. 1.

[RULE 1303 (b) (2)-OFFSETS]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

4. NOT LESS THAN 150 GPM OF SCRUBBING SOLUTION SHALL BE SUPPLIED TO SCRUBBER NO. 1 NOZZLES WHENEVER THE SCRUBBER IS IN OPERATION.  
[RULE 1303 (b) (2)-OFFSETS]
5. A FLOW METER, INDICATING GPM, SHALL BE INSTALLED AND MAINTAINED IN THE SCRUBBING SOLUTION RECIRCULATION LINE TO SCRUBBER NO. 2.  
[RULE 1303 (b) (2)-OFFSETS]
6. NOT LESS THAN 150 GPM OF SCRUBBING SOLUTION SHALL BE SUPPLIED TO SCRUBBER NO. 2 NOZZLES WHENEVER THE SCRUBBER IS IN OPERATION.  
[RULE 1303 (b) (2)-OFFSETS]
7. THE SCRUBBING SOLUTION TO THE SCRUBBER NOZZLES SHALL BE MAINTAINED AT pH 8 OR HIGHER.  
[RULE 1303 (b) (2)-OFFSETS]
8. ARSINE CONCENTRATIONS AT THE OUTLETS OF THE MAIN CANISTERS, STANDBY CANISTERS, AND BY-PASS CANISTERS OF THE NOVAPURE DRY SCRUBBERS SHALL BE MONITORED CONTINUOUSLY FOR BREAKTHROUGH WITH A DISTRICT APPROVED ANALYZER.  
[RULE 1401]
9. WHEN A BREAKTHROUGH OCCURS AT THE OUTLET OF A MAIN CANISTER, THE ARSINE EFFLUENT FLOW TO THAT CANISTER WILL BE AUTOMATICALLY SWITCHED TO A STANDBY CANISTER OR A BY-PASS CANISTER, AND THE SPENT MAIN CANISTER SHALL BE REPLACED WITH A FRESH CANISTER.  
[RULE 1401]
10. WHEN A BREAKTHROUGH OCCURS AT THE OUTLET OF A STANDBY CANISTER OR A BY-PASS CANISTER, THE ARSINE FLOW TO THE ION IMPLANTER IT VENTS WILL BE AUTOMATICALLY SHUT DOWN AND THE SPENT CANISTER SHALL BE REPLACED WITH A FRESH CANISTER.  
[RULE 1401]
11. NOTWITHSTANDING CONDITION NO. 9, FOR A DRY SCRUBBER THAT DOES NOT HAVE A STANDBY OR BY-PASS CANISTER, WHEN A BREAKTHROUGH OCCURS AT THE OUTLET OF THE CANISTER, THE ARSINE FLOW TO THE ION IMPLANTER IT VENTS WILL BE AUTOMATICALLY SHUT DOWN AND THE SPENT CANISTER SHALL BE REPLACED WITH A FRESH CANISTER.  
[RULE 1401]
12. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITIONS 4, 6, 7, 8, 9, 10, AND 11. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

**Periodic Monitoring:**

13. THE OPERATOR SHALL DETERMINE AND RECORD THE pH OF THE SCRUBBING SOLUTION ONCE EVERY DAY.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

14. THE OPERATOR SHALL DETERMINE AND RECORD THE FLOW RATE OF THE SCRUBBING SOLUTION ONCE EVERY DAY.

[RULE 3004 (a) (4)]

**Emissions And Requirements:**

15. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

### PERMIT TO CONSTRUCT/OPERATE

Permit No.  
A/N 510422

#### Equipment Description:

##### AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. FIVE BURN BOXES, METRON, MODEL GUARDIAN GS8, EACH 1' - 9"W. x 6' - 4"L. x 4' - 10.2"H. WITH ONE HYDROGEN-FIRED BURNER, 17,496 BTU PER HOUR.
2. FIVE DRY SCRUBBERS, EACH NOVAPURE, MODEL 300 SERIES, 2' - 0"W. x 2' - 0"L. x 5' - 6"H., EACH WITH A MAIN CANISTER WITH A MINIMUM OF 32 GALLONS OF RESIN, A BY-PASS CANISTER WITH A MINIMUM OF 0.3 GALLON OF RESIN, EACH VENTING ONE ION IMPLANTER.
3. SCRUBBER, METRON, MODEL VECTOR 6000, 2' - 3"W. x 3' - 0.3"D. x 7' - 1"H. VENTING ONE PECVD FURNACE.
4. SCRUBBER NO. 101, HARRINGTON, MODEL ECH-1L-12-5, HORIZONTAL PACKED BED TYPE, 12' - 6"W. x 21' - 7"L. x 15' - 5"H., WITH A 12' - 0"W. x 11' - 0"H. x 5' - 0"D. BED OF 3 1/2" LANPAC PLASTIC PACKING, A 1 FOOT DEEP SINE-WAVE PLATE TYPE DEMISTER SECTION, TWO 15-HP RECIRCULATION PUMPS, AND ONE 100-HP BLOWER.
5. SCRUBBER NO. 102, HARRINGTON (STANDBY TO SCRUBBER NO. 101), MODEL ECH-1L-12-5, HORIZONTAL PACKED BED TYPE, 12' - 6"W. x 21' - 7"L. x 15' - 5"H., WITH A 12' - 0"W. x 11' - 0"H. x 5' - 0"D. BED OF 3 1/2" LANPAC PLASTIC PACKING, TWO 15-HP RECIRCULATION PUMPS, AND ONE 100-HP BLOWER.
6. EXHAUST SYSTEM VENTING ELEVEN DIFFUSION FURNACES, FOUR PECVD MACHINES, THIRTY-EIGHT GAS CABINET PURGE LINES, FIVE ION IMPLANTERS, THIRTY-EIGHT PLASMA ETCHERS, SIXTEEN ETCHERS, TWO WAFER GRINDERS, FOUR WASTE ACID STORAGE TANKS, ONE WASTE AMMONIUM HYDROXIDE STORAGE TANK, ONE WASTE WATER STORAGE TANK, TWO WAFER ETCHING AND STRIPPING LINES, ONE MAINTENANCE BENCH, THREE ACID WET BENCHES, TWO QUARTZ CLEANING MACHINES, TWO ACID STORAGE CABINETS, ONE DRAG SOLDER MACHINE AND ONE REFLOW OVEN.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. A FLOW METER, INDICATING GALLONS PER MINUTE (GPM), SHALL BE MAINTAINED IN THE SCRUBBING SOLUTION RECIRCULATION LINE TO SCRUBBER NO. 101.  
[RULE 1303 (b) (2)-OFFSETS]

## FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA

4. A FLOW METER, INDICATING GALLONS PER MINUTE (GPM), SHALL BE MAINTAINED IN THE SCRUBBING SOLUTION RECIRCULATION LINE TO SCRUBBER NO. 102.  
[RULE 1303 (b) (2)-OFFSETS]
5. NOT LESS THAN 462 GPM OF SCRUBBING SOLUTION SHALL BE SUPPLIED TO THE SCRUBBER NOZZLES SERVING SCRUBBER NO. 101 WHENEVER SCRUBBER NO. 101 IS IN OPERATION.  
[RULE 1303 (b) (2)-OFFSETS]
6. NOT LESS THAN 462 GPM OF SCRUBBING SOLUTION SHALL BE SUPPLIED TO THE SCRUBBER NOZZLES SERVING SCRUBBER NO. 102 WHENEVER SCRUBBER NO. 102 IS IN OPERATION.  
[RULE 1303 (b) (2)-OFFSETS]
7. SCRUBBING SOLUTION TO THE SCRUBBER NOZZLES SHALL BE MAINTAINED AT pH 8 OR HIGHER.  
[RULE 1303 (b) (2)-OFFSETS]
8. ARSINE CONCENTRATIONS AT THE OUTLETS OF THE MAIN CANISTERS AND BY-PASS CANISTERS OF THE NOVAPURE DRY SCRUBBERS SHALL BE MONITORED CONTINUOUSLY FOR BREAKTHROUGH WITH A DISTRICT APPROVED ANALYZER.  
[RULE 1401]
9. WHEN A BREAKTHROUGH OCCURS AT THE OUTLET OF A MAIN CANISTER, THE ARSINE EFFLUENT FLOW TO THAT CANISTER WILL BE AUTOMATICALLY SWITCHED TO THE BY-PASS CANISTER AND THE SPENT MAIN CANISTER SHALL BE REPLACED WITH A FRESH CANISTER.  
[RULE 1401]
10. WHEN A BREAKTHROUGH OCCURS AT THE OUTLET OF A BY-PASS CANISTER, THE ARSINE FLOW TO THE ION IMPLANTER IT VENTS WILL BE AUTOMATICALLY SHUT DOWN AND THE SPENT CANISTER SHALL BE REPLACED WITH A FRESH CANISTER.  
[RULE 1401]
11. RECORDS SHALL BE MAINTAINED TO DEMONSTRATE COMPLIANCE WITH CONDITIONS 5, 6, 7, 8, 9, AND 10. THE RECORDS SHALL BE KEPT FOR AT LEAST THE LAST FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

### Periodic Monitoring:

12. THE OPERATOR SHALL DETERMINE AND RECORD THE FLOW RATE OF THE SCRUBBING SOLUTION ONCE EVERY DAY.  
[RULE 3004 (a) (4)]
13. THE OPERATOR SHALL DETERMINE AND RECORD THE pH OF THE SCRUBBING SOLUTION ONCE EVERY DAY.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **Emissions And Requirements:**

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **RULE 219 EQUIPMENT**

#### **Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS.

#### **Periodic Monitoring:**

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

FOR ARCHITECTURAL APPLICATIONS WHERE NO THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN SEMI-ANNUAL RECORDS OF ALL COATINGS CONSISTING OF (a) COATING TYPE, (b) VOC CONTENT AS SUPPLIED IN GRAMS PER LITER (g/L) OF MATERIALS FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS SUPPLIED IN g/L OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.

FOR OTHER ARCHITECTURAL APPLICATIONS WHERE THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN DAILY RECORDS FOR EACH COATING CONSISTING OF (a) COATING TYPE, (b) VOC CONTENT AS APPLIED IN GRAMS PER LITER (g/L) OF MATERIALS USED FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS APPLIED IN g/L OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.

[RULE 3004 (a) (4)]

#### **Emissions And Requirements:**

2. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1113, SEE APPENDIX B FOR EMISSION LIMITS

VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

## **FACILITY PERMIT TO OPERATE INTERNATIONAL RECTIFIER HEXFET AMERICA**

### **RULE 219 EQUIPMENT**

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, HAND WIPING OPERATIONS.

**Emissions And Requirements:**

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS