New Mexico
ENVIRONMENT DEPARTMENT

Air Quality Bureau
525 Camino de los Marquez Suite 1
Santa Fe, NM 87505-1816
Phone (505) 476-4300
Fax (505) 476-4375
www.nmenv.state.nm.us

SUSANA MARTINEZ
GOVERNOR

JOHN A. SANCHEZ
LIEUTENANT GOVERNOR

RYAN FLYNN
CABINET SECRETARY-Designate

BUTCH TONGATE
DEPUTY SECRETARY

TITLE V OPERATING PERMIT
Issued under 20.2.70 NMAC

Certified Mail No: xxxx xxxx xxxx xxxx
Return Receipt Requested

Operating Permit No:	P257 ***{DRAFT}***
Facility Name:	Intel – Rio Rancho Facility
Permittee Name:	Intel Corporation
Mailing Address:	4100 Sara Rd., Mail Stop RR5-491 Rio Rancho, NM 87124-1025
TEMPO/IDEA ID No:	1103 - PRN20120001
AIRS No:	35-043-0005
Permitting Action:	New Permit
Source Classification:	Major-TV and Major GHG PSD/No BACT
Facility Location:	35º13’30” N and 106º39’27” W
County:	Sandoval
Air Quality Bureau Contact	Daren K. Zigich
Main AQB Phone No.	(505) 476-4300
TV Permit Expiration Date:	_____
TV Renewal Application Due:	_____

_____ _____

Richard L. Goodyear, PE **Date**
Bureau Chief
Air Quality Bureau

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PART A FACILITY SPECIFIC REQUIREMENTS

A100 Introduction

A. Not Applicable.

A101 Permit Duration (expiration)

A. The term of this permit is five (5) years. It will expire five years from the date of issuance. Application for renewal of this permit is due twelve (12) months prior to the date of expiration. (20.2.70.300.B.2 and 302.B NMAC)

B. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate beyond the expiration date, provided that a timely renewal application is submitted no later than twelve (12) months prior to the expiration date. (20.2.70.400.D NMAC)

A102 Facility: Description

A. The function of the facility is to use silicon wafers to manufacture semi-conductor chips for use in the computer industry. The facility consists of buildings in which chips are manufactured (Fabrication Facilities, or Fabs) and buildings containing the support equipment for the Fab including waste tanks, natural gas fired boilers and cooling towers.

B. This facility is located approximately 1 mile southeast of Rio Rancho, New Mexico in Sandoval County.

C. Table 102.A and Table 102.B show the total potential emissions from this facility for information only, not an enforceable condition, excluding exempt sources or activities.

Table 102.A: Total Potential Criteria Pollutant Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Nitrogen Oxides (NOx)	95.7
Carbon Monoxide (CO)	94.7
Sulfur Dioxide (SO_2)	95.0
Total Suspended Particulates (TSP)/ Particulate Matter less than 10 microns (PM_{10})/ Particulate Matter less than 2.5 microns ($PM_{2.5}$)	95.0
Volatile Organic Compounds (VOC) *	96.5
Carbon Dioxide Equivalent (CO2e)	395,797

* VOC total includes emissions from Fugitives, SSM and Malfunctions.

Table 102.B: Total Potential HAPS that exceed 1.0 ton per year

Pollutant	Emissions (tons per year)
Any Individual HAP	9.0
Total HAPs	24.0

A103 Facility: Applicable Regulations

A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A.

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No(s).
20.2.1.116 NMAC General Provisions		Entire Facility
20.2.3 NMAC Ambient Air Quality Standards		Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.61 Smoke & Visible Emissions	X	Boilers (Units 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29, 183), Emergency Generators (Units 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217) Fire Pumps (218 and 219)
20.2.70 NMAC Operating Permits	X	Entire Facility
20.2.71 NMAC Operating Permit Fees	X	Entire Facility
20.2.72 NMAC Construction Permits	X	Entire Facility

Applicable Requirements	**Federally Enforceable**	**Unit No(s).**
20.2.73 NMAC NOI & Emissions Inventory Requirements	X	Entire Facility
20.2.75 NMAC Construction Permit Fees	X	Entire Facility
20.2.77 NMAC New Source Performance Standards (NSPS)	X	Boilers (Units 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29, 183) Subject to Subpart Dc Emergency Generators (Units 212, 213) Subject to Subpart IIII Fire Pump (Unit 219) Subject to Subpart IIII
20.2.82 NMAC MACT Standards for source categories of HAPS	X	Emergency Generators (Units 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 214, 215, 216, 217) Fire Pump (Unit 218) Subject to Subpart ZZZZ
40 CFR 50 NAAQS	X	Entire Facility
40 CFR 60 Subpart A General Provisions (NSPS). Specific requirements listed below reflect applicable requirements on the date of permit issuance.	X	Boilers (Units 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29, 183) Subject to Subpart Dc Emergency Generators (Units 212, 213) Subject to Subpart IIII Fire Pump (Unit 219) Subject to Subpart IIII

Applicable Requirements	Federally Enforceable	Unit No(s).
40 CFR 60 Subpart IIII Stationary Compression Ignition Internal Combustion Engines (NSPS). Specific requirements listed below reflect applicable requirements on the date of permit issuance.	X	Emergency Generators (Units 212, 213) Fire Pump (Unit 219)
40 CFR 60.40c Subpart Dc Small Industrial-Commercial-Institutional Steam Generating Units (NSPS). Specific requirements listed below reflect applicable requirements on the date of permit issuance.	X	Boilers (Units 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29 183)
40 CFR 63 Subpart A General Provisions (MACT). Specific requirements listed below reflect applicable requirements on the date of permit issuance.	X	Emergency Generators (Units 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 214, 215, 216, 217) Fire Pump (Unit 218) Subject to Subpart ZZZZ
40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT). Specific requirements listed below reflect applicable requirements on the date of permit issuance.	X	Emergency Generators (Units 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 214, 215, 216, 217) Fire Pump (Unit 218)
40 CFR 68 Chemical Accident Prevention (NESHAP)	X	Entire Facility
40 CFR 82 Protection of Stratospheric Ozone (Title VI)	X	Entire Facility

B. Table 103.B lists requirements that are **not** applicable to this facility. This table only includes those requirements cited in the application as applicable and determined by the Department to be not applicable, or the Department determined that the requirement does not impose any conditions on a regulated piece of equipment.

Table 103.B: Non-Applicable Requirements

Non-Applicable Requirements	(1)	(2)	Justification For Non-Applicability
20.2.2 NMAC Definitions		X	
20.2.34 Oil Burning Equipment - NO2	X		<1MM MMBTU/year
20.2.60 NMAC Regulation to Control Open Burning	X		
20.2.75 NMAC Permit Fees		X	

Non-Applicable Requirements	(1)	(2)	Justification For Non-Applicability
20.2.78 NMAC Hazardous Air Pollutants	X		
20.2.79 NMAC Permits – Nonattainment Areas		X	
20.2.80 NMAC Stack Heights	X		
40 CFR 60, Subparts Da, Db, Ka, Kb, JJJJ	X		Current equipment does not meet applicability.
40 CFR 61, All Subparts	X		

1. Not Applicable For This Facility: No existing or planned operation/activity at this facility triggers the applicability of these requirements.
2. No Requirements: Although these regulations may apply, they do not impose any specific requirements on the operation of the facility as described in this permit.

A104 Facility: Regulated Sources

A. Table 104 lists the emission units authorized for this facility. Emission units identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and/or equipment not regulated pursuant to the Act are not included.

Table 104: Regulated Sources List

Unit No.[1]	Source Description	Manufacturer	Model No.	Serial No.	Capacity	Install Date
197	Semiconductor Manufacturing Fab	NA	NA	NA	NA	1985
28	Boiler	Superior Boiler Works	6-5-6250-5150	12000	52.5 MMBtu/hr	1993
29	Boiler	Superior Boiler Works	6-5-6250-5150	12001	52.5 MMBtu/hr	1993
19	Boiler	Superior Boiler Works	6-5-6250-5150	12255	52.5 MMBtu/hr	1994
18	Boiler	Superior Boiler Works	6-5-6250-5150	12184	52.5 MMBtu/hr	1994
20	Boiler	Superior Boiler Works	6-5-6250-5150	12185	52.5 MMBtu/hr	1994
21	Boiler	Superior Boiler Works	6-5-6250-5150	12183	52.5 MMBtu/hr	1994
17	Boiler	Superior Boiler Works	6-5-6250-5150	12466	52.5 MMBtu/hr	1995
16	Boiler	Superior Boiler Works	6-5-6250-5150	12254	52.5 MMBtu/hr	1995
14	Boiler	TBD	TBD	TBD	8.37 MMBtu/hr	TBD
15	Boiler	TBD	TBD	TBD	29.3 MMBtu/hr	TBD
22	Boiler	TBD	TBD	TBD	29.3 MMBtu/hr	TBD

23	Boiler	TBD	TBD	TBD	29.3 MMBtu/hr	TBD
183	Boiler	TBD	TBD	TBD	29.3 MMBtu/hr	TBD
121-132	Cooling Tower	Alpha Southwest	UL-3030-75-19P6	NA	7,500 gpm	NA
133-135	Cooling Tower	Ingersoll Rand	5KS449DP7010AN	NA	6,000 gpm	NA
136	Cooling Tower	Flowserve	NA	NA	3,000 gpm	NA
137-144	Cooling Tower	Ingersoll Rand	5KS449DP7010AN	NA	6,000 gpm	NA
184-193	Cooling Tower	TBD	TBD	TBD	10,000 gpm	TBD
194-195	Cooling Tower	Marley	NC9001GM	NA	1,640 gpm	NA
196	Cooling Tower	TBD	TBD	TBD	1,640 gpm	TBD
198	Emergency Generator	Cummins	KTA50GS2	331128	1100 KW	6/1/1980
199	Emergency Generator	Cummins	KTA50-G3	33131286	1250 KW	6/1/1980
200	Emergency Generator	Cummins	NTTA855GS2	30307942	350 KW	6/1/1980
201	Emergency Generator	Cummins	KTA2300GS	33103711	750 KW	6/1/1980
202	Emergency Generator	Cummins	KTA50GS2	33113757	1100 KW	1985
203	Emergency Generator	Caterpillar	3512	24Z09698	1100 KW	1998
204	Emergency Generator	Cummins	KTA50-GS/GC2	33112628	1100 KW	1985
205	Emergency Generator	Detroit	91637316	16E0010589	1400 KW	1985
206	Emergency Generator	Caterpillar	3516	04XF00473	2000 KW	1990
207	Emergency Generator	Caterpillar	3516	04XF00474	2000 KW	6/12/1995
208	Emergency Generator	Caterpillar	3516	025Z03766	1700 KW	1993
209	Emergency Generator	Caterpillar	3516	025Z03763	1700 KW	1993
210	Emergency Generator	Caterpillar	3516	025Z03768	1700 KW	1993
211	Emergency Generator	Caterpillar	3516	06HN00105	1900 KW	1993
212	Emergency Generator	Caterpillar	C-175	WYB00177	3000 KW	2010
213	Emergency Generator	Caterpillar	C-175	WYB00176	3000 KW	2010
214	Emergency Generator	Caterpillar	3516b	07RN01862	2130 KW	2001

215	Emergency Generator	Caterpillar	3516b	07RN01868	2130 KW	2001
216	Emergency Generator	Caterpillar	3516b	07RN01869	2130 KW	2001
217	Emergency Generator	Caterpillar	3516b	07RN01864	2130 KW	2001
218	Fire Pump	Caterpillar	3406B	6TB23377	482 hp	1995
219	Fire Pump	Cummins	CFP11E-F20	35225690	360 hp	5/1/2008

[1]Sources with negligible or no emissions such as emergency gas pad scrubbers, ventilation exhaust, etc. are not regulated and therefore not included in this table.

A105 Facility: Control Equipment

A. Table 105 lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.

Table 105: Control Equipment List:

Control Equipment Unit No.[1]	Control Description	Pollutant being controlled	Control for Unit Number (s)[2]	Manufacturer	Model No.	Serial No.	Capacity	Install Date
162	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	Munters	1ZS-3546-TH	3546-038	2.4 MMBtu/hr	10/1/2008
163	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	Munters	1ZS-3546-TH	3546-039	2.4 MMBtu/hr	10/1/2008
164	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	Munters	1ZS-3546-TH	3546-053	2.4 MMBtu/hr	1/12/2010
171	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	Munters	1ZS-3546-TH	3546-053	2.4 MMBtu/hr	6/27/2011
170	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	Munters	1ZS-3546-TH	3546-053	2.4 MMBtu/hr	6/27/2011
168	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	Munters	1ZS-3546-TH	3546-053	2.4 MMBtu/hr	6/27/2011

167	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	Munters	1ZS-3546-TH	3546-053	2.4 MMBtu/hr	6/27/2011
176	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
177	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
178	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
169	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
166	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
172	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
173	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
174	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
175	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
165	Thermal Oxidizer	Organic solvents including VOCs/HAPs	197	TBD	TBD	TBD	2.4 MMBtu/hr	TBD
159	Ammonia Treatment System	Ammonia and NOx	197	Catalytic Products International	CPI Vector 6.5	91132	3.0 MMBtu/hr	2/16/2011
180	Ammonia Treatment System	Ammonia and NOx	197	Catalytic Products International	TBD	TBD	3.0 MMBtu/hr	TBD

181	Ammonia Treatment System	Ammonia and NOx	197	Catalytic Products International	TBD	TBD	3.0 MMBtu/hr	TBD
182	Ammonia Treatment System	Ammonia and NOx	197	Catalytic Products International	TBD	TBD	3.0 MMBtu/hr	TBD
179	Bulk Specialty Solvent Waste (BSSW) Treatment System	Organic solvents including VOCs/HAPs	197	Catalytic Products International	TBD	TBD	0.5 MMBtu/hr	TBD
7	Acid Gas Scrubber	Inorganic acids including HAPs	197	Viron International Corp.	VVS-7284-FRP-12.0-60-S-1-J-460-3-60	12344	21,000 cfm	12/5/2005
52	Acid Gas Scrubber	Inorganic acids including HAPs	197	Viron International Corp.	VVS-7284-FRP-12.0-60-S-1-J-460-3-60	12343	21,000 cfm	12/5/2005
37	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	CCV 5 5-5 LB	S-021494-9	5,000 cfm	6/12/1995
152	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 3 4-5 LB	S-101504-5	5,000 cfm	5/26/2005
151	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 3 4-5 LB	S-072403-1	10,000 cfm	12/2/2003
153	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 3 4-5 LB	S-101504-6	10,000 cfm	5/26/2005
47	Acid Gas Scrubber	Inorganic acids including HAPs	197	NA	NA	NA	NA	TBD
96	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10 10-5 LB	S-021041-01	50,000 cfm	1/9/2002

95	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10 10-5 LB	S-02104 1-02	50,000 cfm	1/9/2002
93	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10 10-5 LB	S-02104 1-03	50,000 cfm	1/9/2002
89	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10 10-5 LB	S-10150 4-1	50,000 cfm	11/1/2005
161	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 4 5 5LB	S-06110 2-1	10,000 cfm	11/30/2002
160	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 4 5 5LB	S-10150 4-3	10,000 cfm	2/18/2005
1	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	PSUR 510-5	BPC 680-5	10,000 cfm	10/7/2008
45a	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	EVC 3 4 5LB	S-11290 1-1	10,000 cfm	11/30/2002
46	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10 10-5 LB	S-02140 1-04	50,000 cfm	12/17/2001
53	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10 10-5 LB	S-02140 1-05	50,000 cfm	12/17/2001
4	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10 10-5 LB	S-10150 4-2	50,000 cfm	5/5/2005
84	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	TBD	TBD	55,000 cfm	TBD
85	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10.5 9-5LB	S-11149 5-1	55,000 cfm	6/12/1995
86	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10.5 9-5LB	SO-21494-1	55,000 cfm	6/12/1995

87	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10.5 9-5LB	S-06279 5-1	55,000 cfm	6/12/1995
88	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10.5 9-5LB	SO-21494-2	55,000 cfm	6/12/1995
90	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10.5 9-5LB	SO-21494-2	55,000 cfm	7/1/2009
91	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	ECV 10.5 9-5LB	S-06279 5-1	55,000 cfm	7/1/2009
92	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	EVC 10.5 9-5LB	SO-21494-5	55,000 cfm	7/1/2009
94	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	EVC 10.5 9-5LB	SO-21494-5	55,000 cfm	6/12/1995
97	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	EVC 10.5 9-5LB	S-11139 6-1	55,000 cfm	6/1/1997
45b	Acid Gas Scrubber	Inorganic acids including HAPs	197	Harrington Plastics	EVC 3 4 5LB	S-10150 4-4	10,000 cfm	5/26/2005
43	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
44	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
66	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
67	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
68	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD

69	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
70	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
71	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
72	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
75	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
76	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
40	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
41	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
42	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD
73	Acid Gas Scrubber	Inorganic acids including HAPs	197	TBD	TBD	TBD	TBD	TBD

1 Sources with negligible or no emissions such as emergency gas pad scrubbers, ventilation exhaust, etc are not regulated and therefore not included in this table.

2 Control for unit number refers to a unit number from the Regulated Equipment List

A106 Facility: Allowable Emissions

A. The following table(s) list the emission units and their allowable emission limits. (NSR Permit 325M11, 40 CFR 50 and 60, and Paragraphs 1, 7 and 8 of 20.2.70.302.A NMAC).

Table 106.A: Allowable Emissions per Unit by Source Category[1]

Source Category (Section No.)	Fuel Type	NOx[2] pph	CO pph	TSP/PM_{10}/$PM_{2.5}$ pph[3]
Boilers (A800)	Natural Gas	2.92	5.6	0.24
Thermal Oxidizers (A801)	Natural Gas	1.0	0.60	1.0
Ammonia Treatment Systems (A803)	Natural Gas	1.0	1.0	0.050
BSSW Treatment System (A804)	Natural Gas	1.0	1.0	0.050

1 RTO pph limits for NOx, CO, and PM are applicable for the combustion stack only.
2 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO_2
3. Limits apply to each individual pollutant (TSP, PM_{10} and $PM_{2.5}$) and not the sum.

B. Facility-wide emissions for criteria pollutants, VOC, and HAPs from all emission units, combined, shall not exceed the limits in Table 106.B and Table 106.C.

Table 106.B Facility Wide Allowable Emissions

Facility-Wide	[1]NO_x tpy	CO tpy	VOC tpy	SO_2 tpy	TSP/PM_{10}/$PM_{2.5}$ tpy[3]	Any Individual HAP[2] tpy	Total HAPs tpy
Sum of emissions from all sources	95.7	94.7	96.5	95	95	9.0	24

1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO_2
2 HAPs with <9tpy limit listed in Table 106.C
3. Limits apply to each individual pollutant (TSP, PM_{10} and $PM_{2.5}$) and not the sum.

Table 106.C Facility Wide Allowable Individual HAP Emissions

Individual HAP	tpy
Cresols	7.4
Hexachlorobenzene	0.50
Hexachlorobutadiene	3.9
Hexachlorocyclopentadiene	2.1
Phenol	1.5
Phosphine	7.9
Phosphorus	1.9
Phosgene	5.9
Arsenic Compounds	0.20
Cobalt Compounds	0.40
Chromium Compounds	0.20
Lead Compounds	0.20
Manganese Compounds	3.8
Mercury Compounds	0.50
Nickel Compounds	0.30
Selenium Compounds	3.8

Table 106.D NSPS Emissions Standards

NSPS 40 CFR 60 Subpart IIII					
Source	**40 CFR 60**	**NOx g/KW-hr (g/Hp-hr)**	**HC g/KW-hr (g/Hp-hr)**	**CO g/KW-hr (g/Hp-hr)**	**PM g/KW-hr (g/Hp-hr)**
Emergency Generators 212 and 213	Subpart IIII Table 1	9.2 (6.9)	1.3 (1.0)	11.4 (8.5)	0.54 (0.4)
Fire Pump 219	Subpart IIII Table 4	10.5 (NMHC + NOx) (7.8) (NMHC + NOx)		3.5 (2.6)	0.54 (0.4)

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM)

A. Allowable SSM emission limits are not imposed at this time. The permittee certified that routine and predictable SSM emissions are insignificant as item 1.a of the Title V Insignificant Activity List dated March 4, 2005. The permittee shall notify the Department's Permit Program Manager in writing within 60 days of determining that routine and predictable SSM emissions are not insignificant as defined in 20.2.70.7.Q NMAC. The permittee shall maintain records in accordance with Condition B109.E. (20.2.70.302.A(4) NMAC).

A108 Facility: Allowable Operations (NSR Permit 325M11, except for E)

A. This facility is authorized for continuous operation. No monitoring, recordkeeping, and reporting requirements to demonstrate compliance with continuous hours of operation.

B. The Permittee is allowed to make, without a permit revision or prior Department approval, physical or operational changes that are authorized or not prohibited by this Permit. This authorization includes changes in the processes or methods of operation, and changes in amount or type of materials or chemicals used, if:

1) such changes do not cause Facility emissions to exceed the Plant Site Emission Limits (PSELs), the Greenhouse Gas (GHG) Plant-wide Applicability Limit (PAL) or other applicable limits;

2) such changes comply with all applicable requirements under the state and federal Acts, and with all conditions of this Permit;

3) Intel keeps records of such changes; and

4) The Department can verify the emissions as described in this Permit.

C. Addition, replacement, and reconfiguration of the tools and semiconductor production equipment is authorized under this Permit and does not require a permit

revision or prior Department approval provided all other conditions of this Permit are met, including the requirements in 20.2.70.302.H and/or I NMAC.

D. Use of process HAPs other than those listed in Section C103 Appendix X shall be included in the semiannual report in Section A109. Appendix X shall be updated during the next permitting action following the semiannual report submittal. Process HAPs are defined as those chemical compounds required for the manufacturing process and do not include small quantities of incidental chemicals, such as (but not limited to) lab chemicals, lubricants, anti-bacterial or anti-fungal agents, or anti-corrosion agents.

E. This facility is a major source of GHG emissions and has opted to comply with the requirements in the attached GHG only PAL (Attachment A). 40 CFR 52.21.

A109 Facility: Reporting Schedules (20.2.70.302.E NMAC)

A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on January 1st and July 1st of each year. The report shall include the Semi-Annual report of actual emissions required in the NSR permit. Reporting actual emissions in the Title V semi-annual report shall satisfy the reporting requirement in the NSR permit.

B. The Annual Compliance Certification Report is due within 30 days of the end of every 12-month reporting period. The 12-month reporting period starts on January 1st of each year.

C. Any required quarterly reports shall be maintained on-site and summarized in the semi-annual reports.

A110 Facility: Fuel Sulfur Requirements (NSR Permit 325M11)

A. Combustion Sources

Requirement: 1) During normal operation, all combustion emission units shall combust only natural gas containing no more than 0.75 grains of total sulfur per 100 dry standard cubic feet. 2) During any operational and/or readiness testing on liquid fuel, the sulfur content of the diesel fuel shall not exceed 15ppm (ULSD).
Monitoring: None
Recordkeeping: 1) The permittee shall demonstrate compliance with the natural gas and diesel fuel limits on total sulfur content by maintaining records of a current valid purchase contract, tariff sheet, or transportation contract specifying the contents at or below the allowable limit. 2) The permittee shall maintain records in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110.

A111 Facility: 20.2.61 NMAC Opacity

A. Combustion Sources

Requirement: Visible emissions from all stationary combustion emission stacks shall not equal or exceed an opacity of 20 percent. This requirement does not apply to the startup of diesel units; opacity for units fired on diesel fuel shall be determined during steady-state normal operating conditions.
Monitoring: Use of natural gas fuel constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When visible emissions are observed during steady-state periods of diesel fuel use, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall continue on a quarterly basis per calendar year for each affected unit until such time as natural gas fuel is used.
Recordkeeping: The permittee shall maintain records in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110.

EQUIPMENT SPECIFIC REQUIREMENTS

A200 Oil and Gas Industry – Not Required

A300 Construction Industry – Aggregate – Not Required

A400 Construction Industry – Asphalt – Not Required

A500 Construction Industry – Concrete – Not Required

A600 Power Generation Industry – Not Required

A700 Solid Waste Disposal (Landfills) Industry– Not Required

SEMICONDUCTOR MANUFACTURING

A800 Boilers

A. Operational Inspection (Units 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29, and 183) NSR Permit 325M11

Requirement: The permittee shall comply with the allowable emission limits in Table 106A, Table 106B Table 106C and Table 106D.
Monitoring: The permittee shall conduct monthly operational inspections on all boilers to determine that the sources are operating properly. The operational inspections shall include

operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the boiler manufacturer, and indications based on operational experience with these units.
Recordkeeping: The permittee shall keep records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the boilers into compliance and in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110.

B. 40 CFR 60, Subpart Dc (Units 16, 17, 18, 19, 20, 21, 28, and 29)

Requirement: The units are subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements: 1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d), and (g). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h). 2. When combusting oil in the affected boilers, meet the Opacity standard in 40 CFR 60.43c(c), except during periods of startup, shutdown or malfunction per §60.43c(d).
Monitoring: The permittee shall comply with the fuel supplier certification requirements in 40 CFR 60.46c(e). The permittee shall comply with the periodic opacity monitoring in 40 CFR 60.47c(a). The permittee shall monitor fuel usage to meet the recordkeeping requirements of 40 CFR 60.48c(g).
Recordkeeping: The permittee shall comply with the recordkeeping requirements of 40 CFR 60.48c(c), (f) and (g) 40 CFR 60.7(b) and (f) and maintain the records according to §60.48c(i) except when records are required to be maintained for a longer time period in accordance with Section B109.
Reporting: The permittee shall comply with the initial notification requirements of 40 CFR 60.48c(a) and 40 CFR 60.7(a)(1), (a)(4) and (g) and the periodic reporting requirements of 40 CFR 60.48c(b), (c), (d), (e)(11) and (f). Reports shall be submitted according to §60.48c(j). The reporting period may be modified to coincide with the Semi-Annual reporting period in Section A109. The permittee shall report in accordance with Section B110.

C. 40 CFR 60 Subpart Dc (Units 15, 22, 23 and 183)

Requirement: The units are subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements: 1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d), and (g). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h). 2. For new boilers 15, 22, 23 and 183, the permittee shall demonstrate initial compliance with the SO2 standard through a certification

from the fuel supplier per 40 CFR 60.44c(h).
Monitoring: The permittee shall comply with the fuel supplier certification requirements in 40 CFR 60.46c(e). The permittee shall monitor fuel usage to meet the recordkeeping requirements of 40 CFR 60.48c(g).
Recordkeeping: The permittee shall comply with the recordkeeping requirements of 40 CFR 60.48c(c), (f) and (g) and 40 CFR 60.7(b) and (f) and maintain the records according to §60.48c(i) except when records are required to be maintained for a longer time period in accordance with Section B109.
Reporting: The permittee shall comply with the initial notification requirements of 40 CFR 60.48c(a) and 40 CFR 60.7(a)(1), (a)(3) and (g) and the periodic reporting requirements of 40 CFR 60.48c(b), (c), (d), (e)(11) and (f). Reports shall be submitted according to §60.48c(j). The reporting period may be modified to coincide with the Semi-Annual reporting period in Section A109.

D. EPA Methods Test (Units 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29, and 183) NSR Permit 325M11

Requirement: The permittee shall comply with the allowable emission limits in Table 106A.
Monitoring: The permittee shall conduct EPA Method tests for CO and NO_x within six (6) months of any new boiler start up. Method 19 may be used for determining stack flow rates. This requirement supersedes Condition B111.A(2). Initial compliance testing shall be conducted in accordance with Section B111.
Recordkeeping: The permittee shall maintain records in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110 and Section B111.

E. Boiler Operation on Diesel (Units 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29, and 183) NSR Permit 325M11

Requirement: The boilers shall combust only natural gas except when circumstances beyond the control of the permittee prohibit the use of natural gas (emergency situations) or when the permittee tests the fuel delivery system and emergency boiler operations. Under these circumstances, the permittee may combust No. 2 diesel fuel (or equivalent fuel oil, i.e., fuel oil that has emissions equal to or less than No. 2 diesel fuel) in any of the boilers. The boilers shall be operated on fuel oil for no more than 48 hours per year per boiler for non-emergency maintenance and readiness testing. This condition establishes exemption from 40 CFR 63, Subpart JJJJJJ.
Monitoring: The permittee shall monitor the hours of operation for each boiler when fired on No 2. diesel fuel.
Recordkeeping: The permittee shall keep records of the annual hours of operation for each boiler on No 2. diesel fuel in accordance with Section B109.
Reporting: None

A801 Thermal Oxidizers

A. Operational Requirements (Units 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178) NSR Permit 325M11

Requirement:

1) The permittee shall comply with the allowable emission limits in Table 106A, Table 106B and Table 106C.
2) The permittee shall operate the thermal oxidizers on a continuous basis, except for: a) periods of start-up, shut-down, scheduled maintenance, and malfunction b) in the event of the loss of the natural gas supply for thermal oxidizer units; or c) during periods when solvent VOCs are not being emitted from a solvent exhaust stack being served by a control unit.

Monitoring:

1) The permittee shall maintain the control units in accordance with the permittees standard operating procedures.
2) To demonstrate continuous operation the permittee shall monitor:
    a) the inlet damper position and temperature to demonstrate that a unit is in operation;
    b) the temperature of the thermal oxidizers primary combustion chamber;
        i) The permittee shall ensure that the combustion chamber remains at 1385^{o}F plus or minus 50^{o}F on a 24 hour block average when the unit is in operation. The 24-hour period means the period of time between 12:01 a.m. and 12:00 midnight. The minimum level of data capture shall be 75% when the unit is in operation.
    c) the system bypass damper position.

Recordkeeping:

1) The permittee shall maintain records of the date, time, and nature of maintenance or repairs performed on thermal oxidizers.
2) To demonstrate continuous operation the permittee shall record:
    a) the 24 hour block average temperature and the corresponding inlet damper position.
    b) the system bypass damper position.

Reporting: The permittee shall report in accordance with Section B110.

B. EPA Method Tests (Units 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178) NSR Permit 325M11

Requirement: The permittee shall comply with the allowable emission limits in Table 106B.

Monitoring: The permittee shall conduct VOC emission testing on all thermal oxidizer exhaust stack utilizing Method 1-4 and 25A. Each thermal oxidizer exhaust stack shall be tested annually for 8 hours. Testing shall be conducted in accordance with Condition B111.D. Conditions B111.A-C are not applicable to the thermal oxidizer exhaust stack testing.

Recordkeeping: The permittee shall maintain records in accordance with Section B109.
Reporting: The results shall be reported as lb/hr propane. The permittee shall submit reports described in Section A109 and in accordance with Section B110 and Condition B111.D.

A802 Process Scrubbers

A. Operational Requirements (Units 1, 4, 7, 37, 40, 41, 42, 43, 44, 45a, 45b, 46, 47, 52, 53, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 151, 152, 153, 160, 161) NSR Permit 325M11

Requirement: 1) The permittee shall comply with the allowable emission limits in Table 106B and Table 106C. 2) The permittee shall operate the process scrubbers on a continuous basis except for periods of start-up, shut-down, scheduled maintenance, and malfunction or during periods when the Fab being served by the equipment is not operating
Monitoring: 1) The permittee shall maintain the control units in accordance with the permittee's standard operating procedures. 2) To demonstrate continuous operation the permittee shall monitor: a) the scrubber makeup and recirculation water flow rates (gallons per minute) and the fan status on a 24 hour block average when the unit is in operation. The minimum level of data capture shall be 75% when the unit is in operation. b) the bypass status through a combination of scrubber fan status and the recirculation water flow rate.
Recordkeeping: 1) The permittee shall maintain records of the date, time, and nature of maintenance or repairs performed on scrubbers. 2) To demonstrate continuous operation the permittee shall record: a) the 24 hour block average of the makeup and recirculation water flow rates and the corresponding fan status. b) the bypass status of the scrubber through a combination of scrubber fan status and the recirculation water flow.
Reporting: The permittee shall report in accordance with Section B110.

B. EPA Method Tests (Units 1, 4, 7, 37, 40, 41, 42, 43, 44, 45a, 45b, 46, 47, 52, 53, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 151, 152, 153, 160, 161) NSR Permit 325M11

Requirement: The permittee shall comply with the allowable emission limits in Table 106B and Table 106C.
Monitoring: The permittee shall conduct HF, HCl and Cl_2 testing on all scrubbers exhaust stacks in operation at the time of the test utilizing ASTM D6348-03 or Method 320 for HF and HCl, Method 26A for Cl_2 and Methods 1-4. Each operational scrubber exhaust stack

shall be tested annually for 8 hours. Testing shall be conducted in accordance with Condition B111.D. Conditions B111.A-C are not applicable to the scrubber exhaust stack testing.
Recordkeeping: The permittee shall maintain records in accordance with Section B109.
Reporting: The results shall be reported in lb/hr. Non detect shall be calculated using ½ the method detection limit. The permittee shall submit reports described in Section A109 and in accordance with Section B110 and Condition B111.D.

A803 Ammonia Treatment Systems

A. Operational Requirements (Units 159, 180, 181, and 182) NSR Permit 325M11

Requirement: The permittee shall comply with the allowable emission limits in Table 106A, Table 106B and Table 106C.
Monitoring: The permittee shall maintain the control units in accordance with the permittee's standard operating procedures
Recordkeeping: The permittee shall maintain records of the date, time, and nature of maintenance or repairs performed on the ammonia treatment system in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110.

A804 BSSW Treatment System

A. Operational Requirements (Unit 179) NSR Permit 325M11

Requirement: The permittee shall comply with the allowable emission limits in Table 106A, Table 106B and Table 106C.
Monitoring: The permittee shall maintain the control units in accordance with the permittee's standard operating procedures.
Recordkeeping: The permittee shall maintain records of the date, time, and nature of maintenance or repairs performed on the BSSW system in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110.

A805 Emergency Generators/Fire Pumps

A. 40 CFR 60, Subpart IIII (Emergency Generators Units 212 and 213)

Requirement: The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(b), §60.4202(b)(1), §60.4206 and §60.4207(b) and Table 106D. In addition the permittee shall follow the compliance requirements stated in §60.4211(a, c and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.
Monitoring: None
Recordkeeping: The permittee shall maintain records in accordance with Section B109.
Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.

B. 40 CFR 60, Subpart IIII (Fire Pump Unit 219)

Requirement: The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(c), §60.4206 and §60.4207(b) and Table 106D. In addition the permittee shall follow the compliance requirements stated in §60.4211(b)(1) and (3) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.
Monitoring: None
Recordkeeping: The permittee shall maintain records in accordance with Section B109.
Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.

C. 40 CFR 63, Subpart ZZZZ (Emergency Generators Units 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 214, 215, 216, 217 and Fire Pump Unit 218)

Requirement: The units are Existing Emergency CI RICE at an Area Source (constructed before 6/12/2006) subject to 40 CFR 63, Subpart ZZZZ and the permittee shall comply with all applicable operating limitations in 40 CFR 63.6603(a), §63.6604(b) and Table 2.d.4 of Subpart ZZZZ. In addition the permittee shall follow the compliance requirements stated in 40 CFR 63.6605, §63.6640(a), (f), Table 6.9 of Subpart ZZZZ and the general provisions of 40 CFR Subpart A as required in 40 CFR 63.6665 (see Table 8 of Subpart ZZZZ). The fuel requirement in §63.6604(b) is applicable only to units that are operated for non-emergency purposes as specified in §63.6640(f)(2)(ii) and (iii) or §63.6640(f)(4)(ii).
Monitoring: The permittee shall comply with the monitoring requirements of 40 CFR 63.6625(f) and (i) and 40 CFR 63.6635.
Recordkeeping: The permittee shall comply with the recordkeeping requirements of 40 CFR 63, Subpart A as required in 40 CFR 63.6665 and the applicable recordkeeping requirements of §63.6655(a), (d), (e), (f), and §63.6660. The permittee shall maintain records in accordance with Section B109.
Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart A as required in 40 CFR 63.6665 and the applicable reporting requirements of §63.6640(b) and (e), §63.6650(f), (h) and Table 7.4 of Subpart ZZZZ. The permittee shall report in accordance with Section B110. Reporting requirements in §63.6650(h) and Table 7.4 only apply to units that are required to meet the fuel requirement in §63.6604(b).

A806 Cooling Towers

A. Operational Requirements (Units* 121-132, 133-135, 136, 137-144, 184-193, 194-195, 196) NSR Permit 325M11

Requirement: The permittee shall comply with the allowable emission limits in Table 106B.
Monitoring: The permittee shall monitor the recirculating water Total Dissolved Solids (TDS)

content by direct laboratory analysis of the TDS or through use of conductivity meter values and correlated TDS on a monthly basis. Any correlation other than the 0.9 value described in the requirement above shall be developed by the permittee by independent laboratory measurement of at least 10 water samples with approximately evenly spaced measured TDS values that bracket the minimum and maximum values expected. The TDS shall meet the requirements specified in the permittee's standard operating procedures for each unit. *A single representative sample will be taken from units sharing common sumps.
Recordkeeping: The permittee shall maintain a record of the monthly TDS and 12-month rolling annual average. If a conductivity meter is used, the record shall include the correlation between conductivity and TDS, any laboratory analyses used to determine the correlation, and all related calculations. All records shall be maintained in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110.

A807 Plant Site Emission Limits

A. Emissions Calculations (Entire Facility) NSR Permit 325M11

Requirement: The permittee shall comply with the facility wide emissions limits in Table 106B and Table 106C.
Monitoring: A monthly rolling 12 month total emissions shall be calculated semiannually.
Recordkeeping: The permittee shall monitor and record all information used to perform emissions calculations including emissions factors, changes to emission factors, emissions testing, times when control equipment is not treating exhaust, and production level. Monthly records of chemical purchases for those chemicals used in the emissions calculations and fuel use (natural gas and diesel) shall also be maintained. All records shall be maintained in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section A109. Emissions shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources shall be estimated. The report shall include: 1) The monthly rolling 12 month total emissions of NOx, CO, TSP/PM_{10}/$PM_{2.5}$, VOCs, individual and total HAP. Individual HAPs in Table 106.B, will be reported if emitted in a quantity greater than 0.5 tons per year. Individual HAPs in Table 106.C, will be reported if emitted in a quantity greater than 0.1 tons per year. 2) A summary of the VOC and HAPs test results, if testing occurred during the reporting period. 3) Production level expressed as percentage of full capacity of each source Fab. The permittee shall report in accordance with Section B110.

PART B GENERAL CONDITIONS

B100 Introduction

A. Not Applicable

B101 Legal

A. Permit Terms and Conditions (20.2.70 sections 7, 201.B, 300, 301.B, 302, 405 NMAC)

(1) The permittee shall abide by all terms and conditions of this permit, except as allowed under Section 502(b)(10) of the Federal Act, and 20.2.70.302.H.1 NMAC. Any permit noncompliance is grounds for enforcement action, and significant or repetitious noncompliance may result in termination of this permit. Additionally, noncompliance with federally enforceable conditions of this permit constitutes a violation of the Federal Act. (20.2.70.302.A.2.a NMAC)

(2) Emissions trading within a facility (20.2.70.302.H.2 NMAC)

1) The Department shall, if an applicant requests it, issue permits that contain terms and conditions allowing for the trading of emissions increases and decreases in the permitted facility solely for the purpose of complying with a federally enforceable emissions cap that is established in the permit in addition to any applicable requirements. Such terms and conditions shall include all terms and conditions required under 20.2.70.302 NMAC to determine compliance. If applicable requirements apply to the requested emissions trading, permit conditions shall be issued only to the extent that the applicable requirements provide for trading such increases and decreases without a case-by-case approval.

2) The applicant shall include in the application proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable. The Department shall not include in the emissions trading provisions any emissions units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades. The permit shall require compliance with all applicable requirements.

(3) It shall not be a defense for the permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (20.2.70.302.A.2.b NMAC)

(4) If the Department determines that cause exists to modify, reopen and revise, revoke and reissue, or terminate this permit, this shall be done in accordance with 20.2.70.405 NMAC. (20.2.70.302.A.2.c NMAC)

(5) The permittee shall furnish any information the Department requests in writing to determine if cause exists for reopening and revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. This information shall be furnished within the time period specified by the Department. Additionally, the permittee shall furnish, upon request by the Department, copies of records required by the permit to be maintained by the permittee. (20.2.70.302.A.2.f NMAC)

(6) A request by the permittee that this permit be modified, revoked and reissued, or terminated, or a notification by the permittee of planned changes or anticipated noncompliance, shall not stay any conditions of this permit. (20.2.70.302.A.2.d NMAC)

(7) This permit does not convey property rights of any sort, or any exclusive privilege. (20.2.70.302.A.2.e NMAC)

(8) In the case where an applicant or permittee has submitted information to the Department under a claim of confidentiality, the Department may also require the applicant or permittee to submit a copy of such information directly to the Administrator of the EPA. (20.2.70.301.B NMAC)

(9) The issuance of this permit, or the filing or approval of a compliance plan, does not relieve the permittee from civil or criminal liability for failure to comply with the state or Federal Acts, or any applicable state or federal regulation or law. (20.2.70.302.A.6 NMAC and the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2)

(10) If any part of this permit is challenged or held invalid, the remainder of the permit terms and conditions are not affected and the permittee shall continue to abide by them. (20.2.70.302.A.1.d NMAC)

(11) A responsible official (as defined in 20.2.70.7.AD NMAC) shall certify the accuracy, truth and completeness of every report and compliance certification submitted to the Department as required by this permit. These certifications shall be part of each document. (20.2.70.300.E NMAC)

(12) Revocation or termination of this permit by the Department terminates the permittee's right to operate this facility. (20.2.70.201.B NMAC)

(13) The permittee shall continue to comply with all applicable requirements. For applicable requirements that will become effective during the term of the permit, the permittee shall meet such requirements on a timely basis. (Sections 300.D.10.c and 302.G.3 of 20.2.70 NMAC)

B. Permit Shield (20.2.70.302.J NMAC)

(1) Compliance with the conditions of this permit shall be deemed to be compliance with any applicable requirements existing as of the date of permit issuance and

identified in Table 103.A. The requirements in Table 103.A are applicable to this facility with specific requirements identified for individual emission units.

(2) The Department has determined that the requirements in Table 103.B as identified in the permit application are not applicable to this source, or they do not impose any conditions in this permit.

(3) This permit shield does not extend to administrative amendments (Subsection A of 20.2.70.404 NMAC), to minor permit modifications (Subsection B of 20.2.70.404 NMAC), to changes made under Section 502(b)(10), changes under Paragraph 1 of subsection H of 20.2.70.302 of the Federal Act, or to permit terms for which notice has been given to reopen or revoke all or part under 20.2.70.405 and 20.2.70.302J(6).

(4) This permit shall, for purposes of the permit shield, identify any requirement specifically identified in the permit application or significant permit modification that the department has determined is not applicable to the source, and state the basis for any such determination. (20.2.70.302.A.1.f NMAC)

C. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate the source including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (20.2.7.109, 20.2.72.210.A, 20.2.72.210.B, 20.2.72.210.C, 20.2.72.210.E NMAC) The establishment of allowable malfunction emission limits does not supersede this requirement.

B102 Authority

A. This permit is issued pursuant to the federal Clean Air Act ("Federal Act"), the New Mexico Air Quality Control Act ("State Act") and regulations adopted pursuant to the State and Federal Acts, including Title 20, New Mexico Administrative Code, Chapter 2, Part 70 (20.2.70 NMAC) - Operating Permits.

B. This permit authorizes the operation of this facility. This permit is valid only for the named permittee, owner, and operator. A permit modification is required to change any of those entities.

C. The Department specifies with this permit, terms and conditions upon the operation of this facility to assure compliance with all applicable requirements, as defined in 20.2.70 NMAC at the time this permit is issued. (20.2.70.302.A.1 NMAC)

D. Pursuant to the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2, all terms and conditions in this permit, including any provisions designed to limit this facility's potential to emit, are enforceable by the Department. All terms and conditions are enforceable by the Administrator of the United States Environmental Protection Agency ("EPA") and citizens under the Federal Act,

unless the term or condition is specifically designated in this permit as not being enforceable under the Federal Act. (20.2.70.302.A.5 NMAC)

E. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the Modification and Exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).

B103 Annual Fee

A. The permittee shall pay Title V fees to the Department consistent with the fee schedule in 20.2.71 NMAC - Operating Permit Emission Fees. The fees will be assessed and invoiced separately from this permit. (20.2.70.302.A.1.e NMAC)

B104 Appeal Procedures
(20.2.70.403.A NMAC)

A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for a hearing before the Environmental Improvement Board ("board"). The petition shall be made in writing to the board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered, and attach a copy of the permitting action for which review is sought. Unless a timely request for a hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to:

Secretary, New Mexico Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg. Rm N2153
P.O. Box 5469
Santa Fe, New Mexico 87502

B105 Submittal of Reports and Certifications

A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department.

B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)

C. Compliance Certification Reports, Semi-Annual monitoring reports, compliance schedule progress reports, and any other compliance status information required by this permit shall be certified by the responsible official and submitted to:

Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez Suite 1
Santa Fe, NM 87505-1816

D. Compliance Certification Reports shall also be submitted to the Administrator at the address below (20.2.70.302.E.3 NMAC):

Chief, Air Enforcement Section
US EPA Region-6, 6EN-AA
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

B106 NSPS and/or MACT Startup, Shutdown, and Malfunction Operations

A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c).

B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart. (20.2.70.302.A.1 and A.4 NMAC)

B107 Startup, Shutdown, and Maintenance Operations

A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (20.2.7.14.A NMAC)

B108 General Monitoring Requirements
(20.2.70. 302.A and C NMAC)

A. These requirements do not supersede or relax requirements of federal regulations.

B. The following monitoring and/or testing requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.

C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring.

D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke monitoring period exemptions at B108.D(2), hours of operation shall be monitored and recorded.

(1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.

(2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.

(3) If invoking the monitoring period exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually

operates, a minimum of one of each type of monitoring activity shall be conducted during the five year term of this permit.

E. The permittee is not required to report a deviation for any monitoring or testing in a Specific Condition if the deviation was authorized in this General Condition B108.

F. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.

G. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.

H. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance. All monitoring periods, unless stated otherwise in the specific permit condition or federal requirement, shall commence at the beginning of the 12 month reporting period as defined at condition A109.B.

B109 General Recordkeeping Requirements
(20.2.70.302.D NMAC)

A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any applicable requirements that become effective during the term of this permit. The minimum information to be included in these records is (20.2.70.302.D.1 NMAC):

(1) equipment identification (include make, model and serial number for all tested equipment and emission controls);

(2) date(s) and time(s) of sampling or measurements;

(3) date(s) analyses were performed;

(4) the company or entity that performed the analyses;

(5) analytical or test methods used;

(6) results of analyses or tests; and

(7) operating conditions existing at the time of sampling or measurement.

B. The permittee shall keep records of all monitoring data, equipment calibration, maintenance, and inspections, Data Acquisition and Handling System (DAHS) if used, reports, and other supporting information required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall clearly identify the emissions unit and/or monitoring equipment, and the date the data was gathered. (20.2.70.302.D.2 NMAC)

C. If the permittee has applied and received approval for an alternative operating scenario, then the permittee shall maintain a log at the facility, which documents, contemporaneously with any change from one operating scenario to another, the scenario under which the facility is operating. (20.2.70.302.A.3 NMAC)

D. The permittee shall keep a record describing off permit changes made at this source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes. (20.2.70.302.I.2 NMAC)

E. Malfunction emissions and routine and predictable emissions during startup, shutdown, and scheduled maintenance (SSM):

(1) The permittee shall keep records of all events subject to the plan to minimize emissions during routine or predictable SSM. (20.2.7.14.A NMAC)

(2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, and a description of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies.

(3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits, including the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded.

Failures that are caused in part by poor maintenance or careless operation are not malfunctions. (40 CFR 63.2, 20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized limit.

B110 General Reporting Requirements
(20.2.70.302.E NMAC)

A. Reports of required monitoring activities for this facility shall be submitted to the Department on the schedule in section A109. Monitoring and recordkeeping requirements that are not required by a NSPS or MACT shall be maintained on-site or (for unmanned sites) at the nearest company office, and summarized in the semi-annual reports, unless alternative reporting requirements are specified in the equipment specific requirements section of this permit.

B. Reports shall clearly identify the subject equipment showing the emission unit ID number according to this operating permit. In addition, all instances of deviations from permit requirements, including those that occur during emergencies, shall be clearly identified in the reports required by section A109. (20.2.70.302.E.1 NMAC)

C. The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be submitted as follows:

(1) Deviations resulting in excess emissions as defined in 20.2.7.7 NMAC (including those classified as emergencies as defined in section B114.A) shall be reported in accordance with the timelines specified by 20.2.7.110 NMAC and in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC)

(2) All other deviations shall be reported in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC).

D. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC.

E. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format.

F. At such time as new units are installed as authorized by the applicable NSR Permit, the permittee shall fulfill the notification requirements in the NSR permit.

G. Periodic Emissions Test Reporting: The permittee shall report semi-annually a summary of the test results.

H. The permittee shall submit an emissions inventory for this facility annually. The emissions inventory shall be submitted by the later of April 1 or within 90 days after the Department makes such request. (20.2.73 NMAC and 20.2.70.302.A.1 NMAC)

I. Emissions trading within a facility (20.2.70.302.H.2 NMAC)

(1) For each such change, the permittee shall provide written notification to the department and the administrator at least seven (7) days in advance of the proposed changes. Such notification shall state when the change will occur and shall describe the changes in emissions that will result and how these increases and decreases in emissions will comply with the terms and conditions of the permit.

(2) The permittee and department shall attach each such notice to their copy of the relevant permit.

B111 General Testing Requirements

A. Compliance Tests

(1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)

(2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.

(3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the

Department approval, be determined using the arithmetic mean of the results of the two other runs.

(4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.

(5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.

(6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

B. EPA Reference Method Tests

(1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of 40 CFR 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by 40 CFR 60, Appendix A:

1) Methods 1 through 4 for stack gas flowrate

2) Method 5 for TSP

3) Method 6C and 19 for SO_2

4) Method 7E for NO_X (test results shall be expressed as nitrogen dioxide (NO_2) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO_2 is equivalent to 1.194 x 10-7 lb/SCF)

5) Method 9 for opacity

6) Method 10 for CO

7) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter).

8) Method 7E or 20 for Turbines per 60.335 or 60.4400

9) Method 29 for Metals

10) Method 201A for filterable PM_{10} and $PM_{2.5}$

11) Method 202 for condensable PM

12) Method 320 for organic Hazardous Air Pollutants (HAPs)

13) Method 25A for VOC reduction efficiency

(2) Alternative test method(s) may be used if the Department approves the change.

C. Periodic Monitoring and Portable Analyzer Requirements

(1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.

(2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 20 minutes.

Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.

(3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.F.

(4) During emissions tests, pollutant, O_2 concentration and fuel flow rate shall be monitored and recorded. This information shall be included with the test report furnished to the Department.

(5) Pollutant emission rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) and fuel heating value (Btu/scf) obtained during the test.

D. Test Procedures:

(1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test to afford a representative of the Department an opportunity to be present at the test. (40CFR 60.8(d))

(2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.

(3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.

(4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.

(5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.

(6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed

(7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.

B112 Compliance

A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)

B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.70.302.G.3 NMAC)

C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit. (20.2.70.302.A.1 and G.3 NMAC)

D. The permittee shall submit compliance certification reports certifying the compliance status of this facility with respect to all permit terms and conditions, including applicable requirements. These reports shall be made on the pre-populated Compliance Certification Report Form that is provided to the permittee by the Department, and shall be submitted to the Department and to EPA at least every 12

months. For the most current form, please contact the Compliance Reports Group at email:reportsgroup.aqb@state.nm.us. For additional reporting guidance see http://www.nmenv.state.nm.us/aqb/enforce_compliance/TitleVReporting.htm. (20.2.70.302.E.3 NMAC)

E. The permittee shall allow representatives of the Department, upon presentation of credentials and other documents as may be required by law, to do the following (20.2.70.302.G.1 NMAC):

(1) enter the permittee's premises where a source or emission unit is located, or where records that are required by this permit to be maintained are kept;

(2) have access to and copy, at reasonable times, any records that are required by this permit to be maintained;

(3) inspect any facilities, equipment (including monitoring and air pollution control equipment), work practices or operations regulated or required under this permit; and

(4) sample or monitor any substances or parameters for the purpose of assuring compliance with this permit or applicable requirements or as otherwise authorized by the Federal Act.

B113 Permit Reopening and Revocation

A. This permit will be reopened and revised when any one of the following conditions occurs, and may be revoked and reissued when A(3) or A(4) occurs. (20.2.70.405.A.1 NMAC)

(1) Additional applicable requirements under the Federal Act become applicable to a major source three (3) or more years before the expiration date of this permit. If the effective date of the requirement is later than the expiration date of this permit, then the permit is not required to be reopened unless the original permit or any of its terms and conditions has been extended due to the Department's failure to take timely action on a request by the permittee to renew this permit.

(2) Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Federal Act (the acid rain program). Upon approval by the Administrator, excess emissions offset plans will be incorporated into this permit.

(3) The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the terms and conditions of the permit.

(4) The Department or the Administrator determines that the permit must be revised or revoked and reissued to assure compliance with an applicable requirement.

B. Proceedings to reopen or revoke this permit shall affect only those parts of this permit for which cause to reopen or revoke exists. Emissions units for which permit conditions have been revoked shall not be operated until new permit conditions have been issued for them. (20.2.70.405.A.2 NMAC)

B114 Emergencies
(20.2.70.304 NMAC)

A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, or careless or improper operation.

B. An emergency constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations contained in this permit if the permittee has demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An emergency occurred and that the permittee can identify the cause(s) of the emergency;

(2) This facility was at the time being properly operated;

(3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and

(4) The permittee submitted notice of the emergency to the Department within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of 20.2.70.302.E.2 NMAC. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

C. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

D. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

B115 Stratospheric Ozone
(20.2.70.302.A.1 NMAC)

A. If this facility is subject to 40 CFR 82, Subpart F, the permittee shall comply with the following standards for recycling and emissions reductions:

(1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices, except for motor vehicle air conditioners (MVAC) and MVAC-like appliances. (40 CFR 82.156)

(2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment. (40 CFR 82.158)

(3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program. (40 CFR 82.161)

B116 Acid Rain Sources
(20.2.70.302.A.9 NMAC)

A. If this facility is subject to the federal acid rain program under 40 CFR 72, this section applies.

B. Where an applicable requirement of the Federal Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Federal Act, both provisions are incorporated into this permit and are federally enforceable.

C. Emissions exceeding any allowances held by the permittee under Title IV of the Federal Act or the regulations promulgated thereunder are prohibited.

D. No modification of this permit is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit modification under any other applicable requirement.

E. The permittee may not use allowances as a defense to noncompliance with any other applicable requirement.

F. No limit is placed on the number of allowances held by the acid rain source. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Federal Act.

G. The acid rain permit is an enclosure of this operating permit.

B117 Risk Management Plan
(20.2.70.302.A.1 NMAC)

A. If this facility is subject to the federal risk management program under 40 CFR 68, this section applies.

B. The owner or operator shall certify annually that they have developed and implemented a RMP and are in compliance with 40 CFR 68.

C. If the owner or operator of the facility has not developed and submitted a risk management plan according to 40 CFR 68.150, the owner or operator shall provide a compliance schedule for the development and implementation of the plan. The plan shall describe, in detail, procedures for assessing the accidental release hazard, preventing accidental releases, and developing an emergency response plan to an accidental release. The plan shall be submitted in a method and format to a central point as specified by EPA prior to the date specified in 40 CFR 68.150.b.

PART C MISCELLANEOUS

C100 Supporting On-Line Documents

A. Copies of the following documents can be downloaded from NMED's web site under Compliance and Enforcement or requested from the Bureau.

(1) Excess Emission Form (for reporting deviations and emergencies)

(2) Compliance Certification Report Form

(3) Universal Stack Test Notification, Protocol and Report Form and Instructions

(4) SOP for Use of Portable Analyzers in Performance Tests

C101 Definitions

A. **"Daylight"** is defined as the time period between sunrise and sunset, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at http://aa.usno.navy.mil/. Alternatively, these times can be obtained from a Farmers Almanac or from http://www.almanac.com/rise/).

B. **"Exempt Sources"** and **"Exempt Activities"** is defined as those sources or activities that are exempted in accordance with 20.2.72.202 NMAC. Note; exemptions are only valid for most 20.2.72 permitting action.

C. **"Fugitive emission"** means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. (20.2.70.7M NMAC)

D. **"Insignificant Activities"** means those activities which have been listed by the department and approved by the administrator as insignificant on the basis of size, emissions or production rate. (20.2.70.7Q NMAC)

E. **"Natural Gas"** is defined as a naturally occurring fluid mixture of hydrocarbons that contains 20.0 grains or less of total sulfur per 100 standard cubic feet (SCF) and is either composed of at least 70% methane by volume or has a gross calorific value of between 950 and 1100 Btu per standard cubic foot. (40 CFR 60.631)

F. **"Natural Gas Liquids"** means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas. (40 CFR 60.631)

G. **"National Ambient Air Quality Standards"** means the primary (health-based) and secondary (welfare-related) federal ambient air quality standards promulgated by the US EPA pursuant to Section 109 of the Federal Act. (20.2.72.7Q NMAC)

H. **"NO_2"** or **"Nitrogen dioxide"** means the chemical compound containing one atom of nitrogen and two atoms of oxygen, for the purposes of ambient determinations. The term **"nitrogen dioxide,"** for the purposes of stack emissions monitoring, shall include nitrogen dioxide (the chemical compound containing one atom of nitrogen and two atoms of oxygen), nitric oxide (the chemical compound containing one atom of nitrogen and one atom of oxygen), and other oxides of nitrogen which may test as nitrogen dioxide and is sometimes referred to as NOx or NO_2. (20.2.2.7U NMAC)

I. **"NOx"** see NO_2

J. **"Potential Emission Rate"** means the emission rate of a source at its maximum capacity to emit a regulated air contaminant under its physical and operational design, provided any physical or operational limitation on the capacity of the source to emit a regulated air contaminant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its physical and operational design only if the limitation or the effect it would have on emissions is enforceable by the department pursuant to the Air Quality Control Act or the Federal Act. (20.2.72.7Y NMAC)

K. "**Restricted Area-Non Military**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.

L. **"Shutdown"**, for requirements under 20.2.72.7BB NMAC, means the cessation of operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing out of batch process units.

M. **"SSM"**, for requirements under 20.2.7 NMAC, means routine or predictable startup, shutdown, or scheduled maintenance.

(1) **"Shutdown"**, for requirements under 20.2.7.7H NMAC, means the cessation of operation of any air pollution control equipment or process equipment.

(2) **"Startup"**, for requirements under 20.2.7.7I NMAC, means the setting into operation of any air pollution control equipment or process equipment.

N. **"Startup"**, for requirements under 20.2.72.7DD NMAC, means the setting into operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing in of batch process units.

C102 Acronyms

2SLB ..... 2-stroke lean burn
4SLB ..... 4-stroke lean burn
4SRB ..... 4-stroke rich burn
acfm ..... actual cubic feet per minute
AFR ..... air fuel ratio
AP-42 ..... EPA Air Pollutant Emission Factors
AQB ..... Air Quality Bureau
AQCR ..... Air Quality Control Region
ASTM ..... American Society for Testing & Materials
BTU ..... British Thermal Unit
CAA ..... Clean Air Act of 1970 and 1990 Amendments
CEM ..... continuous emissions monitoring
cfh ..... cubic feet per hour
cfm ..... cubic feet per minute
CFR ..... Code of Federal Regulation
CI ..... compression ignition
CO ..... carbon monoxide
COMS ..... continuous opacity monitoring system
EIB ..... Environmental Improvement Board
EPA ..... United States Environmental Protection Agency
gr./100 cf ..... grains per one hundred cubic feet
gr./dscf ..... grains per dry standard cubic foot
GRI ..... Gas Research Institute
H_2S ..... hydrogen sulfide
HAP ..... hazardous air pollutant
hp ..... horsepower
IC ..... Internal Combustion
KW/hr ..... kilowatts per hour
lb/hr ..... pounds per hour
lb/MMBtu ..... pounds per million British Thermal Unit
MACT ..... Maximum Achievable Control Technology

MMcf/hr ..... million cubic feet per hour
MMscf ..... million standard cubic feet
N/A ..... not applicable
NAAQS ..... National Ambient Air Quality Standards
NESHAP ..... National Emission Standards for Hazardous Air Pollutants
NG ..... natural gas
NGL ..... natural gas liquids
NMAAQS ..... New Mexico Ambient Air Quality Standards
NMAC ..... New Mexico Administrative Code
NMED ..... New Mexico Environment Department
NMSA ..... New Mexico Statues Annotated
NOx ..... nitrogen oxides
NSCR ..... non-selective Catalytic Reduction
NSPS ..... New Source Performance Standard
NSR ..... New Source Review
PEM ..... parametric emissions monitoring
PM ..... particulate matter (equivalent to TSP, total suspended particulate)
PM_{10} ..... particulate matter 10 microns and less in diameter
$PM_{2.5}$ ..... particulate matter 2.5 microns and less in diameter
pph ..... pounds per hour
ppmv ..... parts per million by volume
PSD ..... Prevention of Significant Deterioration
RATA ..... relative accuracy test assessment
RICE ..... reciprocating internal combustion engine
rpm ..... revolutions per minute
scfm ..... standard cubic feet per minute
SI ..... spark ignition
SO_2 ..... sulfur dioxide
SSM ..... Startup Shutdown Maintenance (see SSM definition)
TAP ..... Toxic Air Pollutant
TBD ..... to be determined
THC ..... total hydrocarbons
TSP ..... Total Suspended Particulates
tpy ..... tons per year
ULSD ..... ultra-low sulfur diesel
USEPA ..... United States Environmental Protection Agency
UTM ..... Universal Transverse Mercator Coordinate System
UTMH ..... Universal Transverse Mercator Horizontal
UTMV ..... Universal Transverse Mercator Vertical
VHAP ..... volatile hazardous air pollutant
VOC ..... volatile organic compounds

C103 Appendix X – HAPs List

CAS#	Chemical Name		CAS#	Chemical Name
75058	Acetonitrile		91203	Naphthalene
79107	Acrylic acid		98953	Nitrobenzene
62533	Aniline		92933	4-Nitrobiphenyl
71432	Benzene (including benzene from		100027	4-Nitrophenol
75252	Bromoform		684935	N-Nitroso-N-methylurea
106990	1,3-Butadiene		108952	Phenol
56235	Carbon tetrachloride		75445	Phosgene
7782505	Chlorine		7803512	Phosphine
67663	Chloroform		7723140	Phosphorus
1319773	Cresols/Cresylic acid (isomers and		85449	Phthalic anhydride
95487	o-Cresol		1120714	1,3-Propane sultone
108394	m-Cresol		78875	Propylene dichloride
106445	p-Cresol		75569	Propylene oxide
106467	1,4-Dichlorobenzene(p)		100425	Styrene
121697	N,N-Diethyl aniline (N,N-		96093	Styrene oxide
60117	Dimethyl aminoazobenzene		79345	1,1,2,2-Tetrachloroethane
131113	Dimethyl phthalate		7550450	Titanium tetrachloride
75003	Ethyl chloride (Chloroethane)		108883	Toluene
107062	Ethylene dichloride (1,2-Dichloroethane)		120821	1,2,4-Trichlorobenzene
107211	Ethylene glycol		79005	1,1,2-Trichloroethane
75218	Ethylene oxide		79016	Trichloroethylene
75343	Ethylidene dichloride (1,1-Dichloroethane)		121448	Triethylamine
50000	Formaldehyde		540841	2,2,4-Trimethylpentane
118741	Hexachlorobenzene		108054	Vinyl acetate
87683	Hexachlorobutadiene		75354	Vinylidene chloride
77474	Hexachlorocyclopentadiene		1330207	Xylenes (isomers and mixture)
67721	Hexachloroethane		95476	o-Xylenes
110543	Hexane		108383	m-Xylenes
7647010	Hydrochloric acid		106423	p-Xylenes
7664393	Hydrogen fluoride (Hydrofluoric acid)			Antimony Compounds
108316	Maleic anhydride			Arsenic Compounds
67561	Methanol			Chromium Compounds
74839	Methyl bromide (Bromomethane)			Cobalt Compounds
74873	Methyl chloride (Chloromethane)			Cyanide Compounds
71556	Methyl chloroform (1,1,1-Trichloroethane)			Glycol ethers
78933	Methyl ethyl ketone (2-Butanone)			Lead Compounds
74884	Methyl iodide (Iodomethane)			Manganese Compounds
108101	Methyl isobutyl ketone (Hexone)			Mercury Compounds
80626	Methyl methacrylate			Nickel Compounds
1634044	Methyl tert butyl ether			Polycylic Organic Matter
75092	Methylene chloride (Dichloromethane)			Selenium Compounds

Attachment A – Greenhouse Gas Plant-wide Applicability Limit Permit

Greenhouse Gas (GHG) Plant-wide Applicability Limit (PAL)

1. The Permitee shall not allow GHG emissions to the atmosphere to exceed 395,797 tons per year on a carbon dioxide equivalent (CO2e) basis, determined monthly using the total for the prior 12 months, beginning with the first full 12 month period after the effective date of the PAL. For each month during the first 11 months from the PAL effective date, the permittee shall show that the sum of the preceding monthly emissions from the PAL effective date for each emissions unit under the PAL are less than the PAL limit.
2. This PAL shall have an effective period of 10 years from permit issuance.
3. If the permittee applies to renew a PAL in accordance with 20.2.74.320.J before the end of the PAL effective period, then the PAL shall not expire at the end of the PAL effective period. It shall remain in effect until a revised PAL permit is issued by the department. If the permittee plans to renew this PAL, then a PAL renewal application must be submitted at least 6 months prior to, but not earlier than 18 months from the date of PAL expiration. If the permittee plans to apply for an increase in the PAL level during the 10 year effective period of the PAL, the permittee must comply with the provisions of 20.2.74.320.K.
4. This PAL shall include fugitive emissions, to the extent quantifiable, from all emissions units that emit or have the potential to emit GHGs at the facility. Emission calculations for compliance purposes must also include emissions from startups, shutdowns, and malfunctions.
5. Any PAL that is not renewed in accordance with the procedures in paragraph 20.2.74.320.J shall expire at the end of the PAL effective period and the permitee must follow the requirements listed 20.2.74.320.I.
6. Determination of GHG Emissions: Demonstration of compliance with the GHG PAL shall be based on the total actual emissions from the facility. Emissions shall be calculated using methods listed below, which are taken from the provisions of the EPA GHG Mandatory Reporting Rule. To the extent the applicable provision of the Mandatory Reporting Rule is changed by EPA, the revision shall apply, unless an alternative approach is submitted to the Department and approved for use in this permit. Conversion of mass emissions of GHGs to emissions on a CO2e basis shall be based on the global warming potential (GWP) figures listed in 40 CFR Part 98 Subpart A Table A-1. The monthly facility-wide CO2e emissions equal the sum of the calculated monthly values from paragraphs 6.a.i, 6.b.i, and 6.c.iv below.
    a. Emissions of GHGs from natural gas combustion
        i. Emissions of GHGs (ECO2(i), ECH4(i), and EN2O(i)), calculated as tons per month of CO2e from natural gas combustion, shall be calculated based on actual total natural gas use by calendar month and the sum of the following equations:

        ECO2(i) = Natural Gas(i) x EFCO2 x GWPCO2 x 0.1 x 2.205 / 2000
        ECH4(i) = Natural Gas(i) x EFCH4 x GWPCH4 x 0.1 x 2.205 / 2000
        EN2O(i) = Natural Gas(i) x EFN2O x GWPN2O x 0.1 x 2.205 / 2000

        ii. Monthly natural gas consumption records for gas meter i (Natural Gas(i)) in units of Therms (100,000 Btu) will be taken from monthly bills received from the local natural gas provider.
        iii. The GWP values used will be those listed in the most current version of 40CFR part 98, Subpart A table A-1
        iv. EFCO2, the emission factor for CO2 in kg/mmBtu, will be the value listed in the most current version of 40CFR part 98, subpart C, Table C-1.
        v. EFCH4 and EFN2O, the emission factors for CH4 and N2O in kg/mmBtu, will be those listed in the most current version of 40CFR part 98, subpart C, Table C-2.

b. Emissions of GHGs from diesel combustion
   i. Emissions of GHGs (tons per month of CO2e) from diesel combustion shall be calculated based on actual total diesel use (Fuel use in gallons) for the boilers by calendar month and by tracking emergency generator and fire pump run time using installed hour meters and multiplying that hourly run time by the manufacturers' stated maximum fuel consumption rate (gallons per hour) and the sum of the following equations:

ECO2 = Fuel use x EFCO2 x GWPCO2 x HHV x 2.205 / 2000
ECH4 = Fuel use x EFCH4 x GWPCH4 x HHV x 2.205 / 2000
EN2O = Fuel use x EFN2O x GWPN2O x HHV x 2.205 / 2000

   ii. The HHV (mmBtu/gal) and EFCO2, the emission factor for CO2 in kg/mmBtu, will be the values listed in the most current version of 40CFR part 98, subpart C, Table C-1
   iii. EFCH4 and EFN2O, the emission factors for CH4 and N2O in kg/mmBtu, will be those listed in the most current version of 40CFR part 98, subpart C, Table C-2.

c. Emissions of GHGs associated with Semiconductor Manufacturing shall be calculated based on methods prescribed in 40 CFR Part 98 Subpart I as follows:
   i. Fluorinated gas (F-gas) emissions from manufacturing. The permittee shall calculate the monthly GHG emissions of fluorinated gases from manufacturing using one of two methods: A) default emission factors multiplied by chemical use, or B) stack testing.

A. Default emission factor method - Under this method, GHG emissions from fluorinated gases will be calculated using the following equations and the procedures in §98.93(a):

1. Direct Emissions of Input Gas (i)

$$E_{ij} = C_{ij} * (1-U_{ij}) * (1 - a_{ij} * d_{ij} * UT_{ij}) * 0.001$$

Where,

E_{ij} = Monthly emissions of input gas i from process sub-type or process type j, on a fab basis (metric tons).

C_{ij} = Monthly amount of input gas i (kg) consumed for process
sub-type or process type j, as calculated in Equations I-13 of 40 CFR 98 subpart I

U_{ij} = Process utilization rate for input gas i for process sub-type or process type j

a_{ij} = Fraction of input gas i used in process sub-type or process type j with abatement systems, on a fab basis

d_{ij} = Fraction of input gas i destroyed or removed in abatement systemsconnected to process tools where process sub-type, or process type j is used.

0.001 = Conversion factor from kg to metric tons

UT_{ij} = the average uptime factor of all abatement systems connected to process tools in the fab using input gas i in process sub-type or process type j, as calculated in equation I-15 of 40 CFR 98 subpart I.

i. The value of $(1-U_{ij})$ used for each gas shall be the value published in the most current version of 40CFR part 98, subpart I, Table I-4.
ii. The value a_{ij} shall be determined through an engineering model developed and updated by the permittee, based on process knowledge that quantifies the portion of the specific gas that ultimately goes through an abatement device.
iii. The fraction of input gas destroyed in the abatement systems (d_{ij}) shall be either the default value for that gas published in 40CFR part 98, subpart I, Table I-16 or an actual value measured through an approved test method per the requirements in §98.94(f)(4). This value is zero unless the facility adheres to the requirements in §98.94(f) and conditions 7.e, 8.p, and 9.c of this PAL permit.
iv. This equation shall be applied to all fluorinated gases used by the permittee for which a default emission factor has been published in 40CFR part 98, Subpart I, Table I-4, except nitrogen trifluoride (NF3).

2. Byproduct Gas (k) Emissions from Input Gas (i)

$$BE_{ijk} = B_{ijk} * C_{ij} * (1 - a_{ij} * d_{jk} * UT_{ijk}) * 0.001$$

Where,

BE_{ijk} = Monthly emissions of by-product gas k (metric tons) formed from input gas i (kg).

B_{ijk} = By-product formation rate of gas k (kg) created as a by-product per amount of input gas i (kg) consumed.

C_{ij} = Monthly amount of input gas i (kg) consumed for process sub-type or process type j, as calculated in Equations I-13 of 40 CFR 98 subpart I

a_{ij} = Fraction of input gas i used that passes through abatement systems (expressed as a decimal fraction)

d_{jk} = Fraction of by-product gas k destroyed or removed in abatement systems (expressed as a decimal fraction), connected to process tools where process sub-type, or process type j is used.

0.001 = Conversion factor from kg to metric tons

UT_{ijk} = the average uptime factor of all abatement systems connected to process tools in the fab which emit by-product gas k, formed from input gas i in process sub-type or process type j, as calculated in equation I-15 of 40 CFR 98 subpart I. Assume UT_{ijk} equals UT_{ij}

i. This equation shall be applied to those materials that are listed as potential byproducts for each fluorinated gas in 40 CFR 98, subpart I, Table I-4.
ii. The value B_{ijk} for each potential byproduct shall be the value listed in 40CFR part 98, subpart I, Table I-4
iii. The value a_{ij} shall be determined through an engineering model developed and updated by the permittee, based on process knowledge that quantifies the portion of the specific gas that ultimately goes through an abatement device.
iv. The fraction of byproduct gas destroyed in the abatement systems (d_{jk}) shall be either the default value for that gas published in 40 CFR 98, subpart I, Table I-16 or an actual value measured through an approved test method per the requirements in §98.94(f)(4). This value is zero unless the facility adheres to the requirements in §98.94(f) and conditions 7.e, 8p, and 9c of this PAL permit.

B. Stack Test Method - Under this method, GHG emissions from fluorinated gases (F-gases) from manufacturing will be calculated using the following equations and the procedures in §98.93(i):

1. Direct Emissions of Input Gas (i)

$$E_{if} = EF_{if} * C_{if} * UT_f + \frac{EF_{if}}{(1 - (a_{if} * d_{if}))} * C_{if} * (1 - UT_f)$$

Where,

E_{if} = Monthly emissions of fluorinated GHG input gas i (kg) from the stack systems that are tested for fab f

EF_{if} = Emission factor for fluorinated GHG input gas i emitted from fab f (kg emitted/kg input gas consumed). This factor will be determined through stack testing, by comparing emissions of gas i to the use of that gas during the test period or, for low use gases, during a longer representative period according to §98.94(j)(3) and as calculated in equation I-19 of 40 CFR 98 subpart I

C_{if} = Total consumption of fluorinated GHG input gas i (kg) in tools that are vented to stack systems that are tested, for fab f, for the recording month as calculated in equation I-13 of 40 CFR 98 subpart I

UT_f = The total uptime of all abatement systems for fab f, during the recording month as calculated in equation I-23 of 40 CFR 98 subpart I.

a_{if} = Fraction of fluorinated GHG input gas i used in fab f in tools with abatement systems

d_{if} = Fraction of fluorinated GHG input gas i destroyed or removed in abatement systems connected to process tools in fab f that are included in the stack testing option, as calculated in equation I-24 of 40 CFR 98 subpart I.

f = Fab

i = Fluorinated GHG input gas

2. Byproduct Gas (k) Emissions from Input Gas (i) from Fab (f)

$$E_{kf} = EF_{kf} * \sum C_{if} * UT_f + \frac{EF_{kf}}{(1 - (a_f * d_{kf}))} * \sum C_{if} * (1 - UT_f)$$

Where:

E_{kf} = Monthly emissions of fluorinated GHG by-product k (kg) from the stack systems that are tested for fab f

EF_{kf} = Emission factor for fluorinated GHG by-product k, emitted from fab f, (kg emitted/kg of all input gases consumed) as calculated in equation I-20 of 40 CFR 98 subpart I

C_{if} = Total consumption of fluorinated GHG input gas i (kg) in tools that are vented to stack systems that are tested, for fab f, for the recording month, as calculated in equation I-13 of 40 CFR 98 subpart I

UT_f = The total uptime of all abatement systems for fab f, during the recording month, as calculated in equation I-23 of 40 CFR 98 subpart I

a_f = Fraction of input gases used in fab f in tools with abatement systems

d_{kf} = Fraction of fluorinated GHG by-product k destroyed or removed in abatement systems connected to process tools in fab f that are included in the stack testing option, as calculated in equation I-24 of 40 CFR 98 subpart I.

f = Fab

i = Fluorinated GHG input gas

k = Fluorinated GHG by-product

3. Testing will be performed on every F-gas emitting stack annually for the first three years of this permit, unless it can be

demonstrated that excluded stacks account for less than 15% of total manufacturing CO2e emissions. If any F-gas emitting stacks are excluded, emissions from those stacks will be estimated using engineering models in accordance with the procedures outlined in 40CFR 98.93(i)(4). After the first three years, testing will continue to be performed annually, unless the permittee meets the criteria to test less frequently defined in 40CFR part 98.94(j)(5) unless the facility triggers the re-test scenarios in §98.94(j)(8).

4. Testing will be performed per the requirements of §98.94(j) and by EPA method 320, or other method approved by the department. Consumption data will be collected during the stack testing period for the fluorinated gases included in the stack testing per the requirements of §98.94(j)(3). The individual GHG input gas i consumption data and the combined GHG input gas i consumption data (total of all gasses) will be compared to the stack test results to develop the emission factors, EF_{if} and EF_{kf} respectfully, shown in the equations above.

ii. N2O emissions from manufacturing - The permittee shall calculate the monthly emissions of nitrous oxide (N2O) used in manufacturing using the following equation:

$$E_{(N2O)j} = C_{N2O,j} * (1 - U_{N2O,j}) * (1 - a_{N2O,j} * d_{N2O,*} UT_{N2Oj}) * 0.001$$

Where:

$E_{(N2O)j}$ = monthly emission of N2O for N2O using process j (metric tons)

$C_{N2O,j}$ = monthly amount of N2O consumed (kg) for N2O using process j, as calculated in equation I-13 of 40 CFR 98 subpart I.

$U_{N2O,j}$ = process utilization factor for N2O using process j

$a_{N2O,j}$ = fraction of N2O used in N2O using process j with abatement systems

$d_{N2O,j}$ = fraction of N2O for N2O using process j destroyed or removed in abatement systems connected to process tools where process j is used.

0.001 = conversion factor from kg to metric tons

j = type of N2O using process, either CVD or other N2O using manufacturing processes.

1. The value of $(1-U_{N2O,j})$ used shall be the value published in the most current version of 40CFR part 98, subpart I, Table I-8.
2. The value $a_{N2O,j}$ shall be determined through an engineering model developed by the permittee, based on process knowledge that quantifies the portion of N2O that ultimately goes through an abatement device.
3. The fraction of N2O gas destroyed in the abatement systems ($d_{N2O,j}$) shall be either the default value for that gas published in 40CFR part 98, subpart I, Table I-16 or an actual value measured through an approved

test method per the requirements in §98.94(f)(4). . This value is zero unless the facility adheres to the requirements in §98.94(f) and conditions 7.e, 8.p, and 9.c of this PAL permit.

iii. Fluorinated liquids used as heat transfer fluids within the electronics production process - The permittee shall calculate the monthly GHG emissions from fluorinated liquids used as heat transfer materials by maintaining records documenting the date that heat transfer fluid is added to a unit, or when material is removed from the unit. The record shall include the amount of heat transfer material added or removed. Emissions of each heat transfer fluid will be calculated using the following equations:

$EH_i = density_i * (liters\ of\ material\ added - liters\ of\ material\ removed)$

Where,

EH_i = Monthly emissions of fluorinated GHG heat transfer fluid i (kg)

$Density_i$ = Density of fluorinated heat transfer fluid i (kg/l)

1. This calculation shall include all materials meeting the definition of "heat transfer fluid" found in 40CFR 98.98, and for which a global warming potential value is listed in 40CFR part 98, Subpart A table A-1.

iv. CO2e monthly emissions associated with Semiconductor Manufacturing shall be calculated using the following applicable equations:

$$CO2e_i = [\sum_j E_{ij} * GWP_i + \sum_f E_{if} * GWP_i] * (2.205/2)$$

$$CO2e_k = [\sum_i \sum_j BE_{ijk} * GWP_k + \sum_f E_{kf} * GWP_k] * (2.205/2000)$$

$$CO2e_{N2O} = [\sum_j E_{(N2O)j} * GWP_{N2O}] * (2.205/2)$$

$$CO2e_{EHi} = [EH_i * GWP_i] * (2.205/2000)$$

$$CO2e_{total} = \sum CO2e_i + \sum CO2e_k + CO2e_{N2O} + \sum CO2e_{EHi}$$

7. Monitoring
   a. The Permittee shall determine site monthly natural gas consumption (in Therms) from bills received from the local natural gas provider. The Permittee shall determine monthly diesel use based on fuel meter readings or engine hours of operations and manufacturers' stated maximum fuel consumption rates.
   b. The Permittee shall determine the monthly usage of F-gases and N2O either through monthly purchase records or through real-time inventory and consumption data taken from the online gas cylinder management system.
   c. The permittee shall determine the uptime of abatement equipment designed to control F-gases or N2O according to the procedures defined in 40 CFR 98.93(g).
   d. The Permittee shall determine the use of heat transfer fluids by maintaining records documenting the date that heat transfer fluid is added to a unit, or when material is

removed from the unit. The record shall include the amount of heat transfer material added or removed.

e. If permittee assigns and takes destruction and removal control credit for fluorinated GHG or N_2O Abatement Systems, the permittee shall monitor and maintain the abatement systems in accordance with the site maintenance plan for that equipment.
f. If permittee assigns and takes destruction and removal control credit for fluorinated GHG or N_2O Abatement Systems based on an average of properly measured results, the permittee shall first perform the required testing on the required number of abatement systems as specified under 98.94(f)(4). Upon completion of testing the minimum number of abatement systems, the permittee shall test 5 percent of abatement systems annually.
g. In addition to the stack testing requirements listed under paragraph 6.c.i.B of this PAL permit, the permittee shall notify, conduct and report any stack testing under the PAL in accordance with the Title V permit general conditions under Section B111.D.

8. Recordkeeping - The Permittee shall maintain the following records for a period of at least five years and make them available to the Department upon request:
    a. Records of site natural gas consumption.
    b. List of all emission factors and GWP values used.
    c. Records of diesel fuel consumed in the boilers.
    d. Records of each emergency generator and fire pump engine hours.
    e. List of all HHV values used.
    f. Records of consumption for all fluorinated gases used by the permittee that have a GWP value assigned in 40CFR part 98, subpart A Table A-1.
    g. Uptime records for abatement systems treating the fluorinated gases used by the permittee that have a GWP value assigned in 40CFR part 98, subpart A Table A-1, except NF3.
    h. Engineering model showing the portion of individual fluorinated gases exhausted to abatement devices.
    i. List of default fluorinated gas emission factors used if method A is used in condition 6
    j. A list of default or measured removal efficiencies used for fluorinate gas abatement equipment, where applicable.
    k. Records of all on site destruction removal efficiency testing performed for fluorinated gas abatement equipment, where applicable, in accordance with §98.97(d)(4).
    l. Results of all stack test data collected.
    m. Records of consumption of fluorinated gases during the period of time that was used to develop a stack test emission factor, if method B in condition 6 is used.
    n. Records of consumption of heat transfer fluid materials for which a GWP value is listed in 40CFR part 98, subpart A Table A-1.
    o. Records of disposal of heat transfer fluid materials for which a GWP value is listed in 40CFR part 98, subpart A Table A-1.
    p. If permittee assigns and takes control credit for fluorinated GHG or N_2O abatement systems, the permittee shall retain records for fluorinated GHG or N_2O Abatement Systems as specified in §98.97(d) including records certifying and documenting that the fluorinated GHG or N_2O Abatement Systems are properly installed, operated and maintained according to manufacturers' specifications and according to the site maintenance plan for fluorinated GHG or N_2O abatement systems that is developed and maintained on-site.
    q. The permittee shall maintain records in accordance with the Title V permit general conditions under Section B109
9. Reporting - Reports shall be submitted in accordance with the applicable title V operating permit program and the Title V permit general conditions under Section B110.
    a. The Semi-annual report shall contain the following information:

i. The identification of the permittee and the permit number.
ii. Total annual GHG emissions (CO2e tons/year) based on a 12-month rolling total for each month in the reporting period.
iii. All data relied upon, including, but not limited to, any Quality Assurance or Quality Control data, in calculating the monthly and annual PAL pollutant emissions.
iv. A list of any emissions units modified or added to the major stationary source or GHG-only source during the preceding 6-month period.
v. The number, duration, and cause of any deviations or monitoring malfunctions (other than the time associated with zero and span calibration checks), and any corrective action taken.
vi. A notification of a shutdown of any monitoring system, whether the shutdown was permanent or temporary, the reason for the shutdown, the anticipated date that the monitoring system will be fully operational or replaced with another monitoring system, and whether the emissions unit monitored by the monitoring system continued to operate, and the calculation of the emissions of the pollutant.
vii. A signed statement by a responsible official certifying the truth, accuracy, and completeness of the information provided in the report.
viii. If permittee performs stack testing to assign and take control credit for fluorinated GHG abatement systems, the permittee shall submit a summary report of any fluorinated GHG stack testing under the PAL including information specified in 40CFR98.96(w).
ix. If permittee assigns and takes destruction and removal control credit for fluorinated GHG or N_2O Abatement Systems based on an average of properly measured results, the permittee shall provide an annual summary of tested abatement systems including a list of the tested units, measured control efficiencies for each gas tested and a calculation that verifies the tested abatement systems represent the required 5 percent of abatement systems per 98.94(f)(4). This report may be submitted with the January semi-annual report for the previous year of testing.
x. The Semi-annual report shall be submitted according to the schedule in Section A109 of the Title V permit.

b. An Annual Compliance Certification report certifying compliance with the conditions of the PAL shall be submitted according to the schedule in Section A109 of the Title V permit.
c. If permittee assigns and takes control credit for fluorinated GHG or N_2O abatement systems, the permittee shall submit an annual certification as specified in 40CFR98.96(q).

10. The permittee is a GHG only source and therefore GHG emissions at the source will not be subject to regulation under Subsection AZ of 20.2.74.7 NMAC as long as the source complies with the PAL.