MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
AIR QUALITY DIVISION

September 21, 2010

PERMIT TO INSTALL
No. 267-09A

ISSUED TO
Michigan State University Bioeconomy Institute

LOCATED AT
242 Howard Avenue
Holland, Michigan 49424

IN THE COUNTY OF
Ottawa

STATE REGISTRATION NUMBER
B2331

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Natural Resources and Environment. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **September 16, 2010**	
DATE PERMIT TO INSTALL APPROVED: **September 21, 2010**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

Section **Page**

Alphabetical Listing of Common Abbreviations / Acronyms 2

General Conditions 3

Special Conditions 5

Emission Unit Summary Table 5

Special Conditions for EUPILOTPLANT 6

Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H_2S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO_x	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality (Department)	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM10	PM less than 10 microns diameter
MSDS	Material Safety Data Sheet	PM2.5	PM less than 2.5 microns diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pound per hour
NSPS	New Source Performance Standards	ppm	Parts per million
NSR	New Source Review	ppmv	Parts per million by volume
PS	Performance Specification	ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonably Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO_2	Sulfur Dioxide
SC	Special Condition	THC	Total Hydrocarbons
SCR	Selective Catalytic Reduction	tpy	Tons per year
SRN	State Registration Number	µg	Microgram
TAC	Toxic Air Contaminant	VOC	Volatile Organic Compounds
TEQ	Toxicity Equivalence Quotient	yr	Year
VE	Visible Emissions		

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Natural Resources and Environment. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)
EUPILOTPLANT	Pilot plant including reactors, distillation vessels, centrifuges, heat exchangers, mixers, vacuum pumps, pumps, scrubbers, and dust collectors.
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.	

The following conditions apply to: EUPILOTPLANT

DESCRIPTION: Bioeconomy Institute Pilot Plant.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: Scrubbers SR-001, SR-002, and SR-003
Dust collectors EF-1, EF-3, DU-366A, and DU-366B

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	89 tpy	12 month rolling time period as determined at the end of each calendar month	EUPILOTPLANT	GC 13 SC VI.5	R 336.1205(3)
2. Particulate matter	0.01 lb per 1000 pounds of dry exhaust gasses	Test method	EUPILOTPLANT	GC 13	R 336.1331
3. Total HAPs	22.4 tpy	12 month rolling time period as determined at the end of each calendar month	EUPILOTPLANT	GC 13 SC VI.5	R 336.1205(3)
4. Each individual HAP	8.9 tpy	12 month rolling time period as determined at the end of each calendar month	EUPILOTPLANT	GC 13 SC VI.5	R 336.1205(3)
5. PM10	13.4 tpy	12 month rolling time period as determined at the end of each calendar month	EUPILOTPLANT	GC 13 SC VI.5	R 336.1205(3)

The emission limits in this table apply to EUPILOTPLANT equipment vented through the scrubbers.

	Averaging Period	Pollutant	Screening Level* Range	Limit+	Time Period / Operating Scenario	Testing / Monitoring Method	Underlying Applicable Requirements
6.	Annual	Category 1 Pollutants	0.0002 to <0.001	8.21×10^{-6} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
7.		Category 2 Pollutants	0.001 - <0.01	4.10×10^{-5} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
8.		Category 3 Pollutants	0.01 to <0.1	4.10×10^{-4} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
9.		Category 4 Pollutants	0.1 to <1	4.10×10^{-3} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
10.		Category 5 Pollutants	1 to <10	4.10×10^{-2} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
11.		Category 6 Pollutants	10 to <100	0.41 pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
12.		Category 7 Pollutants	100 to <1000	4.1 pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
13.		Category 8 Pollutants	1000 and above	41.0 pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
14.	24 Hour	Category 1 Pollutants	0.0002 to <0.001	1.64×10^{-6} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225

	Pollutant	Limit	Time Period / Operating Scenario		Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
15.		Category 2 Pollutants	0.001 - <0.01	8.21 x 10^{-6} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
16.		Category 3 Pollutants	0.01 to <0.1	8.21 x 10^{-5} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
17.		Category 4 Pollutants	0.1 to <1	8.21 x 10^{-4} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
18.		Category 5 Pollutants	1 to <10	8.21 x 10^{-3} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
19.		Category 6 Pollutants	10 to <100	8.21 x 10^{-2} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
20.		Category 7 Pollutants	100 to <1000	0.821 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
21.		Category 8 Pollutants	1000 and above	8.21 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
22.	8 Hour	Category 1 Pollutants	0.0002 to <0.001	9.38 x 10^{-7} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
23.		Category 2 Pollutants	0.001 - <0.01	4.69 x 10^{-6} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
24.		Category 3 Pollutants	0.01 to <0.1	4.69 x 10^{-5} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
25.		Category 4 Pollutants	0.1 to <1	4.69 x 10^{-4} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
26.		Category 5 Pollutants	1 to <10	4.69 x 10^{-3} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
27.		Category 6 Pollutants	10 to <100	4.69 x 10^{-2} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
28.		Category 7 Pollutants	100 to <1000	0.469 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
29.		Category 8 Pollutants	1000 and above	4.69 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
30.	1 Hour	Category 1 Pollutants	0.0002 to <0.001	6.57 x 10^{-7} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
31.		Category 2 Pollutants	0.001 - <0.01	3.28 x 10^{-6} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
32.		Category 3 Pollutants	0.01 to <0.1	3.28 x 10^{-5} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
33.		Category 4 Pollutants	0.1 to <1	3.28 x 10^{-4} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
34.		Category 5 Pollutants	1 to <10	3.28 x 10^{-3} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
35.		Category 6 Pollutants	10 to <100	3.28 x 10^{-2} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
36.		Category 7 Pollutants	100 to <1000	0.328 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
37.		Category 8 Pollutants	1000 and above	3.28 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements

Notes:

1. For the purposes of this permit, the various "Category" pollutants are identified as follows (note that all screening levels and category criteria are in micrograms per cubic meter):

   Category 1 pollutants are all VOC compounds with a screening level of 0.0002 to < 0.001,
   Category 2 pollutants - 0.001 to <0.01,
   Category 3 pollutants – 0.01 to <0.1,
   Category 4 pollutants – 0.1 to <1,
   Category 5 pollutants – 1 to <10,
   Category 6 pollutants – 10 to <100,
   Category 7 pollutants – 100 to <1000
   Category 8 pollutants – 1000 and above.

2. For emission limits SC I.6 through I.37, each emission limit applies to the total emission from equipment controlled by the scrubbers of each pollutant with a screening level with the specified averaging time and falling within the stated category.

3. Each emission limit applies to process vents only and does not include fugitive emissions from the process.

The following are more footnotes for clarification purposes:

* Screening levels (SLs) shall be determined according to Rules 231 and 232 (R 336.1231 and R 336.1232). For each toxic air contaminant emitted, permittee shall use SLs determined and listed by the AQD, unless none is listed.

** Based on a rolling 12-month time period as determined at the end of each calendar month.

\+ This emission limit represents an average over the time stated, and is not necessarily the peak one-hour emission rate.

The emission limits in this table apply to EUPILOTPLANT equipment vented through the dust collectors.

	Averaging Period	Pollutant	Screening Level* Range	Limit+	Time Period / Operating Scenario	Testing / Monitoring Method	Underlying Applicable Requirements
38.	Annual	Category 11 Pollutants	0.0002 to <0.001	1.55×10^{-5} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
39.		Category 12 Pollutants	0.001 to <0.01	7.74×10^{-5} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
40.		Category 13 Pollutants	0.01 to <0.1	7.74×10^{-4} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
41.		Category 14 Pollutants	0.1 to <1	7.74×10^{-3} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
42.		Category 15 Pollutants	1 to <10	7.74×10^{-2} pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
43.		Category 16 Pollutants	10 to <100	0.774 pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
44.		Category 17 Pollutants	100 to <1000	7.74 pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
45.		Category 18 Pollutants	1000 and above	77.4 pph	12-month rolling time period**	GC 13, SC VI.3	R 336.1225
46.	24 Hour	Category 11 Pollutants	0.0002 to <0.001	3.09×10^{-6} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225

	Pollutant	Limit	Time Period / Operating Scenario		Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
47.		Category 12 Pollutants	0.001 to <0.01	1.55 x 10^{-5} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
48.		Category 13 Pollutants	0.01 to <0.1	1.55 x 10^{-4} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
49.		Category 14 Pollutants	0.1 to <1	1.55 x 10^{-3} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
50.		Category 15 Pollutants	1 to <10	1.55 x 10^{-2} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
51.		Category 16 Pollutants	10 to <100	0.155 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
52.		Category 17 Pollutants	100 to <1000	1.55 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
53.		Category 18 Pollutants	1000 and above	15.5 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
54.	8 Hour	Category 11 Pollutants	0.0002 to <0.001	1.77 x 10^{-6} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
55.		Category 12 Pollutants	0.001 to <0.01	8.84 x 10^{-6} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
56.		Category 13 Pollutants	0.01 to <0.1	8.84 x 10^{-5} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
57.		Category 14 Pollutants	0.1 to <1	8.84 x 10^{-4} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
58.		Category 15 Pollutants	1 to <10	8.84 x 10^{-3} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
59.		Category 16 Pollutants	10 to <100	8.84 x 10^{-2} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
60.		Category 17 Pollutants	100 to <1000	0.884 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
61.		Category 18 Pollutants	1000 and above	8.84 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
62.	1 Hour	Category 11 Pollutants	0.0002 to <0.001	1.24 x 10^{-6} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
63.		Category 12 Pollutants	0.001 to <0.01	6.19 x 10^{-6} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
64.		Category 13 Pollutants	0.01 to <0.1	6.19 x 10^{-5} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
65.		Category 14 Pollutants	0.1 to <1	6.19 x 10^{-4} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
66.		Category 15 Pollutants	1 to <10	6.19 x 10^{-3} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
67.		Category 16 Pollutants	10 to <100	6.19 x 10^{-2} pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
68.		Category 17 Pollutants	100 to <1000	0.619 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225
69.		Category 18 Pollutants	1000 and above	6.19 pph	Testing Protocol	GC 13, SC VI.3	R 336.1225

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements

Notes:

1. For the purposes of this permit, the various "Category" pollutants are identified as follows (note that all screening levels and category criteria are in micrograms per cubic meter):

   Category 11 pollutants are all particulate compounds with a screening level of 0.0002 to < 0.001,
   Category 12 pollutants - 0.001 to <0.01,
   Category 13 pollutants – 0.01 to <0.1,
   Category 14 pollutants – 0.1 to <1,
   Category 15 pollutants – 1 to <10,
   Category 16 pollutants – 10 to <100,
   Category 17 pollutants – 100 to <1000
   Category 18 pollutants – 1000 and above.

2. For emission limits SC I.38 through I.69, each emission limit applies to the total emission from equipment controlled by the dust collectors of each pollutant with a screening level with the specified averaging time and falling within the stated category.

3. Each emission limit applies to process vents only and does not include fugitive emissions from the process.

The following are more footnotes for clarification purposes:

* Screening levels (SLs) shall be determined according to Rules 231 and 232 (R 336.1231 and R 336.1232). For each toxic air contaminant emitted, permittee shall use SLs determined and listed by the AQD, unless none is listed.

** Based on a rolling 12-month time period as determined at the end of each calendar month.

\+ This emission limit represents an average over the time stated, and is not necessarily the peak one-hour emission rate.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
NA					

III. PROCESS/OPERATIONAL RESTRICTIONS

1. Within 90 calendar days of the date of permit approval, the permittee shall submit to the AQD District Supervisor, an approvable operation and maintenance plan. The plan shall contain the following:
   a) Operation and maintenance criteria for EUPILOTPLANT, add-on control device(s), and for the process and control device(s) monitoring equipment as well as a standardized checklist to document the operation and maintenance of the equipment;
   b) The work practice standards for the add-on control device(s) and monitoring equipment;
   c) Procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and
   d) A systematic procedure for identifying process equipment, add-on control device(s) and monitoring equipment malfunctions and for implementing corrective actions to address such malfunctions.

   The permittee shall submit amendments to the plan to the AQD District Supervisor as needed to address equipment modifications, operational changes, etc., or at the request of the AQD District Supervisor. **(R 336.1205(3), R 336.1225, R 336.1331, R 336.1702(a), R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any EUPILOTPLANT equipment vented through scrubbers SR-001, SR-002, or SR-003 unless the scrubber is installed, maintained, and operated in a satisfactory manner, as described in the operation and maintenance plan. Satisfactory operation includes maintaining the scrubber liquid flow rate in the range identified in the operation and maintenance plan. **(R 336.1205(3), R 336.1225, R 336.1702, R 336.1910)**

2. The permittee shall not operate any EUPILOTPLANT equipment vented through dust collectors EF-1, EF-3, DU-366A, or DU-366B unless the dust collector is installed, maintained, and operated in a satisfactory manner, as described in the operation and maintenance plan. **(R 336.1205(3), R 336.1301, R 336.1331, R 336.1910)**

3. Within 60 days of issuance of this permit, the permittee shall equip and maintain each scrubber with a liquid flow rate indicator. **(R 336.1205(3), R 336.1225, R 336.1702, R 336.1910)**

4. Within 60 days of issuance of this permit, the permittee shall equip and maintain each dust collector with a pressure drop indicator. **(R 336.1205(3), R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor the operation of scrubbers SR-001, SR-002, and SR-003, including alarms for the scrubber liquid flow rate and local indicators for the scrubber liquid flow rate, in accordance with the operation and maintenance plan. **(R 336.1205(3), R 336.1225, R 336.1702, R 336.1910)**

2. The permittee shall monitor the operation of dust collectors EF-1, EF-3, DU-366A, and DU-366B, including local indicators for the pressure drop across each dust collector, in accordance with the operation and maintenance plan. **(R 336.1205(3), R 336.1225, R 336.1301, R 336.1331, R 336.1910)**

3. The permittee shall keep a record of the materials processed in EUPILOTPLANT. This list shall include the compound name and chemical abstract system (CAS) number and a calculation demonstrating the emission rate of each material. For each air contaminant expected to be emitted through a scrubber, the permittee shall determine the expected scrubber control efficiency for that air contaminant. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

4. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), R 336.1225)**

5. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period VOC, individual HAP, total HAP, and PM-10 emission calculations for EUPILOTPLANT. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-SR-001	6	56	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
2. SV-SR-002	14	56	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
3. SV-SR-003	6	56	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
4. SV-EF-1	30	56	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
5. SV-EF-3	30	56	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
6. SV-DU-366A	30	56	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
7. SV-DU-366B	30	56	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)

IX. OTHER REQUIREMENTS

NA

Footnotes:

[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).