

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

May 20, 2019

PERMIT TO INSTALL

39-19

ISSUED TO

POET Biorefining – Caro, LLC

LOCATED AT

1551 Empire Drive
Caro, Michigan

IN THE COUNTY OF

Tuscola

STATE REGISTRATION NUMBER

N6996

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. 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: May 3, 2019	
DATE PERMIT TO INSTALL APPROVED: May 20, 2019	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

COMMON ACRONYMS	2
POLLUTANT / MEASUREMENT ABBREVIATIONS.....	3
GENERAL CONDITIONS	4
EMISSION UNIT SPECIAL CONDITIONS.....	6
EMISSION UNIT SUMMARY TABLE	6
EUFBCOOLER	8
FLEXIBLE GROUP SPECIAL CONDITIONS.....	10
FLEXIBLE GROUP SUMMARY TABLE	10
FGFERM&DIST	12
FGDDGSDRYERS.....	16
FGETHLOAD	20
FGNSPSVVa	22

COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/EGLE/department	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

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 Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, 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 Rule 210 (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 Rule 219 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 Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(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 Rule 301, 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 Rule 303 (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 Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT 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 (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUFBCOOLER	Fluidized Bed Cooler w/fabric filter collector	11/4/2002, Date of PTI	NA
EUFERMENTER1	Fermenter #1	11/4/2002	FGFERM&DIST, FGNSPSVVa
EUFERMENTER2	Fermenter #2	11/4/2002	FGFERM&DIST, FGNSPSVVa
EUFERMENTER3	Fermenter #3	11/4/2002	FGFERM&DIST, FGNSPSVVa
EUFERMENTER4	Fermenter #4	11/4/2002	FGFERM&DIST, FGNSPSVVa
EUFERMENTER5	Fermenter #5	10/20/2005	FGFERM&DIST, FGNSPSVVa
EUFERMENTER6	Fermenter #6	10/20/2005	FGFERM&DIST, FGNSPSVVa
EUFERMENTER7	Fermenter #7	4/1/2016	FGFERM&DIST, FGNSPSVVa
EUFERMENTER8	Fermenter #8	TBD	FGFERM&DIST, FGNSPSVVa
EUBEERWELL	Beer well	11/4/2002	FGFERM&DIST, FGNSPSVVa
EUBEERSTRIP	Beer stripper	11/4/2002	FGFERM&DIST, FGNSPSVVa
EUBEERSTRIP2	Beer stripper #2	4/1/2016	FGFERM&DIST, FGNSPSVVa
EURECTIFIER	Rectifier	11/4/2002	FGFERM&DIST, FGNSPSVVa
EUSIDESTRIP	Side stripper	11/4/2002	FGFERM&DIST, FGNSPSVVa
EUSIEVE	Molecular sieve	11/4/2002	FGFERM&DIST, FGNSPSVVa
EUSIEVE2	Molecular sieve #2	4/1/16	FGFERM&DIST, FGNSPSVVa
EUYEAST	Yeast tank	11/4/2002	FGFERM&DIST
EUEVAPORATOR	Evaporator	11/4/2002	FGFERM&DIST
EURTO	Regenerative Thermal Oxidizer	10/20/2005	FGDDGSDRYERS
EUTO&HRB	Thermal oxidizer and heat recovery boiler	10/20/2005	FGDDGSDRYERS
EUDDGSDRYER1	DDGS dryer	11/4/2002	FGDDGSDRYERS
EUDDGSDRYER2	DDGS dryer	11/4/2002	FGDDGSDRYERS
EUCENTRIFUGE1	Centrifuge #1	11/4/2002	FGDDGSDRYERS
EUCENTRIFUGE2	Centrifuge #2	11/4/2002	FGDDGSDRYERS
EUCENTRIFUGE3	Centrifuge #3	11/4/2002	FGDDGSDRYERS
EUCENTRIFUGE4	Centrifuge #4	11/4/2002	FGDDGSDRYERS
EUCENTRIFUGE5	Centrifuge #5	10/1/2005	FGDDGSDRYERS
EUCENTRIFUGE6	Centrifuge #6	4/1/2016	FGDDGSDRYERS

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUTRUCKLOAD3	Truck load spout #3 (for ethanol, including E85)	11/4/2002 5/22/2009	FGETHLOAD, FGNSPSVVa
EUTRUCKLOAD4	Truck load spout #4 (for ethanol, including E85)	11/4/2002 5/22/2009	FGETHLOAD, FGNSPSVVa
EURAILLOAD2	Rail load spout #2 (for ethanol, including E85)	11/4/2002 5/22/2009	FGETHLOAD, FGNSPSVVa
EUNATGASTANK1	Storage tank T-802 for denaturant (natural gasoline)	3/12/2008	FGNSPSTANKS
EUNATGASTANK2	Storage tank T-805 for denaturant (natural gasoline)	3/12/2008	FGNSPSTANKS
EU190TANK	Storage tank T-801 for 190 proof ethanol	11/4/2002	FGETHANOLTANKS
EU200TANK1	Storage tank T-803 for 200 proof ethanol	3/12/2008	FGETHANOLTANKS
EU200TANK2	Storage tank T-804 for 200 proof ethanol	3/12/2008	FGETHANOLTANKS
EUSTILLAGETANK	Whole Stillage Tank	4/1/2016	FGDDGSDRYERS

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 336.1291.

**EUFBCOOLER
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Fluidized Bed Cooler w/fabric filter collector

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Fabric filter collector (CE008)

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.0060 lbs per 1000 lbs of gas ^a	Hourly	EUFBCOOLER	SC V.1, VI.2	R 336.1331
2. PM10	0.65 lb/hr	Hourly	EUFBCOOLER	SC V.1, VI.2	40 CFR 52.21(c) & (d)
3. PM2.5	0.65 lb/hr	Hourly	EUFBCOOLER	SC V.1, VI.2	40 CFR 52.21(c) & (d)
4. VOC	7.54 lb/hr	Hourly	EUFBCOOLER	SC V.1, VI.1	R 336.1225, R 336.1702(a)

^aCalculated on a dry gas basis

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUFBCOOLER unless the fabric filter collector (CE008) is installed, maintained, and operated in a satisfactory manner. **(R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. Upon request of the AQD District Supervisor, the permittee shall verify PM, PM10, PM2.5, and VOC emission rates from EUFBCOOLER by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in Reference Test Method Table #1. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1225, R 336.1331, R 336.1702, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

Reference Test Method Table #1

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10/PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep production records on a monthly basis and other records necessary to demonstrate compliance with the VOC emission rate limit. The VOC emission rate shall be calculated based upon monthly records prorated to an hourly rate. **(R 336.1225, R 336.1702(a))**
2. The permittee shall monitor and record the pressure drop and/or a visible emission check of the fabric filter collector (CE008) on a daily basis, during days of operation, and will inspect the fabric filter collector (CE008) on an annual basis to confirm satisfactory operation. For the purpose of this condition, a visible emission check does not have to be in accordance with Method 9. If a check reveals any visible emissions from the vent (excluding uncombined water vapor), the permittee shall perform any maintenance required to eliminate visible emissions. The permittee shall keep records of the results of the visible emission check and of any maintenance performed after visible emissions are observed. **(R 336.1331, 40 CFR 52.21(c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

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. SV007	37	35	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGFERM&DIST	Fermentation and Distillation processes that exhaust to one of two packed-bed wet scrubbers (CE004 or CE014). If the scrubbers are down for maintenance the exhaust can be rerouted to the RTO (CE012). This flexible group is also subject to the requirements of 40 CFR Part 60, Subpart VVa.	EUFERMENTER1, EUFERMENTER2, EUFERMENTER3, EUFERMENTER4, EUFERMENTER5, EUFERMENTER6, EUFERMENTER7, EUFERMENTER8, EUBEERWELL, EUBEERSTRIP, EUBEERSTRIP2, EURECTIFIER, EUSIDESTRIP, EUSIEVE, EUSIEVE2, EUYEAST, EUEVAPORATOR, EURTO
FGDDGSDRYERS	Dried Distiller's Grains with Solubles (DDGS) Dryers and Centrifugation with the following air pollution control equipment: <ul style="list-style-type: none"> • Multiclone dust collector (CE006 & CE007) • Thermal Oxidizer & Heat Recovery Boiler (TO&HRB) (CE010) • Regenerative Thermal Oxidizer (RTO) (CE012) 	EUDDGSDRYER1, EUDDGSDRYER2, EUTO&HRB, EURTO, EUCENTRIFUGE1, EUCENTRIFUGE2, EUCENTRIFUGE3, EUCENTRIFUGE4, EUCENTRIFUGE5, EUCENTRIFUGE6, EUSTILLAGETANK
FGETHLOAD	Ethanol truck and rail load out. FGETHLOAD is subject to the requirements of 40 CFR Part 60, Subpart VVa.	EUTRUCKLOAD3, EUTRUCKLOAD4, EURAILLOAD2

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGNSPSVVa	All pumps, valves and pressure relief devices in light liquid and heavy liquid service; all valves and pressure relief devices in gas/vapor service; each open-ended valve or line and all associated closed vent systems and control devices. FGNSPSVVa is subject to the requirements of Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 of 40 CFR Part 60, Subpart VVa.	EUFERMENTER1, EUFERMENTER2, EUFERMENTER3, EUFERMENTER4, EUFERMENTER5, EUFERMENTER6, EUFERMENTER7, EUFERMENTER8, EUBEERWELL, EUBEERSTRIP, EUBEERSTRIP2, EURECTIFIER, EUSIDESTRIP, EUSIEVE, EUSIEVE2, EUTRUCKLOAD3, EUTRUCKLOAD4, EURAILLOAD2, EUNATGASTANK1, EUNATGASTANK2, EU190TANK, EU200TANK1, EU200TANK2

**FGFERM&DIST
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Fermentation and Distillation processes that exhaust to one of two packed-bed wet scrubbers (CE004 or CE014). If the scrubbers are down for maintenance the exhaust can be rerouted to the RTO (CE012). This flexible group is also subject to the requirements of 40 CFR Part 60, Subpart VVa.

Emission Unit: EUFERMENTER1, EUFERMENTER2, EUFERMENTER3, EUFERMENTER4, EUFERMENTER5, EUFERMENTER6, EUFERMENTER7, EUFERMENTER8, EUBEERWELL, EUBEERSTRIP, EUBEERSTRIP2, EURECTIFIER, EUSIDESTRIP, EUSIEVE, EUSIEVE2, EUYEAST, EUEVAPORATOR, EURTO

POLLUTION CONTROL EQUIPMENT

Packed-bed wet scrubbers (CE004 or CE014); regenerative thermal oxidizer (RTO) (CE012) for Scrubber Bypass Episode.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	19.66 lb/hr**	Hourly	FGFERM&DIST	SC IV.1, SC IV.2, SC V.1, SC VI.1, SC VI.2, SC VI.3, SC VI.4	R 336.1225, R 336.1702(a)
2. VOC	30.74 lb/hr***	Hourly	FGFERM&DIST	SC V.2, SC VI.5	R 336.1225, R 336.1702(a)
3. Acetaldehyde (CAS No. 75-07-0)	1.50 lb/hr1**	Hourly	FGFERM&DIST	SC IV.1, SC IV.2, SC V.1	R 336.1225

**Emission limit will apply when venting through one of the scrubbers (CE004 or CE014).

***Emission Limit will apply when venting through the RTO (CE012).

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee shall maintain a minimum overall VOC control efficiency of 97.0 percent across the scrubbers (CE004 and CE014). **(R 336.1225, R 336.1702(a))**
- The permittee shall not operate the scrubber (CE004 or CE014) at a reduced water flow rate unless a revised malfunction abatement plan (MAP) has been developed and implemented for FGFERM&DIST. The revised plan shall be updated as necessary to reflect changes in equipment, to implement corrective actions and to address malfunctions. The MAP shall be made available to the AQD upon request. **(R 336.1910, R 336.1912)**
- Scrubber Bypass Episode: the permittee may operate equipment in FGFERM&DIST without the associated scrubber and chiller installed, maintained, and operated in a satisfactory manner if, in the event that both associated scrubbers (CE004 and CE014) are unavailable due to maintenance or other operational reason, the equipment in FGFERM&DIST is vented to the RTO (CE012). The RTO must be installed, maintained and operated in a satisfactory manner according to the MAP. The permittee shall not operate FGFERM&DIST while bypassing the scrubbers for more than 100 hours per 12-month rolling time period. **(R 336.1225, R 336.1702(a), R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any equipment in FGFERM&DIST unless the chiller associated with the scrubber in operation (CE004 or CE014) is installed, maintained, and operated in a satisfactory manner, except allowed by SC III.3. Satisfactory operation of the chiller includes maintaining the exhaust temperature of the scrubber in the range identified in the MAP as constituting satisfactory operation. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
2. The permittee shall not operate any equipment in FGFERM&DIST unless one of the scrubbers (CE004 or CE014) is installed, maintained, and operated in a satisfactory manner, except as allowed by SC III.3. Satisfactory operation of the scrubber includes maintaining the scrubber liquid flow rate and pressure drop in the range identified in the MAP as constituting satisfactory operation. An excursion of the scrubber liquid flow rate and pressure drop limit is the exceedance of the operational parameter limit or acceptable range defined in the MAP. Upon detecting an excursion of the liquid flow rate and pressure drop limit, the permittee shall restore operation of the scrubber to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
3. The permittee shall equip and maintain each scrubber (CE004 and CE014) with a liquid flow rate indicator capable of accurately indicating the scrubber liquid flow rate over the entire range of flow rates that constitutes satisfactory operation, as described in the MAP. This includes, but is not limited to, maintaining necessary parts for routine repairs of the monitoring equipment, and maintaining the device according to manufacturer's specifications (e.g., equipment calibration, etc.).² **(R 336.1225, R 336.1702(a), R 336.1910)**
4. The permittee shall equip and maintain each scrubber (CE004 and CE014) with a pressure drop measuring device. This includes, but is not limited to, maintaining necessary parts for routine repairs of the monitoring equipment, and maintaining the device according to manufacturer's specifications (e.g., equipment calibration, etc.). **(R 336.1225, R 336.1702(a), R 336.1910)**
5. The permittee shall equip and maintain each scrubber (CE004 and CE014) with a temperature indicator that is capable of accurately indicating the exhaust temperature over the entire range of temperatures that constitutes satisfactory operation as described in the MAP. **(R 336.1225, R 336.1702(a), R 336.1910)**

V. TESTING/SAMPLING

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

1. On or before six months of the ROP expiration date, the permittee shall verify VOC and Acetaldehyde emission rates from FGFERM&DIST by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in Reference Test Method Table #6. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1225, R 336.1702(a), R 336.1902, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

Reference Test Method Table #6

Pollutant	Test Method Reference
VOCs	40 CFR Part 60, Appendix A
Acetaldehyde	40 CFR Part 63, Appendix A

2. Upon request of the AQD District Supervisor, the permittee shall verify VOC emission rates from FGFERM&DIST during the Scrubber Bypass Episode, as described in SC III.3, by testing at the owner's expense in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA

Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1225, R 336.1702(a), R 336.1902, R 336.2001, R 336.2003, R336.2004, 40 CFR 52.21(c) & (d))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702(a))**
2. The permittee shall monitor the scrubber liquid flow rate and exhaust temperature of the operational scrubber (CE004 or CE014) on a continuous basis during operation of FGFERM&DIST. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
3. The permittee shall record the scrubber liquid flow rate, exhaust temperature and pressure drop of the operational scrubber (CE004 or CE014) on a daily basis. The data point recorded shall be the average of all data collected during the operating day. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
4. The permittee shall keep production records on a monthly basis and other records necessary to demonstrate compliance with the VOC emission rate limit listed in SC I.1. The VOC emission rate shall be calculated based upon monthly records, prorated to an hourly rate. The permittee shall keep these records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**
5. The permittee shall keep, in a satisfactory manner, records of the number of scrubber bypass episodes per calendar month and 12-month rolling time period as determined at the end of each calendar month. The permittee shall also record the duration, in hours, of each scrubber bypass episode and the reason the scrubber bypass episode occurred. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUFERMENTER8. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

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. SV004	24 ¹	83 ¹	R 336.1225
2. SV024*	44 ¹	100 ¹	R 336.1225
3. SV029	24 ¹	61 ¹	R 336.1225
*During a bypass episode only			

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal NSPS Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006, as specified in 40 CFR Part 60, Subparts A and VVa, as they apply. **(40 CFR Part 60, Subparts A and VVa)**

Footnotes:

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

**FGDDGSDRYERS
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Dried Distiller’s Grains with Solubles (DDGS) Dryers and Centrifugation with the following air pollution control equipment:

- Multiclone dust collector (CE006 & CE007)
- Thermal Oxidizer & Heat Recovery Boiler (TO&HRB) (CE010)
- Regenerative Thermal Oxidizer (RTO) (CE012)

Emission Unit: EUDDGSDRYER1, EUDDGSDRYER2, EUTO&HRB, EURTO, EUCENTRIFUGE1, EUCENTRIFUGE2, EUCENTRIFUGE3, EUCENTRIFUGE4, EUCENTRIFUGE5, EUCENTRIFUGE6, EUSTILLAGETANK

POLLUTION CONTROL EQUIPMENT

Multiclone dust collector (CE006 & CE007), Thermal Oxidizer & Heat Recovery Boiler (TO&HRB) (CE010), Regenerative Thermal Oxidizer (RTO) (CE012).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	4.00 lb/hr	Hourly	EUTO&HRB	SC V.2, VI.4, 5	R 336.1331
2. PM10	4.00 lb/hr	Hourly	EUTO&HRB	SC V.1, VI.4, 5	40 CFR 52.21(c) & (d)
3. PM2.5	4.00 lb/hr	Hourly	EUTO&HRB	SC V.1, VI.4, 5	40 CFR 52.21(c) & (d)
4. PM	6.00 lb/hr	Hourly	EURTO	SC V.2, VI.4, 5	R 336.1331
5. PM10	6.00 lb/hr	Hourly	EURTO	SC V.1, VI.4, 5	40 CFR 52.21(c) & (d)
6. PM2.5	6.00 lb/hr	Hourly	EURTO	SC V.1, VI.4, 5	40 CFR 52.21(c) & (d)
7. VOC	9.00 lb/hr combined**	Hourly	FGDDGSDRYERS	SC V.1, VI.1, 2, 3, 6	R 336.1225, R 336.1702(a), R 336.1901
8. VOC	6.13 lb/hr combined***	Hourly	EUCENTRIFUGE1 to 6 and EUSTILLAGETANK	SC V.3, VI.1, 2, 3, 7	R 336.1225, R 336.1702(a), R 336.1901
9. NOx	0.10 lb/MMBtu	Hourly	FGDDGSDRYERS	SC V.1	40 CFR 52.21(c) & (d)

**Combined refers to TO&HRB stack and RTO stack.

***Combined refers to stack 025 when producing wet cake and TO&HRB and RTO are not operating.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only use sweet natural gas as fuel in EUDDGSDRYER1 and EUDDGSDRYER2. **(40 CFR 52.21(c) & (d))**
2. The permittee shall only use sweet natural gas as supplemental fuel in the thermal oxidizer EUTO&HRB (CE010) and in the regenerative thermal oxidizer EURTO (CE012). **(40 CFR 52.21(c) & (d))**

3. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and Dc, as they apply to the equipment in FGDDGSDRYERS. **(40 CFR Part 60, Subparts A & Dc)**
4. The permittee shall only exhaust emissions from EUCENTRIFUGE1 to 6 and EUSTILLAGETANK to stack SV025 when wet cake is produced. Otherwise, the permittee shall not operate EUCENTRIFUGE1 to 6 and EUSTILLAGETANK unless EUTO&HRB (CE010) or EURTO (CE012) are installed, maintained and operated in a satisfactory manner according to the MAP. **(R 336.1225, R 336.1702(a), R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate either dryer in FGDDGSDRYERS unless the associated multiclone (CE006 or CE007) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of each multiclone includes maintaining it according to the MAP. **(R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall not feed materials to either dryer in FGDDGSDRYERS unless either the thermal oxidizer EUTO&HRB (CE010) or the regenerative thermal oxidizer EURTO (CE012) is installed, maintained, and operated in a satisfactory manner and overall operation complies with a scenario in SC IV.2(c). Satisfactory operation includes taking the actions listed below: **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1901, R 336.1910, 40 CFR 52.21(c) & (d))**
 - a. Satisfactory operation of the thermal oxidizer (CE010) includes maintaining it according to the MAP, attaining a minimum VOC destruction efficiency of 95.0 percent by weight, and maintaining a minimum temperature consistent with satisfactory operation, as described in the MAP;
 - b. Satisfactory operation of the regenerative thermal oxidizer (CE012) includes maintaining it according to the MAP, attaining a minimum VOC destruction efficiency of 95.0 percent by weight, and maintaining a minimum temperature consistent with satisfactory operation, as described in the MAP;
 - c. Acceptable operating scenarios for each dryer and oxidizer in FGDDGSDRYERS are the following:
 - i. If both oxidizers are operating, the permittee may operate one or both dryers;
 - ii. If the thermal oxidizer (CE010) is the only oxidizer operating, the permittee may operate one or both dryers;
 - iii. If the regenerative thermal oxidizer (CE012) is the only oxidizer operating, the permittee shall not operate more than one dryer.

V. TESTING/SAMPLING

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

1. On or before six months of the ROP expiration date, the permittee shall verify PM, PM10, PM2.5, VOC, and NOx emission rates from EUTO&HRB (CE010) and EURTO (CE012) by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in Reference Test Method Table #7. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1331, R 336.1702, R 336.1902, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

Reference Test Method Table #7

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10/PM2.5	40 CFR Part 51, Appendix M
NOx	40 CFR Part 60, Appendix A
VOCs	40 CFR Part 60, Appendix A

2. Upon request of the AQD District Supervisor, the permittee shall verify PM emission rates from EUTO&HRB (CE010) and EURTO (CE012) by testing at the owner's expense in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A or Part 10 of the Michigan Air Pollution Control Rules. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1331, R 336.1902, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**
3. Upon request of the AQD District Supervisor, the permittee shall verify VOC emission rates from EUCENTRIFUGE1 to 6 and EUSTILLAGETANK by testing at the owner's expense in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1225, R 336.1702, R 336.1902, R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner a device to monitor and record on a continuous basis the minimum temperature to which exhaust gases from the dryers are exposed in the thermal oxidizer EUTO&HRB (CE010). **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
2. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner a device to monitor and record on a continuous basis the minimum temperature to which exhaust gases from the dryers are exposed in the regenerative thermal oxidizer EURTO (CE012). **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
3. The permittee shall keep, in a satisfactory manner, continuous records of the minimum temperature to which exhaust gases from the dryers are exposed in the thermal oxidizer EUTO&HRB (CE010) and the regenerative thermal oxidizer EURTO (CE012). **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
4. The permittee shall monitor the multiclone dust collector (CE006 & CE007) pressure drop on a continuous basis during operation of FGDDGSDRYERS. **(R 336.1331, 40 CFR 52.21(c) & (d))**
5. The permittee shall record the multiclone dust collector (CE006 & CE007) pressure drop on a daily basis. The data point recorded shall be the average of all data collected during the operating day. **(40 CFR 52.21(c) & (d))**
6. The permittee shall keep monthly production records, monthly records of the ethanol content of distillation bottoms, and other records necessary to demonstrate compliance with the VOC emission rate limit listed in SC I.7 from FGDDGSDRYERS. The emission rate shall be calculated based upon monthly records, prorated to an hourly rate. The permittee shall keep these records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
7. The permittee shall keep monthly wet cake production records and other records necessary to demonstrate compliance with the VOC emission rate limit listed in SC I.8 when EUCENTRIFUGE1 to 6 and EUSTILLAGETANK are not being vented to EUTO&HRB (CE010) or EURTO (CE012). The emission rate shall be calculated based upon monthly records, prorated to an hourly rate based on actual hours operated manufacturing wet cake when EUCENTRIFUGE1 to 6 and EUSTILLAGETANK are not being vented to EUTO&HRB (CE010) or EURTO (CE012). The permittee shall keep these records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

8. The permittee shall keep, in a satisfactory manner, records of the natural gas consumed by EUTO&HRB on a daily basis. The permittee shall keep these records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1331, 40 CFR Part 60, Subparts A and Dc)**
9. The permittee shall continuously monitor the temperature of the thermal oxidizer EUTO&HRB (CE010) and the regenerative thermal oxidizer EURTO (CE012). Continuous shall be defined as sampling at least every 15 minutes. **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1901, R 336.1910, 40 CFR 52.21(c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

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. SV006	80	125	R 336.1225, 40 CFR 52.21(c) & (d)
2. SV024	44	100	R 336.1225, 40 CFR 52.21(c) & (d)
3. SV025 ¹	6	35	R 336.1225

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

FGETHLOAD FLEXIBLE GROUP CONDITIONS
--

DESCRIPTION

Ethanol truck and rail load out. FGETHLOAD is subject to the requirements of 40 CFR Part 60, Subpart VVa.

Emission Unit: EUTRUCKLOAD3, EUTRUCKLOAD4, EURAILLOAD2

POLLUTION CONTROL EQUIPMENT

Thermal oxidizer EUTO&HRB (CE010) for truck load out.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The FGETHLOAD throughput shall not exceed the following:
 - a. 5,000,000 gallons per 12-month rolling time period of natural gasoline, hereinafter “denaturant”;
 - b. 95,000,000 gallons per 12-month rolling time period of total ethanol and denaturant, combined;
 - c. A total of 5,000,000 gallons per 12-month rolling time period of total ethanol and denatured ethanol, combined under all of the following conditions combined:
 - i. While the displaced vapor contents from loading trucks through EUTRUCKLOAD3 and EUTRUCKLOAD4 are not being controlled by the thermal oxidizer (CE010);
 - ii. While transferring through EURAILLOAD2 to receiving railcars that last transported denaturant.

Each annual throughput limit above shall be based on a rolling 12-month time period as determined at the end of each calendar month. **(R 336.1225, R 336.1227(2), R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not load trucks through EUTRUCKLOAD3 (SV014) while the vapor recovery system fan is not operating.¹ **(R 336.1225, R 336.1227(2))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not transfer material through EURAILLOAD2 unless the receiving railcar has been certified as dedicated to transporting ethanol, including denatured ethanol, except as allowed by SC II.1(c)(ii).¹ **(R 336.1225, R 336.1227(2))**
2. Except as allowed by SC II.1(c)(i), the permittee shall not load trucks through EUTRUCKLOAD3 and EUTRUCKLOAD4 unless the thermal oxidizer (CE010) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the thermal oxidizer (CE010) is specified in FGDDGSDRYERS SC IV.2(a). **(R 336.1225, R 336.1702(a), R 336.1901, 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 keep, in a satisfactory manner, the following records for FGETHLOAD for each calendar month and for the rolling 12-month time period ending each calendar month:
 - a. Throughput of denaturant, ethanol, and denatured ethanol for FGETHLOAD;¹ **(R 336.1225, R 336.1227(2))**
 - b. Throughput of total ethanol and denatured ethanol for EUTRUCKLOAD3 and EUTRUCKLOAD4 combined while displaced vapor contents of the trucks being loaded are exhausted through SV014 or SV015;¹ **(R 336.1225, R 336.1227(2))**
 - c. Throughput of total ethanol and denatured ethanol for EURAILLOAD2 to receiving railcars that last transported denaturant;¹ **(R 336.1225, R 336.1227(2))**
 - d. Total of throughputs recorded for SC VI.1.b and SC VI.1.c;¹ **(R 336.1225, R 336.1227(2))**
 - e. Railcars receiving material through EURAILLOAD2 each month and which railcars have been certified as dedicated to transporting ethanol, including denatured ethanol.¹ **(R 336.1225, R 336.1227(2))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

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. SV006	80	125	R 336.1225
2. SV014	12	10	R 336.1225
3. SV015	12	10	R 336.1225
4. SV016	4	25	R 336.1225

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal NSPS Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006, as specified in 40 CFR Part 60, Subparts A and VVa, as they apply. **(40 CFR Part 60, Subparts A and VVa)**

Footnotes:

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

FGNSPSVVa FLEXIBLE GROUP CONDITIONS
--

DESCRIPTION

All pumps, valves and pressure relief devices in light liquid and heavy liquid service; all valves and pressure relief devices in gas/vapor service; each open-ended valve or line and all associated closed vent systems and control devices. FGNSPSVVa is subject to the requirements of Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 of 40 CFR Part 60, Subpart VVa.

Emission Unit: EUFERMENTER1, EUFERMENTER2, EUFERMENTER3, EUFERMENTER4, EUFERMENTER5, EUFERMENTER6, EUFERMENTER7, EUFERMENTER8, EUBEERWELL, EUBEERSTRIP, EUBEERSTRIP2, EURECTIFIER, EUSIDESTRIP, EUSIEVE, EUSIEVE2, EUTRUCKLOAD3, EUTRUCKLOAD4, EURAILLOAD2, EUNATGASTANK1, EUNATGASTANK2, EU190TANK, EU200TANK1, EU200TANK2

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate each pressure relief device in gas/vapor service with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485a(c), except during pressure releases and as provided in 40 CFR 60.482-4a(c) and (d). After each pressure release, the permittee shall return the pressure relief device to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than five calendar days after the pressure release, except as provided in 40 CFR 60.482-9a. No later than five calendar days after the pressure release, the permittee shall monitor the pressure relief device to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. **(40 CFR 60.482-4a(a) and (b))**
2. The permittee shall design and operate enclosed combustion devices used to comply with 40 CFR Part 60, Subpart VVa to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 ppmv, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 C. **(40 CFR 60.482-10a(c))**
3. The permittee shall, if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors follow either one of the following procedures: **(40 CFR 60.482-8a(a))**
 - a. Monitor the equipment within 5 days by the method specified in 40 CFR 60.485a(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. **(40 CFR 60.482-8a(a)(1))**

- i. When a leak is detected, the permittee shall repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9a. The first attempt at the repair shall be made no later than five calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices described in 40 CFR 60.482-7a(e). **(40 CFR 60.482-8a(b) through (d))**
 - b. Eliminate the visual, audible, olfactory, or other indication of a potential leak. **(40 CFR 60.482-8a(a)(2))**
 4. The permittee may delay repair of equipment for which leaks have been detected if: **(40 CFR 60.482-9a)**
 - a. Repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. **(40 CFR 60.482-9a(a))**
 - b. The equipment is isolated from the process and does not remain in VOC service. **(40 CFR 60.482-9a(b))**
 - c. The permittee demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair and when repair procedures are affected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482-10a. **(40 CFR 60.482-9a(c))**
 - d. For pumps, if repair requires the use of a dual mechanical seal system that includes a barrier fluid system and repair is completed as soon as practicable, but not later than six months after the leak was detected. **(40 CFR 60.482-9a(d))**

Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than six months after the first process unit shutdown. **(40 CFR 60.482-9a(e))**

5. The permittee shall repair leaks of a closed vent system, as indicated by an instrument reading greater than 500 ppmv above background or by visual inspections, as soon as practicable except as provided below. A first attempt at repair shall be made no later than five calendar days after the leak is detected. Repair shall be completed no later than 15 calendar days after the leak is detected. **(40 CFR 60.482-10a(g))**
 - a. Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the permittee determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. **(40 CFR 60.482-10a(h))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip each open-ended valve or line with a cap, blind flange, plug or a second valve, except as provided in 40 CFR 60.482-1a(c); 40 CFR 60.482-6a(d) or (e), which shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. In addition, the permittee shall ensure that: **(40 CFR 60.482-6a)**
 - a. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed; **(40 CFR 60.482-6a(b))**
 - b. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with 40 CFR 60.482-6a(a) at all other times. **(40 CFR 60.482-6a(c))**
 2. The permittee shall operate closed vent systems and control devices used to comply with 40 CFR Part 60, Subpart VVa at all times when emissions may be vented to them. **(40 CFR 60.482-10a(m))**

3. The permittee shall, when each leak is detected as specified in 40 CFR 60.482-2a, 60.482-7a, 60.482-8a, 60.482-10a do the following:
 - a. Attach a weatherproof and readily visible identification, marked with the equipment identification number, to the leaking equipment. The identification on a valve may be removed after it has been monitored for two successive months as specified in 40 CFR 60.482-7a(c) and no leak has been detected during those two months. The identification on equipment except on a valve, may be removed after it has been repaired. **(40 CFR 60.486a(b))**
 - b. Record the following information in a log that shall be kept for 5 years in a readily accessible location: **(40 CFR 60.486a(c))**
 - i. The instrument and operator identification numbers and the equipment identification number;
 - ii. The date the leak was detected and the dates of each attempt to repair the leak;
 - iii. Repair methods applied in each attempt to repair the leak;
 - iv. “Above 10,000” if the maximum instrument reading measured by the methods specified in 40 CFR 60.485a(a) after each repair attempt is equal to or greater than 10,000 ppm;
 - v. “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak;
 - vi. The signature of the permittee (or designate) whose decision it was that repair could not be affected without a process shutdown;
 - vii. The expected date of successful repair of the leak if a leak is not repaired within 15 days;
 - viii. Dates of process unit shutdowns that occur while the equipment is unrepaired;
 - ix. The date of successful repair of the leak.

V. TESTING/SAMPLING

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

1. The permittee shall demonstrate compliance with the requirements of 40 CFR Part 60, Subparts A and VVa within 180 days of initial startup. All required testing shall be at the owner’s expense. The permittee shall notify the AQD District Supervisor in writing within 15 days of the date of commencement of trial operation in accordance with 40 CFR 60.7(a)(3). Performance testing procedures shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 60, Appendix A. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Compliance with 40 CFR 60.482-1a through 40 CFR 60.482-10a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 CFR 60.485a. Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482-2a to 40 CFR 60.482-10a if it is identified as required in 40 CFR 60.486a(e)(5). **(R 336.1225, R 336.1702(b), 40 CFR Part 60, Subparts A and VVa, 40 CFR 60.482-1a, 40 CFR 60.485a)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall monitor each pump in light liquid service as follows:
 - a. Check, by visual inspection, each calendar week for indications of liquids dripping from the pump seal, except as provided in 40 CFR 60.482-1a(f). If there are indications of liquids dripping from the pump seal, the permittee shall follow the procedure specified in 40 CFR 60.482-2a(b)(2)(i) or 40 CFR 60.482-2a(b)(2)(ii). **(40 CFR 60.482-2a(a)(2) and 40 CFR 60.482(a)(b)(2))**
 - b. Monitor monthly to detect leaks by the methods specified in 40 CFR 60.485a(b), except as provided in 40 CFR 60.482-1a(c) and (f) and 40 CFR 60.482-2a(d), (e), and (f). If an instrument reading of 2,000 ppm or greater is measured, a leak is detected. **(40 CFR 60.482-2a(a)(1) and 40 CFR 60.482-2a(b)(1)(ii))**

When a leak is detected, the permittee shall repair it as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9a. A first attempt at repair shall be made no later than five calendar days after each leak is detected. **(40 CFR 60.482-2a(c))**

2. The permittee shall monitor each valve in gas/vapor service and in light liquid service monthly to detect leaks by the methods specified in 40 CFR 60.485a(b) and shall comply with the following, except as provided in 40 CFR 60.482-7a(f), (g) and (h); 40 CFR 60.482-1a(c) and (f); 40 CFR 60.483-1a and 40 CFR 60.483-2a: **(40 CFR 60.482-7a)**
 - a. If an instrument reading of 500 ppm or greater is measured, a leak is detected; **(40 CFR 60.482-7a(b))**
 - b. Any valve for which a leak is not detected for two successive months may be monitored for the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months; **(40 CFR 60.482-7a(c))**
 - c. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR 60.482-9a. A first attempt at repair shall be made no later than five calendar days after each leak is detected. **(40 CFR 60.482-7a(d))**
 - d. First attempts at repair include, but are not limited to, the following best practices where practicable: **(40 CFR 60.482-7a(e))**
 - i. Tightening of bonnet bolts;
 - ii. Replacement of bonnet bolts;
 - iii. Tightening of packing gland nuts;
 - iv. Injection of lubricant into lubricated packing.
 - e. Any valve that is designated, as described in 40 CFR 60.486a(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the monthly monitoring if the valve has no external actuating mechanism in contact with the process fluid, is operated with emissions less than 500 ppm above background as determined by the method specified in 40 CFR 60.485a(c) and is tested for compliance with the 500 ppm above background instrument reading initially upon designation, annually, and at other times requested by the AQD District Supervisor; **(40 CFR 60.482-7a(f))**
 - f. Any valve that is designated, as described in 40 CFR 60.486a(f)(1), as an unsafe-to-monitor valve is exempt from the monthly monitoring if the permittee demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of performing monthly monitoring, and the permittee adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times; **(40 CFR 60.482-7a(g))**
 - g. Any valve that is designated, as described in 40 CFR 60.486a(f)(2), as a difficult-to-monitor valve is exempt from the monthly monitoring if: **(40 CFR 60.482-7a(h))**
 - i. The permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface;
 - ii. Has less than 3% of its total number of valves designated as difficult-to-monitor;
 - iii. The permittee follows a written plan that requires monitoring of the valve at least once per calendar year.
3. The permittee shall monitor control devices used to comply with 40 CFR Part 60, Subpart VVa to ensure that they are operated and maintained in conformance with their designs. **(40 CFR 60.482-10a(e))**
4. The permittee shall inspect each closed vent system according to the procedures and schedule specified in 40 CFR 60.482-10a(f), except as follows: **(40 CFR 60.482-10a(f))**
 - a. The vapor collection system or closed vent system is operated under a vacuum; **(40 CFR 60.482-10a(i))**
 - b. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10a(l)(1), as unsafe to inspect are exempt from the inspection requirements if they comply with the following: **(40 CFR 60.482-10a(j))**
 - i. The permittee determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger; and
 - ii. The permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times;
 - c. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10a(l)(2), as difficult to inspect are exempt from the inspection requirements if they comply with the following: **(40 CFR 60.482-10a(k))**

- i. The permittee demonstrates that the equipment cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface;
 - ii. Has less than 3% of the total number of closed vent system equipment designated as difficult to inspect;
 - iii. The permittee follows a written plan that requires inspection of the equipment at least once every five years. A closed vent system is exempt from inspection if it is operated under a vacuum.
5. The permittee shall record the following information: **(40 CFR 60.482-10a(l))**
 - a. Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment;
 - b. Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment;
 - c. For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486a(c);
 - d. For each inspection conducted in accordance with 40 CFR 60.485a(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected;
 - e. For each visual inspection conducted in accordance with 40 CFR 60.482-10a(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.
6. The permittee shall record the following information pertaining to the design requirements for closed vent systems and control devices described in 40 CFR 60.482-10a. This information shall be kept in a readily accessible location: **(40 CFR 60.486a(d))**
 - a. Detailed schematics, design specifications, and piping and instrumentation diagrams;
 - b. The dates and descriptions of any changes in the design specifications;
 - c. A description of the parameter or parameters monitored, as required in 40 CFR 60.482-10a(e). To ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring;
 - d. Periods when the closed vent systems and control devices required in 40 CFR 60.482-2a and 40 CFR 60.482-4a are not operated as designed, including periods when a flare pilot light does not have a flame;
 - e. Dates of startups and shutdowns of the closed vent systems and control devices required in 40 CFR 60.482-2a and 40 CFR 60.482-4a.
7. The permittee shall record the following information pertaining to all equipment subject to the requirements in 40 CFR 60.482-1a to 40 CFR 60.482-10a. This information shall be kept in a readily accessible location: **(40 CFR 60.486a(e))**
 - a. A list of identification numbers for equipment subject to the requirements in 40 CFR Part 60 Subpart VVa;
 - b. A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-2a(e) and 40 CFR 60.482-7a(f). The designation of this equipment shall be signed by the permittee;
 - c. A list of equipment identification numbers for pressure relief devices required to comply with 40 CFR 60.482-4a;
 - d. The dates of each compliance test as required in 40 CFR 60.482-2a(e), 60.482-4a, and 60.482-7a(f), the background level measured during each compliance test, and the maximum instrument reading measured at the equipment during each compliance test;
 - e. A list of identification numbers for equipment in vacuum service.
8. The permittee shall record the following information pertaining to all valves subject to the requirements of 40 CFR 60.482-7a(g) and (h) and to all pumps subject to the requirements of 40 CFR 60.482-2a(g). This information shall be kept in a readily accessible location: **(40 CFR 40.486a(f))**
 - a. A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump;

- b. A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.
9. The permittee shall record a schedule of monitoring and the percent of valves found leaking during each monitoring period for valves complying with 40 CFR 60.483-2a. **(40 CFR 60.486a(g))**
10. The permittee shall record the design criterion required in 40 CFR 60.482-2a(d)(5) and an explanation of the design criterion and any changes to this criterion and the reasons for the changes. This information shall be kept in a readily accessible location. **(40 CFR 60.486a(h))**
11. The permittee shall record the following information for use in determining exemptions as provided in 40 CFR 60.480a(d). This information shall be kept in a readily accessible location: **(40 CFR 60.486a(i))**
 - a. An analysis demonstrating the design capacity of the affected facility;
 - b. A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol; and
 - c. An analysis demonstrating that equipment is not in VOC service.
12. The permittee shall record information and data used to demonstrate that a piece of equipment is not in VOC service. This information shall be kept in a readily accessible location. **(40 CFR 60.486a(j))**

VII. REPORTING

1. The permittee shall submit reports as required to comply with the federal NSPS as specified in 40 CFR Part 60, Subparts A and VVa. Information required to be submitted to the Administrator shall be submitted to the AQD District Supervisor in an acceptable format within 30 days following the end of the semiannual period in which the data were collected. Information required to be submitted includes semiannual reports, beginning six months after the initial startup date. The initial semiannual report shall include the information listed in 40 CFR 60.487a(b) and all semiannual reports shall include the information listed in 40 CFR 60.487a(c). The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.487a)**

VIII. STACK/VENT RESTRICTION(S)

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

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in the 40 CFR Part 60, Subparts A and VVa, as they apply to the equipment in FGNSPSVVa. **(40 CFR Part 60, Subparts A and VVa)**
2. The permittee shall comply with all provisions of the federal NSPS as specified in 40 CFR Part 60, Subparts A and Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, as they apply. **(40 CFR Part 60, Subparts A and Kb)**

Footnotes:

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