

Department of Environmental Quality
 Eastern Region
 Air Quality Program

Standard
 AIR CONTAMINANT DISCHARGE PERMIT
 REVIEW REPORT

Pacific Ethanol, Inc.
 71335 Rail Loop Drive
 Boardman, OR, 97818
 (503) 490-1070

Unassigned emissions	
Emission credits	
Source test	X
COMS	
CEMS	
Compliance schedule	
Special conditions	
Annual report	X
Semi-annual report	X
Quarterly report	

Monthly report	
Excess emissions report	
NSPS	X
NESHAP	
NSR	
PSD	
RACT	
FCE	
Public Notice	X

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PERMITTING ACTION

1. The proposed permit is a new permit for a new source.

OTHER PERMITS

2. No other permits have been issued or are required by the Department of Environmental Quality for this source.

ATTAINMENT STATUS

3. The source is located in an attainment area for all pollutants.
4. The source is not located within 10 kilometers of a Class I Air Quality Protection Area.

SOURCE DESCRIPTION

OVERVIEW

5. The permittee operates a fuel-grade ethanol production plant in Boardman, OR. The facility was built in 2006. The maximum plant production is 40 million gallons of ethanol per year (42.5 MG per year denatured ethanol) from approximately 15.4 million bushels (431,200 tons) of corn per year. The facility includes the following major plant processes:
 - a. **Grain Handling and Processing** - corn is delivered to the plant via truck or rail, conveyed to either storage or the scalping process, then to milling in hammermills. This process includes the following equipment:
 - i. EU01 - Grain Truck Receiving
 - ii. EU02 - Grain Rail Receiving
 - iii. EU03 - Grain Elevator
 - iv. EU04 - Conveyors
 - v. EU05 - Grain Bins
 - vi. EU06 - Scalper
 - vii. EU07 - Grinding Surge Bin
 - viii. EU08, EU09 & EU10 - Hammermills 1, 2 & 3
 - b. **Fermentation** - The meal from the hammermills is mixed with water and enzymes, and is heated to liquefy the mixture, which converts the starch to sugars (saccharification). The resulting mash in the slurry tank is then mixed with yeast and additional enzymes in the fermentation tanks for a batch process of app. 48 hours hold. The resultant liquid, called "beer", contains 10-15% ethanol by weight and is stored in the beerwell. The carbon dioxide from the fermentation process is scrubbed in a packed tower scrubber. This process includes the following equipment:
 - i. EU23 - Slurry Tank
 - ii. EU17 - Yeast Tank
 - iii. EU12, EU13, EU14 & EU15 - Fermentation Tanks 1, 2, 3 & 4
 - iv. EU16 - Beerwell

- c. **Distillation** - The beer is then sent through a de-gas vessel and distilled in a three-column process consisting of a beer stripper, side stripper and rectifier. The top product of the distillation process is app. 95% ethanol and 5% water (190 proof), and is sent onto molecular sieves to remove the remaining water to produce 100% ethanol, (200 proof). The bottom product is the whole stillage (i.e. spent grain and liquids), that is centrifuged. The resulting centrate is concentrated in an evaporator to produce an organic syrup, which will be mixed with the centrifuged spent grain. The resulting product, known as wet cake, will be used as animal feed. This process includes the following equipment:
- i. EU24 - De-gas Vessel
 - ii. EU18 - Beer Stripper
 - iii. EU22 - Side Stripper
 - iv. EU21 - Rectifier
 - v. EU19 - Molecular Sieve
- d. **Steam Production** - Two Boilers, 75.6 MMBtu/hr rated design heat input capacity each, will provide steam heat for the slurry tank, fermentation tanks and the distillation columns. These boilers combust natural gas, and are capable of producing 52,000 lbs/hour steam each. This process includes the following equipment:
- i. EU26 - Boiler 1
 - ii. EU27 - Boiler 2
- e. **Liquid storage** - The tank farm consists of storage tanks, all equipped with internal floating roofs. The tanks will store 190 proof ethanol, 200 proof ethanol, denaturant (gasoline) and denatured ethanol. The ethanol loadout terminal will be controlled by a flare. This process includes the following equipment:
- i. TK05 - 190 Proof Ethanol Storage Tank - 103,000 gallons
 - ii. TK03 & TK04 - 200 Proof Ethanol Storage Tanks - 103,000 gallons each
 - iii. TK 06 - Denaturant (Gasoline) Storage Tank - 60,000 gallons
 - iv. TK01 & TK02 - Denatured Ethanol Tanks - 500,000 gallons each
 - v. EU25 - Ethanol Loadout

PROCESS AND CONTROL DEVICES

6. Emission sources at the facility consist of the following:
- a. **Grain Handling and Processing**
 - i. EU01 - EU07 vented to CE01 - Baghouse
 - ii. EU08 - EU10 vented to CE02 - Baghouse
 - b. **Fermentation** - EU 12 - EU17 vented to CE03 - CO₂ scrubber
 - c. **Distillation** - EU18 - EU24 vented to CE04 - Vent Gas Scrubber
 - d. **Steam Production** - Two Boilers, 75.6 MMBtu/hr rated design heat input capacity each, combust natural gas. Each boiler has a low NO_x burner with no other external control devices.
 - i. EU26 - Boiler 1
 - ii. EU27 - Boiler 2
 - e. **Liquid Storage/Loadout** - EU25 vented to CE05 - Flare
 - f. **Fugitives**

- i. FS01 - PM source - Fugitive Dust from Truck Traffic.
- ii. FS02 - PM source - Uncaptured emissions from grain receiving.
- iii. FS03 - PM source - Uncontrolled Scalper By-Product Shipping.
- iv. FS04 - Wet Cake Storage Pile - VOC source - mixture of non-fermentable grain residuals and residual organic syrup from fermentation and distillation processes - stored outside on concrete pad, and shipped to farmers as animal feed supplement.
- v. FS05 - VOC source - Fugitives from processes and storage tanks - NSPS Subpart VV Leak Detection and Repair (LDAR) program and NSPS Subpart Kb tank inspection program to be employed as required.
- vi. FS06 - PM source - Cooling Towers utilizing a circulating water flow rate of $\geq 14,300$ gpm.

CONTINUOUS MONITORING DEVICES

- 7. The facility has the following continuous monitoring devices:
 - a. Magnehelic gauges for measuring baghouse pressure drop.
 - b. Pressure gauges for measuring scrubber water pressures.
 - c. Water flowmeters for measuring scrubber make-up water flowrates.
 - d. Magnehelic gauges for measuring pressure drop across packing media in scrubbers.
 - e. Thermocouple for measuring flare temperature.

COMPLIANCE

- 8. The facility will be inspected by Department personnel to ensure compliance with the permit conditions.

EMISSIONS

- 9. Proposed PSEL information:

Pollutant	Baseline Emission Rate	Netting Basis	Plant Site Emission Limits (PSEL)
	(tons/yr)		
PM	0	0	24
PM ₁₀	0	0	14
SO ₂	0	0	39
NO _x	0	0	39
CO	0	0	99
VOC	0	0	39
Combined HAPS	0	0	24
Single HAP	0	0	9

- a. The **baseline emission rate** is zero since the facility was not in existence during the baseline period (1977-78).
- b. The **netting basis** is zero because this facility is constructed after the baseline period and has not undergone New Source Review in accordance with OAR 340-

200-0020(71)(b)(A) and because the PSELs for all pollutants are equal to the Generic PSEL in accordance with OAR 340-200-0020(71)(b)(B).

- c. The proposed **PSELs** for all pollutants are equal to the Generic PSEL in accordance with OAR 340-222-0041(1) and the netting basis is zero in accordance with OAR 340-222-0040(2).
- d. The emission detail sheets supporting the PSELs are attached to the review report.
- e. The PSEL is a federally enforceable limit on the potential to emit.

10. The PSELs are based upon the following process throughputs:

Emission Source/Point	Annual Rate
Corn receiving/handling/milling	15,400,000 bushels of corn received (431,200 tons)
Scalper by-product	1,400 tons
Fermentation - CO2 scrubber	270,000,000 gallons beer (10-15% ethanol)
Distillation - vent gas scrubber	42,000,000 gallons 190 proof ethanol (95% ethanol)
Boilers - Natural Gas	1,261,440,000 cubic feet (1,324,512 MMBtu/yr)
Wetcake (stillage and syrup)	140,421 tons
Ethanol Loadout Flare	42,000,000 gallons (maximum) denatured ethanol
Ethanol Storage Tanks (TK01, TK02)	42,000,000 gallons (maximum) denatured ethanol
Ethanol Storage Tanks (TK03, TK04)	40,000,000 gallons 200 proof ethanol
Ethanol Storage Tank (TK05)	40,000 gallons 190 proof ethanol
Denaturant (Gasoline) Storage Tank (TK06)	2,000,000 gallons
Equipment Leak Fugitives	Number of valves, pumps, PRVs, open lines, flanges

SIGNIFICANT EMISSION RATE ANALYSIS

- 11. For each pollutant, the proposed Plant Site Emission Limit is less than the Netting Basis plus the significant emission rate, thus no further air quality analysis is required.
- 12. An analysis of the proposed PSEL increases over the Netting Basis is shown in the following table.

Pollutant	SER	Requested increase over previous netting basis	Increase due to utilizing capacity that existed in the baseline period	Increase due to physical changes or changes in the method of operation
PM	25	24	0	24
PM ₁₀	15	14	0	14
SO ₂	40	39	0	39
NO _x	40	39	0	39
CO	100	99	0	99
VOC	40	39	0	39

MAJOR SOURCE APPLICABILITY

CRITERIA POLLUTANTS

13. A major source is a facility that has the potential to emit more than 100 tons per year of any criteria pollutant. This facility is not a major source of criteria pollutant emissions.

HAZARDOUS AIR POLLUTANTS

14. A major source is a facility that has the potential to emit more than 10 tons/year of any single HAP or 25 tons/year of combined HAPs. When operating at its maximum annual production capacity, this facility is not a major source of hazardous air pollutants (HAP). Because the source is not a major source of HAP emissions as defined in OAR Chapter 340 Division 244, it is not subject to any NESHAPS/MACT standards.

Hazardous Air Pollutant	Potential to Emit (tons/year)
Acetaldehyde	6.5
Hexane	1.7
Various HAPs (Individually < 1.0 each - see Emission Detail Sheets)	2.13
Total HAPs	10.33

ADDITIONAL REQUIREMENTS

NSPS APPLICABILITY

15. 40 CFR Part 60, Subpart Dc - Standards of Performance for Small Industrial, Commercial, and Institutional Steam Generating Units - is applicable to each steam generating unit for which construction, modification or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 mmbtu/hour) or less, but greater than or equal to 2.9 MW (10 mmbtu/hr).

Affected units include the two boilers, (EU26, EU27), both of which have a heat input rating of 75.6 mmbtu/hr and are capable of producing 52,000 lbs/hr steam each.

16. 40 CFR Part 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid (VOL) Storage Vessels for which construction, reconstruction or modification commenced after July 23, 1984 - is applicable to the denatured ethanol tanks (TK01 & TK02), the 200-proof ethanol storage tanks (TK03 & TK04) and the denaturant tank (TK06). The tanks are subject to Subpart Kb based on their size, date of construction, and volatile organic liquid vapor pressure.
17. 40 CFR Part 60, Subpart VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry - is applicable to all affected equipment in the ethanol manufacturing process units.
18. 40 CFR Part 60, Subpart RRR and NNN – These subparts do not apply because this facility uses a biological process to ferment the converted starches in corn into ethanol. EPA did not consider these types of processes when these subparts were written.

NESHAPS/MACT APPLICABILITY

19. There are no sources at this facility for which NESHAPS/MACT standards have been promulgated.

TACT APPLICABILITY

20. The source is meeting the states TACT/Highest and Best Rules (OAR 340-226-0100) by conducting the following activities:
 - a. CO2 Scrubber (CE03) and Vent Gas Scrubber (CE04):
 - i. Install, calibrate, maintain, operate and record the output of water pressure gauges and water flow meters for continuously monitoring the water pressure and scrubber flow.
 - A. Maintain CE03 water scrubber flows greater than or equal to 125 gallons/minute (gpm), and pressure drop across packing media less than or equal to 6 inches water column.
 - B. Maintain CE04 water scrubber flows greater than or equal to 25 gpm, and pressure drop across packing media less than or equal to 6 inches water column.
 - ii. Inspect the scrubbers at least once each calendar month of operation for physical degradation that could affect the performance of the scrubber, and maintain records of frequency of acid washes.
 - b. Baghouses (CE01 and CE02):
 - i. Maintain baghouse pressure drop between 0.1 inches w.c. and 6.0 inches w.c.
 - ii. Inspect the baghouses at least once each calendar month of operation for physical degradation that could affect the performance of the baghouse.
 - iii. When replacing fabric filter bags in any baghouse, the permittee may not substitute a bag with lower control efficiency specification than 90%.
 - c. Flare (CE05):

- i. The permittee must operate the flare in accordance with good combustion practices and perform routine maintenance to maintain maximum destruction efficiency. The temperature sensing system for determining a flame-out event is to be operating whenever the flare is in use and the igniter system is to be activated at a temperature no less than 200 °F.
 - ii. Minimum combustion temperature must be 850 °F.
21. Pursuant to OAR 340-226-0130(2)(a), the devices subject to NSPS Subparts Dc, Kb and VV are exempt from applicability of the State's TACT/Highest and Best Rules (OAR 340-226-0130).

SOURCE TESTING

PROPOSED TESTING

22. The following emission units will be tested during the permit term:
 - a. Grain Handling Baghouse (CE01) for PM₁₀
 - b. CO₂ Scrubber (CE03) for VOCs

PUBLIC NOTICE

23. Pursuant to OAR 340-216-0066(4)(a)(A), issuance of Standard Air Contaminant Discharge Permits require public notice in accordance with OAR 340-209-0030(3)(c), which requires that the Department provide notice of the proposed permit action and a minimum of 35 days for interested persons to submit written comments. The permit was placed on public notice from March 27 to May 1, 2006. No comments were received in response to the public notice.

pj:lc
7/12/2006

PLANT SITE EMISSION LIMIT (PSEL) DETAIL SHEET
 Pacific Ethanol, Inc. - or - Port of Morrow Ethanol, LLC

Emission Point	Operating Parameter	Emission Factor		Annual Emissions
		Rate	Reference	Tons/yr
PM				
Grain Handling Baghouse - CE01	15.4 mm bushels grain/yr	512 lbs/mm bushel	Baghouse Manufacturer estimate of 0.005 gr/dscf.	3.94
Hammermill Baghouse - CE02	15.4 mm bushels grain/ yr	292 lbs/mm bushels	Baghouse Manufacturer estimate of 0.005 gr/dscf.	2.25
Boiler 1 - EU26	630.72 mmcf/yr natural gas	7.6 lbs/mmcf	AP-42, Section 1.4	2.44
Boiler 2 - EU27	630.72 mmcf/yr natural gas	7.6 lbs/mmcf	AP-42, Section 1.4	2.44
Truck Traffic - FS01	12,800 VMT	1.04 lbs/VMT	AP-42, Section 13.2.1-1	6.66
Grain Receiving Fugitives - FS02	431,200 tons/yr	0.007 lbs/ton (0.035 * 20% uncaptured)	AP-42, Section 9.9.1	1.51
Cooling Tower Fugitives - FS06	14,300 gpm average circulating flow rate	0.175 lbs/gpm flowrate	Cooling Tower Typical Drift loss of 0.005% and City of Boardman water supply TDS of 800 ppm.	1.25
Ethanol Loadout Flare - CE05	42,000,000 gallons denatured ethanol/yr	negligible		negligible
PM total				23.0

PM₁₀				
Grain Handling Baghouse - CE01	15.4 mm bushels grain/yr	512 lbs/mm bushel	Baghouse Manufacturer estimate of 0.005 gr/dscf.	3.94
Hammermill Baghouse - CE02	15.4 mm bushels grain/ yr	292 lbs/mm bushels	Baghouse Manufacturer estimate of	2.25

			0.005 gr/dscf.	
Boiler 1 - EU26	630.72 mmcf/yr natural gas	7.6 lbs/mmcf	AP-42, Section 1.4	2.44
Boiler 2 - EU27	630.72 mmcf/yr natural gas	7.6 lbs/mmcf	AP-42, Section 1.4	2.44
Truck Traffic - FS01	12,800 VMT	0.20 lbs/VMT	AP-42, Section 13.2.1-1	1.30
Grain Receiving Fugitives - FS02	431,200 tons/yr	0.0016 lbs/ton (0.0078 * 20% uncaptured)	AP-42, Section 9.9.1	0.34
Cooling Tower Fugitives - FS06	14,300 gpm average circulating flow rate	0.175 lbs/ gpm flowrate	Cooling Tower Typical Drift loss of 0.005% and City of Boardman water supply TDS of 800 ppm.	1.25
Ethanol Loadout Flare - CE05	42,000,000 gallons denatured ethanol/yr	negligible		negligible
			PM₁₀ total	13.96

SO₂				
Boiler 1 - EU26	630.72 mmcf/yr natural gas	0.6 lbs/mmcf	AP-42, Section 1.4	0.19
Boiler 2 - EU27	630.72 mmcf/yr natural gas	0.6 lbs/mmcf	AP-42, Section 1.4	0.19
Ethanol Loadout Flare - CE05	42,000,000 gallons denatured ethanol/yr	negligible		negligible
			SO₂ total	0.38

NO_x				
Boiler 1 - EU26	630.72 mmcf/yr natural gas	0.05 lbs/mmbtu	Manufacturer (low NO _x burner)	16.56
Boiler 2 - EU27	630.72 mmcf/yr natural gas	0.05 lbs/mmbtu	Manufacturer (low NO _x burner)	16.56
Ethanol Loadout Flare - CE05	42,000,000 gallons denatured ethanol /yr	0.077/ 1000 gallons	Manufacturer specifications	1.62
			NO_x total	34.74

CO				
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Boiler 1 - EU26	630.72 mmcf/yr natural gas	84 lbs/mmcf	AP-42, Section 1.4	26.49
Boiler 2 - EU27	630.72 mmcf/yr natural gas	84 lbs/mmcf	AP-42, Section 1.4	26.49
Ethanol Loadout Flare - CE05	42,000,000 gallons denatured ethanol /yr	0.129/ 1000 gallons	Manufacturer specifications	2.71
			CO total	55.69

VOC				
Carbon Dioxide Scrubber - CE03	40,000,000 gallons 200 proof ethanol/yr	6.3E-04 lbs/gal ethanol	Source Test data (ACE Ethanol, Stanley, WI 12/19/02)	12.53
Vent Gas Scrubber - CE04	40,000,000 gallons 200 proof ethanol/yr	1.8E-04 lbs/gal ethanol	Source Test data (ACE Ethanol, Stanley, WI 12/19/02)	3.6
Boiler 1 - EU26	630.72 mmcf/yr natural gas	5.5 lbs/mmcf	AP-42, Section 1.4	1.73
Boiler 2 - EU27	630.72 mmcf/yr natural gas	5.5 lbs/mmcf	AP-42, Section 1.4	1.73
Ethanol Loadout Flare - CE05	42,000,000 gallons denatured ethanol /yr	0.3559/ 1000 gallons (railcar loading - worst case)	AP-42, Section 5.2 and TANKS software	7.47
190 proof ethanol storage - TK05	400,000 gallons/yr	Variable - calculated	AP-42, Section 7.1 and TANKS software	0.05
200 proof ethanol storage - TK03, TK04	40,000,000 gallons/yr	Variable - calculated	AP-42, Section 7.1 and TANKS software	0.30
Denaturant storage - TK06	2,000,000 gallons/yr	Variable - calculated	AP-42, Section 7.1 and TANKS software	0.77
Denatured ethanol storage - TK01, TK02	42,000,000 gallons/yr	Variable - calculated	AP-42, Section 7.1 and TANKS software	0.22
Equipment leak fugitives - FS05	Approx. 45 valves - gas, 182 valves - light	Calculated	EPA-453/R- 95-017	6.15

	liquid, 18 pumps - light liquid, 17 PRVs - gas, 26 open lines, 466 flanges			
Wet Cake Storage Pile - FS0436.74	508,080 tons/yr wet	5.80E-03 lbs/ton wetcake	Source Test data (DENCO, LLC, Morris, MN 11/02/2004)	2.19
			VOC total	36.74

PLANT SITE EMISSION LIMIT (PSEL) DETAIL SHEET
 Pacific Ethanol, Inc. - or - Port of Morrow Ethanol, LLC
 Hazardous Air Pollutants (HAPs)

HAP	Boilers	CO2 Scrubber	Vent Gas Scrubber	Tanks	Equipment Leaks	Wet Cake	Ethanol Loadout	Total (Tons/yr)
2-Methylnaphthalene	1.6E-05							1.6E-05
3-Methylchloranthrene	1.2E-06							1.2E-06
7,12-Dimethylbenz(a)anthracene	1.04E-05							1.0E-05
Acenaphthene	1.2E-06							1.2E-06
Acenaphthylene	1.2E-06							1.2E-06
Acetaldehyde		6.4E+00	9.20E-03		1.2E-03	4.2E-02		6.5E+00
Acrolein		7.0E-02	3.94E-03			6.9E-02		1.4E-01
Anthracene	1.2E-06							1.2E-06
Benz(a)anthracene	1.2E-06							1.2E-06
Benzene	1.4E-03			2.1E-01	1.5E-02		9.5E-02	3.2E-01
Benzo(a)pyrene	7.8E-07							7.8E-07
Benzo(b)fluoranthene	1.2E-06							1.2E-06
Benzo(g,h,i)perylene	7.8E-07							7.8E-07
Benzo(k)fluoranthene	1.2E-06							1.2E-06
Carbon Disulfide				4.1E-04	1.2E-04		1.9E-04	7.0E-04
Chrysene	1.2E-06							1.2E-06
Cumene				8.3E-04	6.1E-03		3.8E-04	6.0E-03
Dibenzo(a,h)anthracene	7.8E-07							7.8E-07
Dichlorobenzene	7.8E-04							7.8E-04
Ethyl benzene				1.2E-01	3.1E-04		5.7E-02	1.8E-01
Fluoranthene	1.9E-06							1.9E-06
Fluorene	1.8E-06							1.8E-06
Formaldehyde	4.9E-02	4.86E-02	2.63E-03			8.4E-02		1.8E-01
Hexane	1.2E+00			1.2E-01	3.1E-01		5.7E-02	1.6E+00
Indeno(1,2,3-cd)pyrene	1.2E-06							1.2E-06
Methanol		7.0E-02	7.88E-03		1.2E-03	1.7E-02		9.6E-02
Naphthalene	4.0E-04							4.0E-04
Phenanthrene	1.1E-05							1.1E-05
Pyrene	3.2E-06							3.2E-06
Toluene	2.2E-03			4.1E-01	3.1E-02		1.9E-01	6.3E-01
Xylenes				4.1E-01	3.1E-03		1.9E-01	6.1E-01

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 Pacific Ethanol, Inc. - or - Port of Morrow Ethanol, LLC
 Hazardous Air Pollutants (HAPs)

HAP (continued) Metals	Boilers	CO2 Scrubber	Vent Gas Scrubber	Tanks	Equipment Leaks	Wet Cake	Ethanol Loadout	Total (Tons/yr)
Beryllium	7.8E-06							7.8E-06
Cadmium	7.1E-04							7.1E-04
Chromium	9.1E-04							9.1E-04
Cobalt	5.5E-02							5.5E-02
Total	1.22	6.63	0.02	1.29	0.37	0.21	0.59	10.33

**STANDARD
 AIR CONTAMINANT DISCHARGE PERMIT**

Department of Environmental Quality
 Eastern Region
 2146 NE 4th, #104
 Bend, Oregon 97701
 (541) 388-6146

This permit is being issued in accordance with the provisions of ORS 468A.040 and based on the land use compatibility findings included in the permit record.

ISSUED TO:

Pacific Ethanol, Inc.
 516 SE Morrison St., Suite 820
 Portland, OR 97214

INFORMATION RELIED UPON:

Application No.: 021638
 Date Received: 12/22/2005

PLANT SITE LOCATION:

71335 Rail Loop Drive
 Boardman, Oregon

LAND USE COMPATIBILITY FINDING:

Approving Authority: Morrow County
 Approval Date: 12/23/2005

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

 Linda Hayes-Gorman, Eastern Region Air Quality Manager

 Dated

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-0020):

Table 1 Code	Source Description	SIC
Part B, 12	Boilers and other fuel burning equipment over 10 MMBTU/hr heat input	4961
Part B, 35	Grain Terminal Elevators	0723
		2041
Part B, 51	Industrial Organic Chemical Manufacturing	2869
Part B, 58	Prepared feeds for animals	2048
Part B, 75	All other sources with 10 or more tons of any single criteria pollutant if operating uncontrolled	n/a
Part C, 4	All Sources subject to a NSPS	4961
		2869

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1.0 GENERAL EMISSION STANDARDS AND LIMITS

- 1.1. Visible Emissions** Emissions from any air contaminant source must not equal or exceed 20% opacity for a period aggregating more than 3 minutes in any one hour.
- 1.2. Particulate Matter Emissions** The permittee must comply with the following particulate matter emission limits, as applicable:
- a. Particulate matter emissions from any fuel burning equipment must not exceed 0.1 grains per standard cubic foot, corrected to 12% CO₂ or 50% excess air.
 - b. Particulate matter emissions from any air contaminant source other than fuel burning equipment and fugitive emission sources must not exceed 0.1 grains per standard cubic foot.
 - c. Non-fugitive particulate matter emissions from any process must not exceed the amount shown in Table 1 of OAR 340-226-0310 for the process weight allocated to such a process.
- 1.3. Fugitive Emissions** The permittee must take reasonable precautions to prevent fugitive dust emissions by:
- a. Treating vehicular traffic areas of the plant site under the control of the permittee.
 - b. Operating all air contaminant-generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times.
 - c. Storing collected materials from air pollution control equipment in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.
- 1.4. Particulate Matter Fallout** The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. The Department will verify that the deposition exists and will notify the permittee that the deposition must be controlled.
- 1.5. Nuisance and Odors** The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by Department personnel.

1.6. Fuels The permittee must not use any fuel other than natural gas.

2.0 SPECIFIC PERFORMANCE AND EMISSION STANDARDS

- 2.1. General Provision Requirements - NSPS Subpart A**
- The permittee must comply with all applicable provisions of 40 CFR Subpart A, including but not limited to the following, (the following summarizes applicable requirements of Subpart A, but is not intended to supercede the Subpart):
- a. Notification and recordkeeping [40 CFR 60.7]
 - i. Notification of the date construction commences for the affected facility, postmarked no later than 30 days after such date. [40CFR60.7(a)(1)].
 - ii. Notification of the anticipated date of initial startup, postmarked not more than 60 days nor less than 30 days prior to such date [40CFR60.7(a)(2)].
 - iii. Notification of the actual date of initial startup, postmarked within 15 days after such date [40CFR60.7(a)(3)].
 - iv. The permittee must maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative [40CFR60.7(b)].
 - v. The permittee must maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustment or maintenance performed on these systems or devices; and all other information required by 40 CFR part 60, recorded in a permanent form, suitable for inspection [40CFR60.7(f)].
 - b. No owner or operator subject to the provisions of 40CFR60.12 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

- c. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source [40CFR60.11].

**2.2. Boilers - NSPS
Subpart Dc**

The permittee must comply with all applicable provisions of 40 CFR Subpart Dc, including but not limited to the following, for each affected steam generating unit (Note – refer to 40 CFR Subpart Dc and/or Subpart A for definitions of terminology stated in this condition. The following summarizes the applicable requirements of Subpart Dc, but is not intended to supercede the Subpart).

- a. The permittee must submit notification of the date of construction, anticipated startup, and actual startup, of the steam generating units, as provided by §60.7 of this part. [40CFR60.48c(a)] This notification must include:
 - i. The design heat input capacity of each of the steam generating units and identification of fuels to be combusted in each unit [40CFR60.48c(a)(1)].
 - ii. The annual capacity factor at which the permittee anticipates operating the steam generating units based on all fuels fired and based on each individual fuel fired [40CFR60.48c(a)(3)].
- b. The permittee must record and maintain records of the amount of natural gas combusted during each day [40CFR60.48c(g)].
- c. All records required under this NSPS must be maintained by the permittee for a period of two years following the date of such record [40CFR60.48c(i)].
- d. The permittee must submit semi-annual reports to the Department in accordance with 40CFR60.48c(j) for the fuel records for the steam generating units as required in this subpart. All reports must be submitted within 30 calendar days following the end of the applicable reporting period.

**2.3. Gasoline &
Ethanol
Storage Tanks -
NSPS Subpart
Kb**

The permittee must comply with all applicable provisions of 40 CFR Subpart Kb, including but not limited to the following, for each affected storage vessel, (Note - refer to 40 CFR Subpart Kb and/or Subpart A for definitions of terminology stated in this condition. The following summarizes the applicable requirements of Subpart Kb, but is not intended to supercede the Subpart).

- a. The permittee must keep readily accessible records showing the dimensions of the Storage Tanks and an analysis showing the capacity of the Storage Tanks. [40 CFR 60.116b(b)]. These records must be kept for the life of the source, [40 CFR 60.116b(a)] - TK01, TK02, TK03, TK04 and TK06.
- b. The permittee must send a notification of the date construction of the Storage Tanks is commenced postmarked no later than 30 days after such date. In addition a notification of the actual date of initial startup of the Storage Tanks postmarked within 15 days after such date. [40 CFR Part 60.7(a)(1) & (3)] - TK01, TK02, TK03, TK04 and TK06.
- c. The permittee must maintain records of the Volatile Organic Liquids stored, the period of storage and the maximum true vapor pressure of the stored liquids during the respective storage period. These records must be kept for at least 2 years. [40 CFR 60.116b(c)] - TK01, TK02, TK03, TK04 and TK06.
- d. The permittee must notify the ODEQ within 30 days when the maximum true vapor pressure of the liquid stored in Storage Tanks TK01, TK02, TK03 and/or TK04 exceeds 5.2 kPa (0.754 psia). These records must be kept for at least 2 years. [40 CFR 60.116b(d)].
- e. Standard for volatile organic compounds (VOC) [40CFR60.112b]. - TK06.
 - i. The permittee must equip affected storage vessels with a fixed roof in combination with an internal floating roof meeting one of the following:
 - 2.3.e.(i)(a) The internal floating roof must rest or float on the liquid surface (but not necessarily in complete contact with it) inside the storage vessel. The internal floating roof must be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is

resting on its leg supports, the process of filling, emptying, or refilling must be continuous and must be accomplished as rapidly as possible.

- 2.3.e.(i)(b) The internal floating roof must be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
- 2.3.e.(i)(c) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal).
- 2.3.e.(i)(d) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
- 2.3.e.(i)(e) A mechanical shoe seal.
- 2.3.e.(i)(f) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
- 2.3.e.(i)(g) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid must be equipped with a gasket. Covers on each access hatch and automatic gauge float well must be bolted except when they are in use.
- 2.3.e.(i)(h) Automatic bleeder vents must be equipped with a gasket and are to be closed at all

times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

2.3.e.(i)(i) Rim space vents must be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

2.3.e.(i)(j) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well must have a slit fabric cover that covers at least 90 percent of the opening.

2.3.e.(i)(k) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof must have a flexible fabric sleeve seal or a gasketed sliding cover.

2.3.e.(i)(l) Each penetration of the internal floating roof that allows for passage of a ladder must have a gasketed sliding cover.

- f. Testing and procedures. After installing the control equipment required to meet §60.112b(a)(1) [permanently affixed roof and internal floating roof – Condition 2.3 e.i], the permittee must [§60.113b(a)] :
- i. Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the permittee must repair the items before filling the storage vessel.
 - ii. For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal

fabric, the permittee must repair the items or empty and remove the storage vessel from service within 45 days [unless a 30-day extension has been approved by the Administrator – see Subpart Kb §60.113b(a)(2) for details].

- iii. For vessels equipped with a double-seal system:
 - 2.3.f.(iii)(a) Visually inspect the vessel as specified in paragraph 2.3.f.(iii)(c) of this section at least every 5 years; or
 - 2.3.f.(iii)(b) Visually inspect the vessel as specified in paragraph 2.3 f. ii of this section.
 - 2.3.f.(iii)(c) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the permittee must repair the items as necessary so that none of the deficiencies specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs 2.3 f. ii and 2.3.f.(iii)(b) above and at intervals no greater than 5 years in the case of vessels specified in 2.3.f.(iii)(a) above.
- iv. Notify the EPA Administrator and ODEQ Eastern Region Pendleton Office in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by Conditions 2.3.f. i and

2.3.f.(iii)(c) to afford the agencies the opportunity to have an observer present. If the inspection required by Condition 2.3.f.(iii)(c) above is not planned and the permittee could not have known about the inspection 30 days in advance of refilling the tank, the permittee must notify the Administrator and ODEQ at least 7 days prior to the refilling of the storage vessel. Notification must be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator and ODEQ at least 7 days prior to the refilling.

g. Reporting and recordkeeping requirements [§60.115b].

i. After installing control equipment in accordance with §60.112b(a)(1) [Condition 2.3.e.i (fixed roof and internal floating roof)], the permittee must meet the following requirements [§60.115b(a)]:

2.3.g.(i)(a) Furnish the Administrator and ODEQ Eastern Region Pendleton Office with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1) [Conditions 2.3.e.i and 2.3.f]. This report is to be an attachment to the notification required by 40 CFR Subpart A §60.7(a)(3).

2.3.g.(i)(b) Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4) [Condition 2.3 f]. Each record must identify the storage vessel on which the inspection was performed and must contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

2.3.g.(i)(c) If any of the deficiencies described in §60.113b(a)(2) [Condition 2.3.f.ii] are detected during the annual visual inspection, a report is to be furnished to the

Administrator and ODEQ Eastern Region Pendleton Office within 30 days of the inspection. Each report must identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

- 2.3.g.(i)(d) After each inspection required by §60.113b(a)(3) (vessels equipped with a double-seal system) [Condition 2.3.f.iii] that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other listed control equipment defects, a report is to be furnished to the Administrator and ODEQ Eastern Region Pendleton Office within 30 days of the inspection. The report must identify the storage vessel and the reason it did not meet the specifications of §61.112b(a)(1) or §60.113b(a)(3) [Condition 2.3.f.iii] and list each repair made.
- ii. After installing a closed vent system and flare to comply with §60.112b, the owner or operator shall meet the following requirements:
 - 2.3.g.(ii)(a) A report containing the measurements required by §60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the EPA Administrator (and DEQ) as required by §60.8 of the General Provisions. This report must be submitted within 6 months of the initial start-up date.
 - 2.3.g.(ii)(b) Records must be kept of all periods of operation during which the flare pilot flame is absent.
 - 2.3.g.(ii)(c) Semiannual reports of all periods recorded under §60.115b(d)(2) in which the pilot flame was absent shall be furnished to the EPA Administrator and DEQ.

**2.4. SOCMI VOC
Facility
Standards -
NSPS Subpart
VV**

The permittee must comply with all applicable provisions and standards of 40 CFR Part 60, Subpart VV. (Note – refer to 40 CFR Subpart VV and/or Subpart A for definitions of terminology stated in this condition. The following summarizes the applicable requirements of Subpart VV, but is not intended to supercede the Subpart).

- a. Standard for Pumps
 - i. Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b), except as provided in 40 CFR 60.482-1(c) and paragraphs (d), (e), and (f). [40 CFR 60.482-2(a)(1)]
 - ii. Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. [40 CFR 60.482-2(a)(2)]
 - iii. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [40 CFR 60.482-2(b)(1)]
 - iv. If there are indications of liquids dripping from the pump seal, a leak is detected. [40 CFR 60.482-2(b)(2)]
 - v. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. [40 CFR 60.482-2(c)(1)]
 - vi. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-2(c)(2)]
- b. Standards for Pressure Relief Devices in Gas/Vapor Service
 - i. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated 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 60.485(c). [40 CFR 60.482-4(a)]
 - ii. After each pressure release, the pressure relief device shall be returned 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 5 calendar days after the pressure release, except as provided in 40 CFR 60.482-9. [40 CFR 60.482-4(b)(1)]

- iii. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(b)(2)]

c. Standard for Open Ended Valves or Lines

- i. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1(c). [40 CFR 60.482-6(a)(1)]
- ii. The cap, blind flange, plug, or a second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. [40 CFR 60.482-6(a)(2)]
- iii. Each open-ended valve or line shall be 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 60.482-6(b)]
- iv. 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 paragraphs (i) and (ii) at all other times. [40 CFR 60.482-6(c)]

d. Standard for Valves

- i. Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b). [40 CFR 60.482-7(a)]
- ii. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [40 CFR 60.482-7(b)]
- iii. Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. [40 CFR 60.482-7(c)(1)]

- iv. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. [40 CFR 60.482-7(c)(2)]
- v. 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 60.482-9. [40 CFR 60.482-7(d)(1)]
- vi. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-7(d)(2)]
- vii. First attempts at repair include, but are not limited to, the following best practices where practicable [40 CFR 60.482-7(e)]:
 - 2.4.d.(vii)(a) Tightening of bonnet bolts;
 - 2.4.d.(vii)(b) Replacement of bonnet bolts;
 - 2.4.d.(vii)(c) Tightening of packing gland nuts;
 - 2.4.d.(vii)(d) Injection of lubricant into lubricated packing.
- e. Standards for Flanges and Other Connectors
 - i. Flanges and other connectors shall be monitored within 5 days by the method specified in 40 CFR 60.485(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. [40 CFR 60.482-8(a)(1)]
 - ii. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [40 CFR 60.482-8(b)]
 - iii. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9 (delay of repair). [40 CFR 60.482-8(c)(1)]
 - iv. The first attempt at repair must be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-8(c)(2)]

- v. First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e) [40 CFR 60.482-8(d)]
- f. Delay of Repair
 - i. Delay of repair of equipment for which leaks have been detected will be allowed if the repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment must occur before the end of the next process unit shutdown. [40 CFR 60.482-9(a)]
 - ii. Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service. [40 CFR 60.482-9(b)]
 - iii. Delay of repair for valves will be allowed if:
 - 2.4.f.(iii)(a) The permittee demonstrates that emissions of purged material resulting from the immediate repair are greater than the fugitive emissions likely to result from delay of repair, [40 CFR 60.482-9(c)(1)], and
 - 2.4.f.(iii)(b) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482-10.
 - iv. Delay of repair for pumps will be allowed if:
 - 2.4.f.(iv)(a) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, [40 CFR 60.482-9(d)(1)], and
 - 2.4.f.(iv)(b) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected. [40 CFR 60.482-9(d)(2)]
 - v. 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 6 months after the first process unit shutdown. [40 CFR 60.482-9(e)]

g. Testing Procedures - Compliance shall be determined by the methods specified in 40 CFR 60.485.

h. Recordkeeping

i. When each leak is detected, the following requirements apply:

2.4.h.(i)(a) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. [40 CFR 60.486(b)(1)]

2.4.h.(i)(b) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7(c) and no leak has been detected during those 2 months. [40 CFR 60.486(b)(2)]

2.4.h.(i)(c) The identification on equipment except a valve, may be removed after it has been repaired. [40 CFR 60.486(b)(3)]

ii. When each leak is detected, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

2.4.h.(ii)(a) The instrument and operator identification numbers and the equipment identification number. [40 CFR 60.486(c)(1)]

2.4.h.(ii)(b) The date the leak was detected and the dates of each attempt to repair the leak. [40 CFR 60.486(c)(2)]

2.4.h.(ii)(c) Repair methods applied in each attempt to repair the leak. [40 CFR 60.486(c)(3)]

2.4.h.(ii)(d) "Above 10,000" if the maximum instrument reading measured by the

methods specified in 40 CFR 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm. [40 CFR 60.486(c)(4)]

- 2.4.h.(ii)(e) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. [40 CFR 60.486(c)(5)]
- 2.4.h.(ii)(f) The signature of the owner or operator whose decision it was that the repair could not be affected without a process shutdown. [40 CFR 60.486(c)(6)]
- 2.4.h.(ii)(g) The expected date of successful repair of the leak if a leak is not repaired within 15 days. [40 CFR 60.486(c)(7)]
- 2.4.h.(ii)(h) Dates of process unit shutdown that occur while the equipment is unrepaired. [40 CFR 60.486(c)(8)]
- 2.4.h.(ii)(i) The date of successful repair of the leak. [40 CFR 60.486(c)(9)]

3.0 OPERATION AND MAINTENANCE REQUIREMENTS

- 3.1. **Maintenance - Boilers** The permittee must perform a maintenance service on each boiler at least once in every 2-year period. As a minimum, the service must include an inspection of the burners and refractory chamber; cleaning, adjustment and repair as necessary. For water tube boilers, the service must include flushing the tubes.
- 3.2. **Work practices - Baghouses** The permittee shall install, calibrate, maintain, operate, and record the output of pressure drop monitoring devices in accordance with the manufacturer’s instructions for continuously monitoring the following parameters:
 - a. The permittee shall take corrective action if CE01 or CE02 pressure drop is outside the range of 0.1 to 6 in. water column other than during startup and shutdown.
 - b. Real time data shall be displayed continuously when the bag houses are in operation. The permittee shall monitor the pressure drop for each bag house daily.

- c. All excursions of the bag house pressure drop levels and the corrective action taken to return the bag houses to highest and best practicable treatment and control shall be recorded in a maintenance log.

**3.3. Maintenance -
Baghouses**

At least once each calendar month of operation of the facility, the baghouses shall be inspected for physical degradation that could affect the performance of the baghouse, including but not limited to any individual bags that are found to be blinded, missing or damaged to the extent that they are no longer effective. The permittee shall make all necessary repairs to the baghouses to ensure efficient operation. Inspection and repair activities should be included in the maintenance log.

- a. When replacing fabric filter bags in any bag house, the permittee may not substitute a bag with lower control efficiency specifications than 99%.
- b. The permittee must keep readily accessible records documenting the original engineering design specifications for all bag houses and associated fabric filter bags at the facility. These records must be kept for the life of the source.

**3.4. Work practices -
CO₂ Scrubber and
Vent Gas
Scrubber**

The permittee shall install, calibrate, maintain, operate, and record the output of water pressure gauges, water flow meters and pressure drop gauges across the packing media in accordance with the manufacturer's instructions for continuously monitoring the following parameters:

- a. The permittee shall take corrective action if the CO₂ Scrubber (CE03) scrubber flows are less than 125 gpm, or the pressure drop across the packing media is greater than 6 in. water column other than during startup and shut down; and
- b. The permittee shall take corrective action if the Vent Gas Scrubber (CE04) scrubber flows are less than 25 gpm, or the pressure drop across the packing media is greater than 6 in. water column other than during startup and shutdown.
- c. Real time data shall be displayed continuously when the facility is in operation.
- d. The permittee shall record the scrubber water flow rate and packing media pressure drop at least one time per calendar day during facility operation.

**3.5. Maintenance -
Scrubbers**

At least once each calendar month, the scrubbers shall be inspected for physical degradation that could affect the performance of the control device. For the scrubbers this includes

but is not limited to ensuring the liquid distribution trays are level and/or the packing media is not plugged. The permittee shall make all necessary repairs to the scrubbers to ensure efficient and effective operation. Inspection and repair activities should be included in a log.

3.6. Work practice - Flare

The permittee must operate the Ethanol Loadout Flare (CE05) in accordance with good combustion practices and perform routine maintenance to maintain maximum destruction efficiency. The temperature sensing system for determining a flame-out event is to be operating whenever the flare is in use and the igniter system is to be activated at a temperature no less than 200 °F.

3.7. General Work Practices

The permittee shall at all times maintain and operate all air contaminant generating processes at full efficiency and effectiveness such that the emissions of air contaminants are kept at the lowest practicable levels.

4.0 PLANT SITE EMISSION LIMITS

4.1. Plant Site Emission Limits (PSEL)

Plant site emissions must not exceed the following:

Pollutant	Limit	Units
PM	24	tons per year
PM ₁₀	14	tons per year
SO ₂	39	tons per year
NO _x	39	tons per year
CO	99	tons per year
VOC	39	tons per year
Single HAP	9	tons per year
Combined HAPs	24	tons per year

4.2. Annual Period

The annual plant site emissions limits apply to any 12-consecutive calendar month period.

5.0 COMPLIANCE DEMONSTRATION

5.1. Testing Requirements - Baghouse CE01

By no later than 18 months after startup, the permittee must conduct a source test of the baghouse CE01 stack exhaust venting the grain handling emission units EU01 through EU07. This testing will verify the emission factors used to determine compliance with the PSEs in Condition 4.1, to verify compliance with the visible emission standards in Condition 1.1, and to verify compliance with the grain loading standard in Condition 1.2.b :

- a. PM must be measured using Oregon Method 5 or 8 determined as per approved source test plan. All measured particulate matter emissions will be considered PM₁₀;
- b. EPA Methods 1-4 must be used for gas flowrate measurements;
- c. Opacity must be measured by EPA Method 9 for a period of at least six minutes during or within 30 minutes before or after each test run;
- d. The following parameters must be monitored and recorded during the source test:
 - i. Grain throughput from grain handling into the hammermills, in bushels/hr;
 - ii. 200 proof ethanol manufactured, in gallons/hr;
 - iii. Pressure drop across baghouse, in inches water column;
- e. Results must be recorded in grains per dry standard cubic foot (gr/dscf), lbs/bushel of grain processed and lbs/gallon 200 proof ethanol manufactured.

5.2. Testing Requirements - CO₂ Scrubber

By no later than 18 months after start-up, the permittee must conduct a source test of the CO₂ Scrubber (CE03) stack exhaust gas to verify emission factors used to determine compliance with the PSEs in Condition 4.1. Exhaust gas at the inlet and the outlet of the scrubber is to be tested for VOC emissions.

- a. Non-water soluble VOC emissions must be measured using EPA Method 18;
- b. Water soluble VOC emissions must be measured by an approved isokinetic method (i.e. aldehydes with SW-846 Method 0010).

- c. EPA Methods 1-4 must be used for gas flowrate measurements;
- d. The following process parameters must be monitored and recorded during the source test:
 - i. Emissions unit and monitoring point identification;
 - ii. Quantity of mash charged to the fermentation tanks, gallons/hr of EtOh;
 - iii. 200 proof - ethanol production rate of fermentation process, in gal/hr;
 - iv. Denatured ethanol production rate of the process, in gal/hr;
 - v. The pressure drop across the scrubber, in inches water column;
 - vi. Flow rate of scrubber water, in gpm;
 - vii. Pressure of scrubber water, in psig;
 - viii. The source test report must provide a calculation of the system's control efficiency and identify the emission rate measured during the test expressed in lbs/hr, and lbs/gallon 200 proof ethanol.

5.3. General Source Test Requirements

- a. All tests must be conducted in accordance with the Department's Source Sampling Manual and the approved pretest plan. The pretest plan must be submitted at least 15 days in advance and approved by the Regional Source Test Coordinator. Test data and results must be submitted for review to the Regional Source Test Coordinator within 30 days unless otherwise approved in the pretest plan.
- b. Only regular operating staff may adjust the combustion system or production processes and emission control parameters during the source test and within two hours prior to the source test. Any operating adjustments made during the source test, which are a result of consultation with source testing personnel, equipment vendors or consultants, may render the source test invalid.

5.4. PSEL Compliance Monitoring

Compliance with the PSEL is determined for each 12-consecutive calendar month period based on the following calculation for each pollutant:

$$E = \Sigma(EF \times P)/2,000 \text{ lbs}$$

where,

- E = Pollutant emissions (ton/yr);
- EF = Pollutant emission factor (see Condition 11.0);
- P = Process production (see Condition 12.0)

5.5. Emission Factors The permittee must use the default emission factors provided in Condition 11.0 for calculating pollutant emissions, unless alternative emission factors are approved by the Department. The permittee may request or the Department may require using alternative emission factors provided they are based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by the Department.

5.6. Tank Emissions The Permittee shall use the most recent version of EPA TANKs (Version 4.09d) to calculate monthly emissions for the Ethanol and Gasoline Storage Tanks.

5.7. Equipment Leak Fugitives The Permittee shall use the procedures outlined in the EPA’s Protocol for Equipment Emission Estimates, Synthetic Organic Chemicals Manufacturing Industry (SOCMI) – EPA document 453/R-95-017. If the Average Emission Factor Approach is used to estimate equipment leak emissions then the following equations and assumptions shall be used to calculate Equipment Leak Fugitives:

$$E_{VOC} = \Sigma(F_A \times WF_{VOC} \times N)(1 - C_{EF})$$

Where,

- E_{VOC} = Emission Rate of VOC from all equipment in the stream of a given type (lb/hr)
- F_A = Applicable average emission factor for the equipment type from Table 11.0 (lb/hr/source)
- WF_{TOC} = Average weight fraction of VOC in the stream
- N = Number of pieces of equipment of the applicable equipment type in the stream
- C_{EF} = LDAR control efficiency for the equipment type (0.87 for gas valves, 0.84 for light liquid valves, 0.69 for light liquid pumps, 0.93 for connectors, 0 for all other equipment).

6.0 RECORDKEEPING REQUIREMENTS

6.1. Operation and Maintenance

The permittee must maintain the following records related to the operation and maintenance of the plant and associated air contaminant control devices:

- a. All process and production records as required in Condition 12.0;
- b. Throughput and fuel usage data as required in Condition 12.0;
- c. Monthly calculated criteria pollutant emissions;
- d. Daily baghouse pressure drop for each baghouse;
- e. Maintain a record of the control efficiency specifications of all fabric filter bags replacement orders;
- f. Daily scrubber pressure drop readings and water flow readings for each packed tower scrubber;
- g. All excursions of the parametric action levels and the corrective action taken to return the control device to highest and best practicable treatment and control shall be recorded in the maintenance log;
- h. Inspection and repair activities shall be included in a maintenance log;
- i. NSPS Subpart Dc - Records of the amounts of natural gas combusted during each day. [40 CFR Part 60.48c(g)]
- j. NSPS Subpart Kb
 - i. The permittee must keep records as required by 40 CFR 60.116b; as detailed in Condition 2.3.a and 2.3.c
 - ii. The permittee must keep records as required by 40 CFR 60.115b; specifically maintain records for at least 2 years of each inspection performed on TK06 as required by §60.113b(a)(1), (a)(2), (a)(3) and(a)(4) [Conditions 2.3.f.i, 2.3.f.ii, and 2.3.f.iii]. Each record must include the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

- k. NSPS Subpart VV
 - i. The permittee must comply with all applicable monitoring and recordkeeping requirements of 40 CFR Subpart VV which is incorporated here by reference.
 - ii. Monitor all additions and deletions of valves, flanges, pumps, pressure relief valves, open-ended lines and/or any other component that is subject to 40 CFR Subpart VV.
- l. Excess emission records as defined in OAR 340-214-0300 through 340-214-0340;
- m. Records of major maintenance performed on air pollution control equipment.

6.2. Excess Emissions The permittee must maintain records of excess emissions as defined in OAR 340-214-0300 through 340-214-0340 (recorded on occurrence). Typically, excess emissions are caused by process upsets, startups, shutdowns, or scheduled maintenance. In many cases, excess emissions are evident when visible emissions are greater than 20% opacity for 3 minutes or more in any 60-minute period. If there is an ongoing excess emission caused by an upset or breakdown, the permittee must cease operation of the equipment or facility no later than 48 hours after the beginning of the excess emissions, unless continued operation is approved by the Department in accordance with OAR 340-214-0330(4).

6.3. Complaint Log The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.

6.4. Retention of Records Unless otherwise specified, all records must be maintained on site for a period of two (2) years and made available to the Department upon request.

7.0 REPORTING REQUIREMENTS

7.1. Excess Emissions The permittee must notify the Department of excess emissions events **only if the excess emission is of a nature that could endanger public health.**

- a. Such notice must be provided as soon as possible, but never more than one hour after becoming aware of the problem. Notice must be made to the regional office identified in Condition 8.4 by e-mail, telephone, facsimile, or in person.
- b. If the excess emissions occur during non-business hours, the permittee must notify the Department by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.
- c. The permittee must also submit follow-up reports when required by the Department.

7.2. NSPS Subpart A The permittee must submit the notifications/reports required by Condition 2.1.a to the EPA Administrator (see mailing address in Condition 0) and the ODEQ Eastern Regional Office in Bend (see mailing address in Condition 8.3).

7.3. NSPS Subpart Dc The permittee must submit the notifications/reports required by Condition 2.2.a to the EPA Administrator and the ODEQ Eastern Regional Office in Bend.

7.4. NSPS Subpart Kb The permittee must submit the notifications/reports required by Conditions 2.3.b and 2.3.f to the EPA Administrator and the ODEQ Eastern Regional Office in Bend.

7.5. Semi-annual Reports The permittee must submit the following semiannual reports to the Department and the EPA Administrator.

- a. NSPS Subpart Dc - The permittee must submit semi-annual reports for the fuel records for the steam generating units as required in this subpart. All reports must be submitted within 30 calendar days following the end of the applicable reporting period. [40 CFR 60.48c(j)]
- b. NSPS Subpart VV
 - i. The first report must be submitted beginning six (6) months after the initial startup date, [40 CFR 60.487(a)], and must include the following information: [40 CFR 60.487(b)]

7.5.b.(i)(a) Process unit identification

7.5.b.(i)(b) Number of valves subject to the requirements of §60.482-7, excluding those valves designated for no detectable emissions under the provisions of 60.482-7(f).

- 7.5.b.(i)(c) Number of pumps subject to the requirements of 60.482-2, excluding those pumps designated for no detectable emissions under the provisions of 60.482-2(e) and those pumps complying with 60.482-2(f).
- ii. All semiannual reports must include the following information, summarized from the information in §60.486: [40 CFR 60.487(c)]
 - 7.5.b.(ii)(a) Process unit identification.
- iii. For each month during the semiannual reporting period:
 - 7.5.b.(iii)(a) Number of valves for which leaks were detected as described in §60.482(7)(b) or §60.483-2,
 - 7.5.b.(iii)(b) Number of valves for which leaks were not repaired as required in §60.482-7(d)(1),
 - 7.5.b.(iii)(c) Number of pumps for which leaks were detected as described in §60.482-2(b) and (d)(6)(i),
 - 7.5.b.(iii)(d) Number of pumps for which leaks were not repaired as required in §60.482-2(c)(1) and (d)(6)(ii),
 - 7.5.b.(iii)(e) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.
- iv. Dates of process unit shutdowns which occurred within the semiannual reporting period.
- v. Revisions to items reported according to paragraph ii if changes have occurred since the initial report or subsequent revisions to the initial report.

- 7.6. Annual Report** For each year this permit is in effect, the permittee must submit to the Department by **February 15** two (2) copies of the following information for the previous calendar year:
- a. All process and production records as required in Condition 12.0;
 - b. Throughput and fuel usage data as required in Condition 12.0;
 - c. Submit the calculations used to calculate emissions from the storage tanks and the equipment leak fugitives as required in Conditions 5.6 and 5.7.
 - d. Submit the results of the rolling 12-month PSEL compliance calculations from Conditions 5.4, 5.6 and 5.7 for each month of the previous calendar year.
 - e. Records of all planned and unplanned excess emissions events.
 - f. Summary of complaints relating to air quality received by permittee during the year.
 - g. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions.
 - h. List major maintenance performed on pollution control equipment.
- 7.7. Initial Startup Notice** The permittee must notify the Department in writing of the date a new facility is started up. The notification must be submitted no later than seven (7) days after startup.
- 7.8. Notice of Change of Ownership or Company Name** The permittee must notify the Department in writing using a Departmental "Permit Application Form" within 60 days after the following:
- a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or
 - b. Sale or exchange of the activity or facility.
- 7.9. Construction or Modification Notices** The permittee must notify the Department in writing using a Departmental "Notice of Construction Form," or "Permit Application Form," and obtain approval in accordance with OAR 340-210-0205 through 340-210-0250 before:
- a. Constructing, installing, or establishing a new stationary source that will cause an increase in any regulated pollutant emissions;

- b. Making any physical change or change in operation of an existing stationary source that will cause an increase, on an hourly basis at full production, in any regulated pollutant emissions; or
- c. Constructing or modifying any air pollution control equipment.

7.10. Where to Send Reports and Notices The reports, with the permit number prominently displayed, must be sent to the Permit Coordinator for the region where the source is located as identified in Condition 8.3.

8.0 ADMINISTRATIVE REQUIREMENTS

8.1. Permit Renewal Application The completed application package for renewal of this permit is due on May 1, 2011. Two (2) copies of the application must be submitted to the DEQ Permit Coordinator listed in Condition 8.3

8.2. Permit Modifications Application for a modification of this permit must be submitted not less than **60** days prior to the source modification. A special activity fee must be submitted with an application for the permit modification. The fees and two (2) copies of the application must be submitted to the Business Office of the Department.

8.3. Permit Coordinator Addresses All reports, notices, and applications should be directed to the Permit Coordinator for the area where the source is located. The Permit Coordinator address is as follows:

Department of Environmental Quality
Eastern Region
2146 NE 4th Street, Suite 104
BEND, OR 97701-3647
Telephone: (541) 388-6146 ext. 223

8.4. Department Contacts Information about air quality permits and the Department's regulations may be obtained from the DEQ web page at www.deq.state.or.us. All inquiries about this permit should be directed to the regional office for the area where the source is located. The Department's regional office is as follows:

Department of Environmental Quality
Pendleton Office
700 SE Emigrant Avenue, Suite 330
Pendleton, OR 97801-2597
Telephone: (541) 276-4063

8.5. EPA Administrator US Environmental Protection Agency
Director, Air and Waste Management Division
1200 Sixth Avenue
Seattle, WA 98101

9.0 FEES

9.1. Annual Compliance Fee The Annual Fee specified in OAR 340-216-0020, Table 2, Part 2 for a Standard ACDP is due on **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined by Department regulations, will be mailed prior to the above date.

9.2. Change of Ownership or Company Name Fee The non-technical permit modification fee specified in OAR 340-216-0020, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company.

9.3. Special Activity Fees The special activity fees specified in OAR 340-216-0020, Table 2, Part 3 (b through i) are due with an application to modify the permit.

9.4. Where to Submit Fees Fees must be submitted to:
Department of Environmental Quality
Business Office
811 SW Sixth Avenue
Portland, Oregon 97204-1390

10.0 GENERAL CONDITIONS AND DISCLAIMERS

10.1. Permitted Activities This permit allows the permittee to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, or is revoked.

10.2. Other Regulations In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by the Department.

10.3. Conflicting Conditions In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.

10.4. Masking of Emissions The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health,

safety, or welfare of any person or otherwise violate any other regulation or requirement.

- 10.5. Department Access** The permittee must allow the Department's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468-095.
- 10.6. Permit Availability** The permittee must have a copy of the permit available at the facility at all times.
- 10.7. Open Burning** The permittee may not conduct any open burning except as allowed by OAR 340 Division 264.
- 10.8. Asbestos** The permittee must comply with the asbestos abatement requirements in OAR 340, Division 248 for all activities involving asbestos-containing materials, including, but not limit to, demolition, renovation, repair, construction, and maintenance.
- 10.9. Property Rights** The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
- 10.10. Termination, Revocation, or Modification** The Department may modify or revoke this permit pursuant to OAR 340-216-0082 and 340-216-0084.

11.0 EMISSION FACTORS

Emissions device or activity	Pollutant	Monitoring Parameter	Emission Factor (EF)	EF units	EF Reference			
Grain Handling Baghouse - CE01	PM	bushels of grain throughput	512 ^a	lbs/mm bushels	Manufacturer Specifications			
	PM ₁₀		512					
Hammermill Baghouse - CE02	PM		293 ^b					
	PM ₁₀		293					
Boilers 1 & 2 - EU26 & EU27	PM		Natural gas combusted (mmcf)			7.6	lbs/mmcf	AP-42, Section 1.4
	PM ₁₀					7.6		
	SO ₂	0.6						
	NO _x	52.5 ^c		Manufacturer Specifications				
	CO	84		AP-42, Section 1.4				
	VOC	5.5						
Ethanol Loadout Flare	NO _x	Denatured ethanol loaded and gasoline unloaded (gallons)	0.077	lbs/1000 gallons	Manufacturer Specifications			
	CO		0.129					
	VOC		0.3559			AP-42, Section 5.2 and TANKS software		
Carbon Dioxide Scrubber - CE03 (Fermentation Process)	VOC	Monitor gallons of ethanol production (200-proof) for respective 12-month period	0.63	lbs/1000 gallons	Source Test data (ACE Ethanol, Stanley, WI 12/19/2002)			

^a The Grain Handling Baghouse - CE01 PM and PM10 emission factors are based upon the manufacturer's specifications of 0.005 gr/dscf, a flow rate of 21,000 scfm, continual operation of 8760 hours/yr, and a grain throughput of 15.4 mm bushel/yr.

^b The Hammermill Baghouse - CE02 PM and PM10 emission factors are based upon the manufacturer's specifications of 0.005 gr/dscf, a flow rate of 12,000 scfm, continual operation of 8760 hours/yr, and a grain throughput of 15.4 mm bushel/yr.

^c The NO_x emission factor for the Boilers (EU26 & EU 27) is based upon the manufacturer's specification of 0.05 lbs NO_x/ mmbtu, and a natural gas heating value of 1050 btu/cf, which equals 52.5 lbs/mmcf.

Emissions device or activity	Pollutant	Monitoring Parameter	Emission Factor (EF)	EF units	EF Reference
Vent Gas Scrubber - CE04 (Distillation Process)	VOC	Monitor gallons of ethanol production (200-proof) for respective 12-month period	0.18	lbs/1000 gallons	Source Test data (ACE Ethanol, Stanley, WI 12/19/2002)
Ethanol Storage Tanks - TK01, TK02, TK03, TK04 and TK05	VOC	Monitor gallons of throughput for respective 12-month period	Use TANKS software or AP-42 algorithms for 12-month emission rate calculation		
Denaturant Storage Tank - TK06 (Gasoline)	VOC	Monitor gallons of throughput for respective 12-month period	Use TANKS software or AP-42 algorithms for 12-month emission rate calculation		
Fugitives					
Truck Traffic - FS01	PM	VMT	1.04	lbs/VMT	AP-42, Section 13.2.1-1
	PM10		0.20		
Grain Receiving - FS02	PM	tons grain throughput	0.007 ^d	lbs/ton grain	AP-42, Section 9.9.1
	PM ₁₀		0.002 ^d		
Wet Cake Storage Pile - FS04	VOC	tons wetcake produced	5.8E-03	lbs/ton wetcake	Source test data (DENCO, LLC, Morris, MN 11/02/2004)
Equipment Leaks - FS05					
Valve - gas	VOC	Calculated according to EPA-453/R-017	0.0132	lbs/hr/source	EPA-453/R-017
Valve - light liquid			0.00891		
Valve - heavy liquid			0.00051		
Pump - light liquid			0.0440		
Pump - heavy liquid			0.0191		
compressor seals			0.5039		

^d Grain Receiving - FS02 PM and PM₁₀ emission factors are based upon AP-42 Grain Receiving Hopper Trucks from Table 9.9.1-1, with a 20% uncaptured factor applied. The original AP-42 factors are 0.035 lbs/ton for PM and 0.0078 lbs/ton for PM₁₀.

Emissions device or activity	Pollutant	Monitoring Parameter	Emission Factor (EF)	EF units	EF Reference
Pressure relief valves			0.230		
Connectors			0.0040		
Open-ended lines			0.0038		
Sampling connections			0.033		
Cooling Towers - FS06	PM	Record average circulating flow rate (gpm)	0.175	lbs/gpm flow	Typical cooling water drift loss of 0.005% and 800 ppm TDS in City of Boardman water supply.
	PM10		0.175		

12.0 PROCESS/PRODUCTION RECORDS

Emissions device or activity	Process or production parameter	Frequency
Corn receiving & storage	amount in bushels	monthly
Corn milling	amount in bushels	monthly
Scalper by-product	Production in tons	monthly
Wetcake produced (stillage and syrup)	Production in tons	monthly
Boilers	Steam Production	monthly
	Natural Gas combusted	monthly
Carbon Dioxide Scrubber	Ethanol Production	monthly
Vent Gas Scrubber	Ethanol Production	monthly
Ethanol Loadout Flare	Throughput gallons	monthly
Ethanol Tanks	Throughput gallons	monthly
Gasoline Tanks	Throughput gallons	monthly
Ethanol Loading	Throughput gallons	monthly
Gasoline Loading	Throughput gallons	monthly
Equipment leak fugitives	Number of pieces of equipment of the applicable equipment type in the stream	monthly
Truck Traffic	VMT	monthly
Cooling Towers	Average water circulation flowrate (gpm)	monthly

13.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit	O ₂	oxygen
ASTM	American Society for Testing and Materials	OAR	Oregon Administrative Rules
AQMA	Air Quality Maintenance Area	ORS	Oregon Revised Statutes
calendar year	The 12-month period beginning January 1st and ending December 31st	O&M	operation and maintenance
CFR	Code of Federal Regulations	Pb	lead
CO	carbon monoxide	PCD	pollution control device
DEQ	Oregon Department of Environmental Quality	PM	particulate matter
dscf	dry standard cubic foot	PM ₁₀	particulate matter less than 10 microns in size
EPA	US Environmental Protection Agency	ppm	part per million
FCAA	Federal Clean Air Act	PSD	Prevention of Significant Deterioration
gal	gallon(s)	PSEL	Plant Site Emission Limit
gr/dscf	grains per dry standard cubic foot	PTE	Potential to Emit
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	RACT	Reasonably Available Control Technology
I&M	inspection and maintenance	scf	standard cubic foot
lb	pound(s)	SER	Significant Emission Rate
LDAR	Leak detection and repair	SIC	Standard Industrial Code
MMBtu	million British thermal units	SIP	State Implementation Plan
NA	not applicable	SO ₂	sulfur dioxide
NESHAP	National Emissions Standards for Hazardous Air Pollutants	SOCMI	Synthetic Organic Chemical Manufacturing Industry
NO _x	nitrogen oxides	Special Control Area	as defined in OAR 340-204-0070
NSPS	New Source Performance Standard	VE	visible emissions
NSR	New Source Review	VMT	vehicle miles traveled
		VOC	volatile organic compound
		VOL	volatile organic liquid
		year	A period consisting of any 12- consecutive calendar months

