



Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

1/5/2012

Certified Mail

Victor Canter
Valero Renewable Fuels Company, LLC
3979 State Route 238 NE
Bloomington, OH 43106

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0124000132
Permit Number: P0108710
Permit Type: OAC Chapter 3745-31 Modification
County: Fayette

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, The Record Herald. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Central District Office at (614)728-3778.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 - *Via E-Mail Notification*
Ohio EPA-CDO; Kentucky

PUBLIC NOTICE
1/5/2012 Issuance of Draft Air Pollution Permit-To-Install

Valero Renewable Fuels Company, LLC

3979 State Route 238 NE,

Bloomington, OH 43106

Fayette County

FACILITY DESC.: Ethyl Alcohol Manufacturing

PERMIT #: P0108710

PERMIT TYPE: OAC Chapter 3745-31 Modification

PERMIT DESC: The facility is proposing to increase production from 121,422,000 gal/yr of denatured ethanol to 138,775,510 gal/yr of denatured ethanol. Consequently, the facility is transitioning from synthetic minor permitting status to the Title V permitting program.

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at:

epa.ohio.gov/dapc/permit by entering the permit # or: Benjamin Halton, Ohio EPA DAPC, Central District Office, 50 West Town Street, 6th Floor P.O. Box 1049, Columbus, OH 43216-1049. Ph: (614)728-3778



Permit Strategy Write-Up

1. Check all that apply:

X Synthetic Minor Determination

Netting Determination

2. Source Description:

Valero Renewable Fuels Co., LLC (VRFC) is an ethanol production facility

3. Facility Emissions and Attainment Status:

VRFC is located within Fayette County, which is designated as "Attainment" for all criteria pollutants regulated under the CAA. This permitting action is being processed as chapter 31 modification to FEPTIO P0106079 (transitioning to TV PTI). VRFC has applied to remove the synthetic minor operational restrictions necessary to avoid the Title V permitting program and retain federally-enforceable requirements to employ control equipment in order to avoid future NANSR/PSD considerations. BAT has been re-evaluated for each of the modified emissions units using the most recent BAT guidance.

The synthetic minor strategy for PE involves the requirement to employ control equipment (baghouses) whenever emissions units P001, P002, P003, P004, P901, P902 and P903 are operating. The appropriate operational restrictions, monitoring and recordkeeping requirements, reporting requirements and testing requirements have been established for each of these emissions units in order to demonstrate that the control equipment is operating and operating properly.

The synthetic minor strategy for VOC and HAP emissions involves requirements to employ control equipment (wet scrubber, thermal oxidizers and flares). For the fermentation process, VOC and HAP emissions are restricted by the requirement to employ a wet scrubber with a 98.5% control efficiency. The appropriate operational restrictions, monitoring and recordkeeping requirements, reporting requirements and testing requirements have been established for emissions unit P006 in order to demonstrate that the control equipment is operating and operating properly. For the DDGS preparation process, VOC and HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014 are restricted by a limit of 0.12 lbs/thousand gallons of 200-proof ethanol. VOC and HAP emissions are further restricted by the requirement to vent emissions from emissions units P005, P007, P008, P009, P010, P011, P012, P013 and P014 to a thermal oxidizer (or flare for P008). The appropriate operational restrictions, monitoring and recordkeeping requirements, reporting requirements and testing requirements have been established for each emissions unit in order to demonstrate that the 0.12 lbs/thousand gallons of 200-proof ethanol limit adequately restricts the VOC and HAP emissions and that the control equipment is operating and operating properly.

Major NSR and Title V Applicability

Table with 6 columns: PE/PM10 TPY, VOC/OC TPY, NOx TPY, SO2 TPY, CO TPY. Rows include units F001, J001, B001, B002, P005, P007, P008, P009, P010 with numerical values in various colored cells.



P011 P012 P013 P014A								
P008 (flare)	--	--	41.00	0.83	1.93	--	--	10.38
P001-P004	129	5.65	--	--	--	--	--	--
P006								
fermentation	--	--	3334.72	54.59	--	--	--	--
CIP	--	--	0.75	--	--	--	--	--
P014B	2.80	--	5.44	--	--	--	--	--
P015	12.05	--	--	--	--	--	--	--
P801	--	--	39.31	--	--	--	--	--
P901	129	5.65	--	--	--	--	--	--
P902 & P903								
stack	171	1.71	--	--	--	--	--	--
fugitive	1.05	--	--	--	--	--	--	--
T001 & T002	--	--	--	1.64	--	--	--	--
T003	--	--	--	0.56	--	--	--	--
T004	--	--	--	2.06	--	--	--	--
T005	--	--	--	0.69	--	--	--	--
P016 (P0106080)	--	--	1.45	--	--	--	--	--
B003 (PBR07665)	0.07	--	3.22	0.19	22.60	1.29	0.15	0.45
T006 (exempt)	--	--	0.01	--	--	--	--	--
SMTV Totals (uncontrolled)	494.18		4218.79		218.77		10.72	196.43
SMTV Totals (controlled)	78.19		116.60		197.46		8.05	188.97

In accordance with federal guidance, fugitive PE and/or VOC emissions from F001, P016, P801, P902 and P903 are not included as part of the potential-to-emit for either pollutant with respect to determining NANSR/PSD applicability; however, fugitive HAP emissions from these sources are included as part of the potential-to-emit with respect to determining NANSR/PSD applicability. Emissions unit B003 is a 'permit-by-rule' source and is not included in this FEPTIO; however, VOC, NO_x, PE and HAP emissions are included as part of the potential-to-emit with respect to determining NANSR/PSD applicability. Emissions unit T006 is a 'de-minimus' unit and is not included in this FEPTIO; however, VOC and HAP emissions are included as part of the potential-to-emit with respect to determining NANSR/PSD applicability.

4. Source Emissions:

Emissions units F001 is subject to the following rules:

ORC 3704.03(T) – Establishes a 'no visible PE limitation' that is consistent with July 2010 BAT guidance.

Particulate Emissions:

Calculated in accordance with AP-42 Chapter 13, Section 2.1, Equation 1

PM emissions factor = 0.757 lbs/vmt

vmt = 33,438

33,438 vmt * 0.757 lb PM/vmt * (1/2000) = 12.66 tpy PE uncontrolled

Emissions unit J001 is subject to the following rules:

OAC rule 3745-31-05(D) – The synthetic minor strategy for VOC emissions from this unit includes the requirement to employ a flare whenever loadout operations are taking place, it does not include any physical/operational restrictions; therefore, the terms and conditions include a rolling, 12-month limit on VOC emissions and the monitoring/recordkeeping, reporting and testing requirements necessary to demonstrate compliance with the rolling, 12-month VOC limit and to demonstrate that the flare is operated whenever loadout operations are taking place. Combustion flare terms and conditions are consistent with the requirements for the use of a flare as control equipment from OAC rule 3745-21-09(DD)(10)(d). VOC emissions limitations were established to reflect the worst-case operating condition (all denatured ethanol loaded out to truck) in order to provide optimal operational flexibility.

ORC 3704.03(T) – Establishes a lb/MMBtu CO emissions limitation because the potential-to-emit for CO



emissions is greater than 10 tpy. VOC emissions limitation established by this rule is equivalent to the VOC emissions limitation established pursuant to OAC rule 3745-31-05(D).

OAC rule 3745-31-05(A)(3), as effective 11/30/2001 – Establishes hourly NO_x emissions at potential-to-emit.

OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006 – BAT does not apply to the NO_x emissions because the potential to emit for NO_x is less than 10 tpy.

VOC emissions (uncontrolled):

Calculated in accordance with AP-42 Chapter 5.2
Truck loadout emissions factor = .00509 lb VOC/gal
Rail loadout emissions factor = .00051 lb VOC/gal
Loading Rack capture efficiency = 90%
Flare control efficiency = 98%

$$\text{VOC} = 138,775,510 \text{ gal} * 0.00509 \text{ lb VOC/gal} = 706,367.35 \text{ lb} = 353.18 \text{ TPY}$$

VOC emissions (controlled):

Fugitive VOC = 138,775,510 gal * 0.00509 lb VOC/gal * (1-0.90) = 70,636.73 lb = 35.32 TPY
Stack VOC = 138,775,510 gal * 0.00509 lb VOC/gal * (1-0.10) * (1-0.98) = 12,714.61 lb = 6.36 TPY
Total VOC = 35.32 + 6.36 = 41.68 TPY

PE and SO₂ emissions from combustion flare:

In accordance with AP-42, Chapter 13.5, these emissions are not included in the permit because they are expected to be negligible. SO₂ emissions are dependent upon the amount of sulfur available in the fuel combusted. PE(soot) are dependent upon the carbon-to-hydrogen ratio of the fuel combusted and are expected to be eliminated in steam/air-assist flares.

NO_x and CO emissions from combustion flare:

These emissions were calculated in accordance with AP-42, Chapter 13.5, Table 13.5-1

$$\text{NO}_x = 12.4 \text{ MMBtu} * 0.068 \text{ lb/MMBtu} = 0.84 \text{ lb/hr} = 3.68 \text{ TPY}$$
$$\text{CO} = 12.4 \text{ MMBtu} * 0.37 \text{ lb/MMBtu} = 4.59 \text{ lb/hr} = 20.10 \text{ TPY}$$

Emissions unit P006 is subject to the following rules:

OAC rule 3745-31-05(D) – The synthetic minor strategy for this unit includes the requirement to direct VOC emissions from the fermentation process, except those emissions generated during the clean-in-place (CIP) process, to the wet scrubber, and a rolling, 12-month VOC limitation of 55.34 tons (including uncontrolled CIP emissions). The permit includes monitoring/recordkeeping, reporting and testing requirements to ensure compliance with the rolling, 12-month VOC limitation and to ensure that parameters are established during the compliance demonstration that will demonstrate continuous compliance with these limitations.

ORC 3704.03(T) – Establishes a lb/fermentation drop cycle VOC limitation that includes emissions from the pressure relief valves utilized during the CIP process. Requires compliance demonstration for the scrubber portion of the lbs/fermentation drop cycle VOC limitation.



ORC rule 3704.03(F) – This chapter 31 modification does not result in an increase of greater than 1 TPY of any Air Toxic from this emissions unit. The original, specific Air Toxic language has been transcribed from PTIO P0106079.

VOC emissions (controlled/fermentation):

1,226 drop cycles/rolling, 12-month period (conservative overestimate)

89.04 lbs VOC/fermentation drop cycle (conservative overestimate)

VOC = 89.04 lbs VOC/fermentation drop cycle * 1,226 drop cycles = 109,163.04 lbs = 54.59 tons VOC per rolling, 12-month period

VOC emissions (uncontrolled/CIP):

1,226 drop cycles/rolling, 12-month period (conservative overestimate)

1 CIP per fermentation drop cycle

1.23 lbs VOC/CIP

VOC = 1,226 drop cycles/rolling, 12-month period * 1 * 1.23 lbs VOC/CIP = 1507.98 = 0.75 tons VOC per rolling, 12-month period

Total VOC = 54.59 + 0.75 = 55.34 Tons VOC per rolling, 12-month period

Emissions unit P008 is subject to the following rules:

OAC rule 3745-31-05(D) – Establishes the requirement to vent tall emissions from the biomethanators to either a thermal oxidizer (via Dryer A) or to the biomethanator flare. VOC emissions from this process are expected to be controlled at the same level whether they are directed to the flare or to the thermal oxidizer. When directed to the thermal oxidizer, the VOC emissions are directed to the burner in Dryer A. All of the emissions from the combustion of natural gas and biogas from Dryer A are directed to thermal oxidizer/heat recovery steam generating unit B001 where they are ultimately combined with the emissions from EUs B001, B002, P005, P007, P009, P010, P011, P012, P013 and P014. Establishes VE limit and general requirements for the operation of the flare that are consistent with the requirements for the use of a flare as control equipment from OAC rule 3745-21-09(DD)(10)(d).

VOC emissions limitations were established to reflect both operating scenarios (venting to flare and venting to oxidizer combined with other EUs).

ORC 3704.03(T) – Establishes a lb/MMBtu CO emissions limitation because the potential-to-emit for CO emissions is greater than 10 tpy.

OAC rule 3745-31-05(A)(3), as effective 11/30/2001 – Establishes hourly and annual NO_x emissions at potential-to-emit.

OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006 – BAT does not apply to the NO_x emissions because the potential to emit for NO_x is less than 10 tpy.

ORC rule 3704.03(F) – This chapter 31 modification does not result in an increase of greater than 1 TPY of any Air Toxic from this emissions unit. The original, specific Air Toxic language has been transcribed from PTIO P0106079.

VOC emissions (uncontrolled):

Biogas production rate = 56.0 scfm = 3,360 scf/hr

VOC conversion factor = 359 scf/lb-mol



Flare control efficiency = 98%

VOC = 3,360 scf/hr * 1 lb mole/359 scf = 9.36 lbs/hr = 41.00 TPY

VOC emissions (controlled):

9.36 lbs/hr (1-0.98) = 0.19 lbs/hr = 0.83 TPY

Combined VOC emissions limitations for EUs B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014

Maximum production = 136,000,000 gallons per rolling, 12-month period

VOC emissions rate = 0.12 lbs/Kgal ethanol

136,000,000 gal * 0.12 lbs VOC/Kgal = 16,320 lbs = 8.16 tons per rolling 12-month period

PE and SO₂ emissions from combustion flare:

In accordance with AP-42, Chapter 13.5, these emissions are not included in the permit because they are expected to be negligible. SO₂ emissions are dependent upon the amount of sulfur available in the fuel combusted. PE(soot) are dependent upon the carbon-to-hydrogen ratio of the fuel combusted and are expected to be eliminated in steam/air-assist flares.

SO₂ emissions from biogas:

Maximum production = 136,000,000 gallons per rolling, 12-month period

Maximum hourly 200-proof ethanol production rate = 15.858 Kgal

SO₂ emissions rate = 0.10 lbs/Kgal ethanol

SO₂ = 15.858 Kgal/hr * 0.10 lbs/Kgal ethanol = 1.59 lbs/hr

SO₂ = 136,000 Kgal/yr * 0.10 lbs/Kgal ethanol = 6.80 TPY

NO_x and CO emissions from combustion flare:

These emissions were calculated in accordance with AP-42, Chapter 13.5, Table 13.5-1

NO_x = 6.4 MMBtu * 0.068 lb/MMBtu = 0.44 lb/hr = 1.93 TPY

CO = 6.4 MMBtu * 0.37 lb/MMBtu = 2.37 lb/hr = 10.38 TPY

Emissions unit P014 is subject to the following rules:

OAC rule 3745-31-05(D) – Establishes combined VOC emissions limitations from EUs B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014. Requires control of VOC emissions for emissions vented to the combined stack.

ORC 3704.03(T) – Establishes a rolling, 12-month PE limitation (combined and atmospheric stack) and rolling 12-month VOC emissions limitation (atmospheric stack only) because the potential-to-emit for PE and VOC emissions are greater than 10 tpy.

OAC rule 3745-17-11(B)(3) and OAC rule 3745-17-07(A) – VRFC is located within Fayette County which is not an Appendix A area and the uncontrolled mass rate of particulate emissions, taking into consideration the efficiency of the baghouse associated with the DDGS collection system (the baghouse is integral to the process of collecting DDGS and is not considered control equipment for the purpose of establishing the potential-to-emit for particulate), is less than 10 lbs/hr; therefore, OAC rule 3745-17-11 does not apply. Because OAC rule 3745-17-11 does not apply, there are no visible emissions limitations established under OAC rule 3745-17-07.



VOC emissions (uncontrolled/atmospheric stack):

Emissions rate = 0.08 lb/Kgal (from April 2010 stack test)

Maximum production = 136,000,000 gallons per rolling, 12-month period

$VOC = 0.08 \text{ lb/Kgal} * 136,000,000 \text{ gal}/1,000 \text{ gal} = 10,880 \text{ lbs} = 5.44 \text{ tons per rolling, 12-month period}$

Combined VOC emissions limitations for EUs B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014 (controlled/combined stack):

Maximum production = 136,000,000 gallons per rolling, 12-month period

VOC emissions rate = 0.12 lbs/Kgal ethanol

$136,000,000 \text{ gal} * 0.12 \text{ lbs VOC/Kgal} = 16,320 \text{ lbs} = 8.16 \text{ tons per rolling, 12-month period}$

Total VOC = 5.44 + 8.16 = 13.60 tons per rolling, 12-month period

PE (uncontrolled/atmospheric stack):

Emissions rate = <0.005 gr/dscf

Flow rate = 15,000 acfm

$PE = 0.005 \text{ gr/dscf} * 15,000 \text{ acfm} * 1 \text{ lb}/7,000\text{gr} * 60 \text{ min/hr} = 0.64 \text{ lb/hr} = 2.80 \text{ tons per rolling, 12-month period}$

PE (uncontrolled/combined stack):

Emissions rate = 0.11 lb/Kgal (from April 2010 stack test)

Maximum production = 136,000,000 gallons per rolling, 12-month period

$PE = 0.11 \text{ lb/Kgal} * 136,000,000 \text{ gal}/1,000 \text{ gal} = 14,960 \text{ lbs} = 7.48 \text{ tons per rolling, 12-month period}$

Total PE = 2.80 + 7.48 = 10.28 tons per rolling, 12-month period

Emissions unit P801 is subject to the following rules:

ORC 3704.03(T) – Establishes a rolling, 12-month VOC emissions limitation that is consistent with December 2009 BAT guidance.

OAC rule 3745-21-09(DD) and 40CFR Part 60, subpart VVa – Establishes a requirement to develop and implement a site specific Leak Detection and Repair (LDAR) plan and provides the opportunity to develop and implement a single plan that demonstrates compliance with both regulations provided that in any case of overlapping requirements, the more stringent requirement is met.

40 CFR Part 60, subpart VVa and subpart A – Includes terms and conditions designed to incorporate the applicable requirements of the federal rules by reference.

VOC emissions:

The VOC emission limitation for fugitive VOC leak sources was established in accordance with the USEPA *Protocol for Equipment Leak Emissions Estimates*, EPA-453/R-95-017 (November 1995) and the following table:



Process area	Equipment	Service	Component Count	Emissions Factor (lb/hr/source)	TOC Weight (fraction)	Control Efficiency	Hourly Emissions (lb/hr)	Annual Emissions (tpy)
Fermentation	Valves	Light Liquid	219	0.00888	0.13	84%	0.04	0.18
	Flanges	All	627	0.00403	0.13	0%	0.33	1.45
	Pumps	Light Liquid	12	0.04387	0.13	69%	0.02	0.09
	PRV	Gas/Vapor	8	0.22928	0.82	87%	0.20	0.88
Distillation	Valves	Gas/Vapor	135	0.01316	0.82	87%	0.19	0.83
	Valves	Light Liquid	204	0.00888	0.82	84%	0.24	1.05
	Flanges	All	1002	0.00403	0.82	0%	3.31	14.50
	Pumps	Light Liquid	8	0.04387	0.82	69%	0.09	0.39
Ethanol Loadout	PRV	Gas/Vapor	16	0.22928	0.82	87%	0.39	1.71
	Valves	Gas/Vapor	7	0.01316	0.82	87%	0.01	0.04
	Valves	Light Liquid	106	0.00888	0.82	84%	0.12	0.53
	Pumps	Light Liquid	2	0.04387	0.82	69%	0.02	0.09
	Flanges	All	533	0.00403	0.82	0%	1.76	7.71
Tank Farm	PRV	Light Liquid	4	0.22928	0.82	84%	0.12	0.53
	PRV	Gas/Vapor	1	0.22928	0.82	87%	0.02	0.09
	Valves	Light Liquid	135	0.00888	1.00	84%	0.19	0.83
	Flanges	All	431	0.00403	1.00	0%	1.74	7.62
	Pumps	Light Liquid	5	0.04387	1.00	69%	0.07	0.31
	PRV	Light Liquid	3	0.22928	1.00	84%	0.11	0.48
Total							8.97	39.31

Emissions unit P903 is subject to the following rules:

OAC rule 3745-31-05(D) – The synthetic minor strategy for this unit incorporates a combined rolling, 12-month PE limitation based on the requirement to vent emissions from EUs P902 and P903 to the baghouse (additional production/operational restrictions aren't necessary). The baghouse is required to meet a 0.005 gr/dscf grain loading limitation. The permit includes monitoring/recordkeeping, reporting and testing requirements to ensure compliance with the rolling 12-month PE limitation and to demonstrate that the baghouse is operating properly.

OAC 3745-31-05(A)(3), as effective 11/30/2001 – Establishes an hourly fugitive BAT limit for PE for EU P903 based on the maximum process weight rate and the control efficiency of the required baghouse.

OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006 – BAT does not apply to the PE because the potential to emit for PE is less than ten tons per year taking into account the federally enforceable rule limits established under 3745-31-05(D).

OAC rule 3745-17-11(A), OAC rule 3745-17-08(A), and OAC rule 3745-17-07(A) – The limitations established by 17-11(A) do not apply to emissions unit P903 because the uncontrolled mass rate of emissions (UMRE) cannot be ascertained and the facility is located within Fayette County (Figure II doesn't apply to sources for which the UMRE cannot be ascertained and Table I does not apply to a source located in Fayette County). The limitations established by 17-08(A) do not apply to emissions unit P903 because it is not located within an area identified in "appendix A" of OAC rule 3745-17-08. The limitations established by 17-07(A) do not apply to emissions unit P903 because the source is not subject to an emissions limitation under OAC rule 3745-17-11.

Particulate Emissions (fugitive):

Calculated in accordance with AP-42 Chapter 9.9, Table 9.9.1-2.

Process weight rate = 49 tons/hr

Emission factor = 0.0033 lb PE/ton



$49 \text{ tons/hr} * 0.0033 \text{ lb PE/ton} = 0.16 \text{ lb/hr} * 8760 \text{ hrs/yr} * \text{ton}/2000\text{lb} = 0.70 \text{ tpy PE}$

Particulate Emissions (stack):

Calculated using the results of stack tests conducted 7/31/2008 and the federally enforceable grain loading limitation of 0.005 gr/dscf.

Maximum outlet volume = 9,000 dscf

$9,000 \text{ dscf/min} * 0.005 \text{ gr/dscf} * 60 \text{ min/hr} * \text{lb}/7000\text{gr} = 0.39 \text{ lb PE/hr} * 8760 \text{ hrs/yr} * \text{ton}/2000\text{lb}$
= 1.71 tons PE per rolling, 12-month period.

Emissions unit T003 is subject to the following rules:

OAC rule 3745-31-05(A)(3), as effective 11/30/2001 – Establishes annual VOC emissions taking into consideration the requirements of subpart Kb. The VOC emissions limitation was established using the most recent version of the U.S. EPA Tanks program.

OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006 – BAT does not apply to the VOC emissions because the potential to emit for VOC is less than 10 tpy, taking into consideration the rule requirements established under subpart Kb.

40 CFR Part 60, subpart Kb and subpart A – (Incorporated by reference) Establishes physical requirements as well as inspection, monitoring/recordkeeping and reporting requirements for the tank and internal floating roof.

Emissions unit T005 is subject to the following rules:

OAC rule 3745-31-05(A)(3), as effective 11/30/2001 – Establishes annual VOC emissions taking into consideration the requirements of subpart Kb. The VOC emissions limitation was established using the most recent version of the U.S. EPA Tanks program.

OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006 – BAT does not apply to the VOC emissions because the potential to emit for VOC is less than 10 tpy, taking into consideration the rule requirements established under subpart Kb.

40 CFR Part 60, subpart Kb and subpart A – (Incorporated by reference) Establishes physical requirements as well as inspection, monitoring/recordkeeping and reporting requirements for the tank and internal floating roof.

Emissions units P010 through P013 are subject to the following rules:

OAC rule 3745-31-05(D) – The synthetic minor strategy for these units includes the requirement to employ VOC controls (thermal oxidizers) and incorporates a combined emission limitation strategy with EUs B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014 because these units all vent emissions to the thermal oxidizer/heat recovery steam generating units. The permit includes monitoring/recordkeeping, reporting and testing requirements to ensure compliance with the combined rolling, 12-month VOC limitation and to ensure that parameters are established during the compliance demonstration that will ensure continuous compliance with this limitation.

OAC rule 3745-31-05(A)(3), as effective 11/30/2001 – Establishes hourly and annual emissions limitations for SO₂, VOC and PE at potential to emit.

OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006 – BAT does not apply to the SO₂, VOC and PE because the potential to emit for each pollutant is less than 10 tpy.



ORC 3704.03(T) – Establishes lb/MMBtu CO and NO_x emissions limitations because the potential-to-emit for each pollutant is greater than 10 tpy.

OAC rule 3745-17-11(B)(3) and OAC rule 3745-17-07(A) – Each dryer is followed by a series of multiclones that are used to collect DDGS for transfer to the DDGS cooling drum and allow for pre-heated dryer air to be used as combustion air in each dryer and in the thermal oxidizer/heat recovery steam generating units. The multiclones are determined to be integral to the process of collecting DDGS and are not considered control equipment for the purpose of establishing the potential-to-emit for particulate. VRFC is located within Fayette County which is not an Appendix A area and the uncontrolled mass rate of particulate emissions (taking into consideration the efficiency of the multiclones) is less than 10 lbs/hr; therefore, OAC rule 3745-17-11 does not apply. Because OAC rule 3745-17-11 does not apply, there are no visible emissions limitations established under OAC rule 3745-17-07.

OAC rule 3745-18-06(E)(2) – Emissions units P011, P012 and P013 are exempt from the requirements of OAC rule 3745-18-06(E)(2) pursuant to OAC rule 3745-18-06(A). The emissions limitation established by this rule for P010 is less stringent than the emissions limitation established pursuant to OAC rule 3745-31-05(A)(3) (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP). After U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP, the emissions limitation established by OAC rule 3745-18-06(E)(2) is determined by rule using a process weight rate of 12.2 tons/hr (160.32 lbs SO₂/hr).

OAC rule 3745-17-10(B)(1) – The limitations established by this rule do not apply to the DDGS Dryers because they do not utilize indirect heat transfer; therefore, they do not qualify as ‘fuel burning equipment’ using the definition established within OAC rule 3745-17-01(B)(5).

Combined VOC emissions limitations for EUs B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014 (controlled/combined stack):

Maximum production = 136,000,000 gallons per rolling, 12-month period
VOC emissions rate = 0.12 lbs/Kgal ethanol

136,000,000 gal * 0.12 lbs VOC/Kgal = 16,320 lbs = 8.16 tons per rolling, 12-month period

NO_x and CO emissions from the combustion of natural gas in each dryer:

These emissions were calculated in accordance with AP-42, Chapter 1.4, Table 1.4-1

NO_x = 38 MMBtu * 0.098 lb/MMBtu = 3.73 lb/hr = 16.34 TPY
CO = 38 MMBtu * 0.082 lb/MMBtu = 3.13 lb/hr = 13.71 TPY

SO₂, VOC and PE emissions from the combustion of natural gas in each dryer:

These emissions were calculated in accordance with AP-42, Chapter 1.4, Table 1.4-2

SO₂ = 38 MMBtu * 0.000588 lb/MMBtu = 0.02 lb/hr = 0.09 TPY
VOC = 38 MMBtu * 0.00539 lb/MMBtu = 0.20 lb/hr
PE = 38 MMBtu * 0.00745 lb/MMBtu = 0.28 lb/hr = 1.23 TPY

SO₂ emissions from biogas (P010/Dryer A only):

Maximum production = 136,000,000 gallons per rolling, 12-month period
Maximum hourly 200-proof ethanol production rate = 15.858 Kgal
SO₂ emissions rate = 0.10 lbs/Kgal ethanol



$$\text{SO}_2 = 15.858 \text{ Kgal/hr} * 0.10 \text{ lbs/Kgal ethanol} = 1.59 \text{ lbs/hr}$$
$$\text{SO}_2 = 136,000 \text{ Kgal/yr} * 0.10 \text{ lbs/Kgal ethanol} = 6.80 \text{ TPY}$$

$$\text{Total hourly SO}_2 \text{ emission from P010} = 0.02 \text{ lb/hr} + 1.59 \text{ lbs/hr} = 1.61 \text{ lbs/hr}$$
$$\text{Total annual SO}_2 \text{ emissions from P010} = 0.09 \text{ TPY} + 6.80 \text{ TPY} = 6.89 \text{ TPY}$$

Process PE

These emissions were calculated in accordance with AP-42, Chapter 9.9.1, Table 9.9.1-1

Maximum production = 12.2 T/hr

Emission factor for grain drying = 3.0 lb PE/T

Multiclone control efficiency = 98%

$$12.2 \text{ T/hr} * 3.0 \text{ lb PE/T} (1 - 0.98) = 0.73 \text{ lbs/hr} = 3.20 \text{ TPY}$$

$$\text{Total hourly PE} = 0.28 + 0.73 = 1.01 \text{ lbs/hr}$$

$$\text{Total annual PE} = 1.23 + 3.20 = 4.43 \text{ TPY}$$

Emissions units T001 and T002 are subject to the following rules:

OAC rule 3745-31-05(A)(3), as effective 11/30/2001 – Establishes annual VOC emissions taking into consideration the requirements of subpart Kb. The VOC emissions limitation was established using the most recent version of the U.S. EPA Tanks program.

OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006 – BAT does not apply to the VOC emissions because the potential to emit for VOC is less than 10 tpy, taking into consideration the rule requirements established under subpart Kb.

40 CFR Part 60, subpart Kb and subpart A – (Incorporated by reference) Establishes physical requirements as well as inspection, monitoring/recordkeeping and reporting requirements for the tank and internal floating roof.

Emissions units P005, P007 and P009 are subject to the following rules:

OAC rule 3745-31-05(D) – The synthetic minor strategy for these units includes the requirement to employ VOC controls (thermal oxidizers) and incorporates a combined VOC emissions limitation strategy with EUs B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014 because these units all vent emissions to the thermal oxidizer/heat recovery steam generating units. The permit includes monitoring/recordkeeping, reporting and testing requirements to ensure compliance with the combined rolling, 12-month VOC limitation and to ensure that parameters are established during the compliance demonstration that will ensure continuous compliance with this limitation.

OAC rule 3745-31-05(A)(3), as effective 11/30/2001 – Establishes an hourly VOC emissions limitation at potential-to-emit, taking into consideration the emissions limitations and operational restrictions established under OAC rule 3745-31-05(D).

OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006 – BAT does not apply to the VOC emissions because the potential to emit for VOC is less than 10 tpy, taking into consideration the emissions limitations and operational restrictions established under OAC rule 3745-31-05(D).

ORC rule 3704.03(F) – This chapter 31 modification does not result in an increase of greater than 1 TPY of any Air Toxic from this emissions unit. The original, specific Air Toxic language has been transcribed from PTIO P0106079.



Combined VOC emissions limitations for EUs B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014 (controlled/combined stack):

Maximum production = 136,000,000 gallons per rolling, 12-month period
VOC emissions rate = 0.12 lbs/Kgal ethanol

$136,000,000 \text{ gal} * 0.12 \text{ lbs VOC/Kgal} = 16,320 \text{ lbs} = 8.16 \text{ tons per rolling, 12-month period}$

VOC emissions (controlled):

maximum hourly 200-proof ethanol production rate = 15.858 Kgal
VOC emissions rate established under OAC rule 3745-31-05(D) = 0.12 lb VOC/Kgal

$\text{VOC} = 15.858 \text{ Kgal} * 0.12 \text{ lb VOC/Kgal} = 1.90 \text{ lbs/hr} = 8.32 \text{ TPY}$

Emissions units B001 and B002 are subject to the following rules:

OAC rule 3745-31-05(D) – The synthetic minor strategy for these units incorporates a combined VOC emissions limitation strategy with EUs B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014 because emissions from these units are all vented through the combined stack following the thermal oxidizer/heat recovery steam generating units. The permit includes monitoring/recordkeeping, reporting and testing requirements to ensure compliance with the combined rolling, 12-month VOC limitation and to ensure that parameters are established during the compliance demonstration that will ensure continuous compliance with these limitations.

OAC rule 3745-31-05(A)(3), as effective 11/30/2001 – Establishes hourly and annual emissions limitations for SO₂ and hourly emissions limitation for VOC at potential to emit.

OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006 – BAT does not apply to the SO₂ and VOC emissions because the potential to emit for each pollutant is less than 10 tpy.

ORC 3704.03(T) – Establishes lb/MMBtu CO emissions limitations because the potential-to-emit for CO is greater than 10 tpy. The NO_x limitation established by this rule is equivalent to the limitation established pursuant to 40 CFR Part 60, subpart Db. The PE limitation established by this rule is equivalent to the limitation established pursuant to OAC rule 3745-17-10(B)(1).

OAC rule 3745-17-10(B)(1) – Establishes a PE limitation of 0.020 lb/MMBtu of actual heat input.

40 CFR Part 60, subpart Db and subpart A – The thermal oxidizer/heat recovery steam generating units are determined to be subject to the requirements of subpart Db. Notably, the subpart includes requirements for demonstrating compliance with a NO_x emissions standard and requires the facility to install and maintain a continuous emissions monitoring (CEM) system.

SO₂ emissions from the combustion of natural gas in each TO/HRSG:

These emissions were calculated in accordance with AP-42, Chapter 1.4, Table 1.4-2

$\text{SO}_2 = 143 \text{ MMBtu} * 0.000588 \text{ lb/MMBtu} = 0.08 \text{ lb/hr} = 0.035 \text{ TPY}$

VOC emissions:

maximum hourly 200-proof ethanol production rate = 15.858 Kgal
VOC emissions rate established under OAC rule 3745-31-05(D) = 0.12 lb VOC/Kgal

$\text{VOC} = 15.858 \text{ Kgal} * 0.12 \text{ lb VOC/Kgal} = 1.90 \text{ lbs/hr}$



Combined VOC emissions limitations for EUs B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014 (controlled/combined stack):

Maximum production = 136,000,000 gallons per rolling, 12-month period
VOC emissions rate = 0.12 lbs/Kgal ethanol

$136,000,000 \text{ gal} * 0.12 \text{ lbs VOC/Kgal} = 16,320 \text{ lbs} = 8.16 \text{ tons per rolling, 12-month period}$

PE emissions:

These emissions were calculated in accordance with AP-42, Chapter 1.4, Table 1.4-2

$PE = 143 \text{ MMBtu/hr} * 0.020 \text{ lb/MMBtu} = 2.86 \text{ lbs/hr} = 12.53 \text{ TPY}$

NO_x emissions:

NO_x emissions rate established under 40 CFR Part 60, subpart Db = 0.10 lb NO_x /MMBtu

$NO_x = 143 \text{ MMBtu} * 0.10 \text{ lb/MMBtu} = 14.30 \text{ lbs/hr} = 62.6 \text{ TPY}$

CO emissions:

These emissions were calculated in accordance with AP-42, Chapter 1.4, Table 1.4-1

$CO = 143 \text{ MMBtu} * 0.082 \text{ lb/MMBtu} = 11.78 \text{ lbs/hr} = 51.60 \text{ TPY}$

5. Conclusion:

The terms and conditions contained within PTI P0108710 are sufficient to ensure compliance with the applicable state and federal regulations. The facility has requested federally enforceable limitations in order to avoid future PSD consideration. Due to the level of potential emissions at the facility, it is necessary for the facility to synthetically minor particulate, VOC, NO_x, and HAP emissions in order to avoid the major source thresholds of 250 tpy (PE, VOC and NO_x), 10 tpy single HAP and 25 tpy combined HAPs. The following information is intended to summarize the synthetic minor strategies with respect to each pollutant:

NO_x emissions:

B001, B002 – NO_x emissions are restricted by 40 CFR Part 60, subpart Db to 0.10 lb/MMBtu for each TO/HRSG. The resulting allowable NO_x emissions level is 125.20 tpy.

J001 – NO_x emissions are unrestricted and result from the combustion of natural gas and VOCs within the combustion flare. The resulting allowable NO_x emissions level is 3.68 tpy.

P008 – NO_x emissions are unrestricted and result from the combustion of methanator-generated biogas in either Dryer A or the biomethanator flare. The resulting allowable NO_x emissions level is 1.93 tpy.

P010, P011, P012, and P013 – NO_x emissions are unrestricted and result from the combustion of natural gas in each dryer (or biogas in Dryer A). The resulting allowable NO_x emissions level is 65.36 tpy.

B003 – The emergency water pump qualifies for a permit-by-rule (PBR) exemption under OAC rule 3745-31-03(A)(4)(b) provided that the necessary records are kept including the rolling, 12-month hours of operation. The water pump hours of operation must remain below 500 hours per rolling, 12-month period in order to maintain PBR status. Provided PBR status is maintained, NO_x emissions are restricted to 1.29 tons per rolling, 12-month period.

$Total = 125.20 + 3.68 + 1.93 + 65.36 + 1.29 = 197.46 \text{ tpy NO}_x.$



Particulate emissions:

B001, B002 – PE are restricted by OAC rule 3745-17-10(B)(1) and result from the combustion of natural gas in each TO/HRSG. OAC rule 17-10(B)(1) limits the PE to 0.20 lb/MMBtu of actual heat input. The resulting allowable PE level is 25.06 tpy.

J001 – PE are unrestricted and result from the combustion of natural gas and VOCs within the combustion flare. PE from the combustion of natural gas in flare pilot and VOCs within the combustion flare are expected to be nominal (<0.10 tpy).

P008 – PE are unrestricted and result from the combustion of biogas within the combustion flare. PE from the combustion of biogas within the combustion flare are expected to be nominal (<0.10 tpy).

P010, P011, P012, and P013 – PE are unrestricted and result from the combustion of natural gas in each dryer (or biogas in Dryer A) and process emissions from the drying of distilled grains. The resulting allowable PE level is 17.72 tpy.

P014 (combined stack) – PE are unrestricted and result from the processing/cooling of DDGS. The resulting allowable PE level is 7.48 tpy.

P014 (atmospheric stack) – PE are unrestricted and result from the processing/cooling of DDGS. The resulting allowable PE level is 2.80 tpy.

P015 – PE are unrestricted and result from the treatment of water with dissolved solids for the purpose of process cooling. The resulting allowable PE level is 12.05 tpy.

P001, P002, P003 and P004 – The short term BAT limit restricts PE to 1.29 lbs/hr. The federally enforceable grain loading limitation of 0.005 gr/dscf established for the baghouse serving these emissions units limits the combined emissions to 5.65 tons per rolling, 12-month period. There are no additional production/operational restrictions established for these units because the requirements to vent emissions to the baghouse and maintain the necessary records to demonstrate that the baghouse is operating properly are sufficient to limit particulate emissions. The resulting allowable PE level is 5.65 tons per rolling, 12-month period.

P901 – The short term BAT limit restricts PE to 1.29 lbs/hr. The federally enforceable grain loading limitation of 0.005 gr/dscf established for the baghouse serving this emissions unit limits PE to 5.65 tons per rolling, 12-month period. There are no additional production/operational restrictions established for this unit because the requirements to vent emissions to the baghouse and maintain the necessary records to demonstrate that the baghouse is operating properly are sufficient to limit particulate emissions. The resulting allowable PE level is 5.65 tons per rolling, 12-month period.

P902 and P903 – The short term BAT limit restricts PE to 0.39 lb/hr. The federally enforceable grain loading limitation of 0.005 gr/dscf established for the baghouse serving these emissions units limits the combined emissions to 1.71 tons per rolling, 12-month period. There are no additional production/operational restrictions established for these units because the requirements to vent emissions to the baghouse and maintain the necessary records to demonstrate that the baghouse is operating properly are sufficient to limit particulate emissions. The resulting allowable PE level is 1.71 tons per rolling, 12-month period.

B003 – The emergency water pump qualifies for a permit-by-rule (PBR) exemption under OAC rule 3745-31-03(A)(4)(b) provided that the necessary records are kept including the rolling, 12-month hours



of operation. The water pump hours of operation must remain below 500 hours per rolling, 12-month period in order to maintain PBR status. Provided PBR status is maintained, PE are restricted to 0.07 ton per rolling, 12-month period.

$$\text{Total} = 25.06 + 17.72 + 7.48 + 2.80 + 12.05 + 5.65 + 5.65 + 1.71 + 0.07 = 78.19 \text{ tpy PE.}$$

VOC emissions:

B001, B002, P005, P007, P008, P009, P010-P013 and P014 (combined stack) – VOC emissions from these units are restricted to 0.12 lbs/Kgal ethanol. Combined with the 136,000,000 gallon/rolling, 12-month maximum 200-proof ethanol production rate, the resulting rolling, 12-month limitation is 8.16 tons VOC.

P008 – VOC emissions are restricted by the requirement to vent emissions to Dryer A or a combustion flare. The resulting allowable VOC emissions level is 0.83 tpy.

J001 – VOC emissions are required to be controlled by a combustion flare. The resulting rolling, 12-month limitation is 41.68 tons VOC.

P006 – BAT requires the use of a wet scrubber with 98.5% VOC control efficiency to control emissions from the fermentation process except emissions vented during the CIP process. VOC emissions from the scrubber are restricted to 90.27 lbs/fermentation drop cycle and VOC emissions from the CIP process to 1.23 lbs/hr. Combined with the 1,226 fermentation drop cycles per rolling, 12-month operational capacity, the resulting rolling, 12-month VOC limitation is 55.34 tons.

P014 (atmospheric stack) – VOC emissions are unrestricted and result from the cooling of DDGS. The resulting allowable VOC emissions level is 5.44 tpy.

T001 – VOC emissions are restricted by 40 CFR Part 60, subpart Kb. The resulting allowable VOC emissions level is 0.82 tpy.

T002 – VOC emissions are restricted by 40 CFR Part 60, subpart Kb. The resulting allowable VOC emissions level is 0.82 tpy.

T003 – VOC emissions are restricted by 40 CFR Part 60, subpart Kb. The resulting allowable VOC emissions level is 0.56 tpy.

T004 – BAT restricts VOC emissions from this unit to 2.06 tpy.

T005 – VOC emissions are restricted by 40 CFR Part 60, subpart Kb. The resulting allowable VOC emissions level is 0.69 tpy.

T006 – This source is a ‘de-minimis’ unit and is not subject to permitting. The potential to emit for VOC emissions for this source is 0.01 tpy.

B003 – The emergency water pump qualifies for a permit-by-rule (PBR) exemption under OAC rule 3745-31-03(A)(4)(b) provided that the necessary records are kept including the rolling, 12-month hours of operation. The water pump hours of operation must remain below 500 hours per rolling, 12-month period in order to maintain PBR status. Provided PBR status is maintained, VOC emissions are restricted to 0.19 ton per rolling, 12-month period.

$$\text{Total} = 8.16 + 0.83 + 41.68 + 55.34 + 5.44 + 0.82 + 0.82 + 0.56 + 2.06 + 0.69 + 0.01 + 0.19 =$$



116.60 tpy VOC.

HAP Emissions

This PTI contains facility-wide terms and conditions that limit single HAP emissions to 9.9 tons per rolling, 12-month period and combined HAPs emissions to 24.9 tons per rolling, 12-month period. Consistent with permitting policy related to HAP emissions, these limitations are included in the facility-wide terms and conditions because they may include terms and conditions that apply to emissions units that are not otherwise required to obtain permits. HAP emissions levels at the facility were evaluated taking into consideration the air pollution control requirements established for emissions units B001, B002, J001, P005, P006, P007, P008, P009, P010, P011, P012, P013 and P014. The following table summarizes the combined HAP emissions levels at the facility (considering the limitations/restrictions identified above):

Combined HAPs

Emissions Unit	Stack Emissions (T/yr)	Fugitive Emissions (T/yr)
B001		
combustion	1.09	
B002		
combustion	1.09	
B003	.00834	
J001	.000811	
P005, P007, P008, P009, P010, P011, P012, P013, P014	4.08	
P006		
scrubber	5.03	
CIP	0.007	
P008		
combustion	.0519	
P010-P013		
combustion	1.23	
P014 (atmospheric)	0.7	
P016		0.028
P801		0.422
T001	.0071	
T002	.0071	
T004	.035	
T006	0.0104	
Methanator	0.000155	
Thin Stillage	0.35	
Cook Water	0.001	
Whole Stillage	0.05	
Total	13.749	0.45
	14.199	



An evaluation of facility-wide individual and total combined HAP emissions has been made taking into consideration the air pollution control requirements established for emissions units B001, B002, J001, P005, P006, P007, P008, P009, P010, P011, P012, P013 and P014. The requirements established in the following terms and conditions in conjunction with the operational restrictions, monitoring and recordkeeping requirements, reporting requirements and testing requirements established for emissions unit B001, B002, J001, P005, P006, P007, P008, P009, P010, P011, P012, P013 and P014 are sufficient to demonstrate compliance with the individual and total combined HAP emissions limitations. It is not necessary to establish facility-wide operational restrictions for the purpose of avoiding Title V and MACT (subpart B) for HAP emissions.

The potential to emit for PE, VOC, NO_x, and HAP emissions have been effectively limited in accordance with state and federal guidance. The maximum 200-proof ethanol production rate in conjunction with the requirements to employ controls and monitor the performance of the control devices make the limitations federally enforceable for the purpose of avoiding future PSD considerations. The short term and rolling, 12-month limitations are necessary to satisfy state requirements for federal enforceability. The permit should be issued draft to allow for public and U.S. EPA comment in order to be federally enforceable according to OAC rule 3745-31-05(D).

- 6. Please provide additional notes or comments as necessary:
- 7. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	54.77
OC	114.34
NO _x	196.17
SO ₂	7.90
CO	188.52



DRAFT

Division of Air Pollution Control
Permit-to-Install
for
Valero Renewable Fuels Company, LLC

Facility ID: 0124000132
Permit Number: P0108710
Permit Type: OAC Chapter 3745-31 Modification
Issued: 1/5/2012
Effective: To be entered upon final issuance



Division of Air Pollution Control
Permit-to-Install
for
Valero Renewable Fuels Company, LLC

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Authorization

Facility ID: 0124000132
Facility Description: Ethanol Production Facility
Application Number(s): A0042320
Permit Number: P0108710
Permit Description: The facility is proposing to increase production from 121,422,000 gal/yr of denatured ethanol to 138,775,510 gal/yr of denatured ethanol. Consequently, the facility is transitioning from synthetic minor permitting status to the Title V permitting program.
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$18,700.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 1/5/2012
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

Valero Renewable Fuels Company, LLC
3979 State Route 238 NE
Bloomingburg, OH 43106

of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049
(614)728-3778

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director



Authorization (continued)

Permit Number: P0108710
Permit Description: The facility is proposing to increase production from 121,422,000 gal/yr of denatured ethanol to 138,775,510 gal/yr of denatured ethanol. Consequently, the facility is transitioning from synthetic minor permitting status to the Title V permitting program.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

- Emissions Unit ID: F001
Company Equipment ID: F001
Superseded Permit Number: P0106079
General Permit Category and Type: Not Applicable
Emissions Unit ID: J001
Company Equipment ID: C0E09
Superseded Permit Number: P0107511
General Permit Category and Type: Not Applicable
Emissions Unit ID: P006
Company Equipment ID: P006
Superseded Permit Number: P0106079
General Permit Category and Type: Not Applicable
Emissions Unit ID: P008
Company Equipment ID: P008
Superseded Permit Number: P0106079
General Permit Category and Type: Not Applicable
Emissions Unit ID: P014
Company Equipment ID: EU046
Superseded Permit Number: P0106079
General Permit Category and Type: Not Applicable
Emissions Unit ID: P801
Company Equipment ID: P801
Superseded Permit Number: P0106079
General Permit Category and Type: Not Applicable
Emissions Unit ID: P903
Company Equipment ID: EU037
Superseded Permit Number: P0106079
General Permit Category and Type: Not Applicable
Emissions Unit ID: T003
Company Equipment ID: T003
Superseded Permit Number: P0106079
General Permit Category and Type: Not Applicable
Emissions Unit ID: T005
Company Equipment ID: T005
Superseded Permit Number: P0106079
General Permit Category and Type: Not Applicable



Group Name: DDGS Dryers

Emissions Unit ID:	P010
Company Equipment ID:	EU039
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P011
Company Equipment ID:	EU040
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P012
Company Equipment ID:	EU042
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P013
Company Equipment ID:	EU043
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable

Group Name: Denatured ethanol storage tanks

Emissions Unit ID:	T001
Company Equipment ID:	T001
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T002
Company Equipment ID:	T002
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable

Group Name: Process Units P005, P007 & P009

Emissions Unit ID:	P005
Company Equipment ID:	P005
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P007
Company Equipment ID:	P007
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P009
Company Equipment ID:	P009
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable

Group Name: Waste Heat Recovery Boilers

Emissions Unit ID:	B001
Company Equipment ID:	C003
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B002
Company Equipment ID:	C006
Superseded Permit Number:	P0106079
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
 - (1) Standard Term and Condition A.2.a), Severability Clause
 - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
 - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

- a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Central District Office.

- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Central District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
 - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Ohio EPA DAPC, Central District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Central District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
- (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

The permittee shall submit progress reports to the Ohio EPA DAPC, Central District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

- (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
- (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Central District Office.

Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by

the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Central District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

11. Construction of New Sources(s) and Authorization to Install

This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a

subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

Completion of initial installation date shall be entered upon completion of construction and prior to start-up.

Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (i.e., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

18. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

a) None.

2. Applicable Emissions Limitations and/or Control Requirements

a) The specific operations, property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and applicable emissions limitations and/or control measures are set forth below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V for HAPs)	See b)(1).

b) Additional Terms and Conditions

(1) This permit establishes the following federally enforceable limitations on emissions of hazardous air pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, for the purpose of avoiding Maximum Achievable Control Technology (MACT) regulations and Title V permitting requirements:

- a. The actual emissions from emissions units B001, B002, J001, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P801, T001, T002, T003, T004, and T005 and all other emission sources at the facility, including but not limited to any de minimis emissions units as defined in OAC rule 3745-15-05, or any registration status and/or permit exempt/permit-by-rule emissions units pursuant to OAC rule 3745-31-03, combined, shall not exceed 9.9 tons for any single HAP, based upon a rolling, 12-month summation.
- b. The actual emissions from emissions units B001, B002, J001, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P801, T001, T002, T003, T004, and T005 and all other emission sources at the facility, including but not limited to any de minimis emissions units as defined in OAC rule 3745-15-05, or any registration status and/or permit exempt/permit-by-rule emissions units pursuant to OAC rule 3745-31-03, combined, shall not exceed 24.9 tons for any combination of HAPs, based upon a rolling, 12-month summation.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for the purpose of calculating the rolling, 12-month summation of HAP emissions:

- a. the total uncontrolled emissions of each individual HAP from any de minimis emissions units as defined in OAC rule 3745-15-05, any registration status and/or permit exempt/permit-by-rule emissions units pursuant to OAC rule 3745-31-03, in tons, calculated in accordance with f)(1)a.;
- b. the total uncontrolled emissions of combined HAPs from any de minimis emissions units as defined in OAC rule 3745-15-05, any registration status and/or permit exempt/permit-by-rule emissions units pursuant to OAC rule 3745-31-03, in tons, calculated in accordance with f)(1)a.;
- c. the total uncontrolled emissions of each individual HAP from emissions units P006(pressure relief valves), J001, P801, T001, T002, T003, T004, and T005, in tons, calculated in accordance with f)(1)b.;
- d. the total uncontrolled emissions of combined HAPs from emissions units P006(pressure relief valves), J001, P801, T001, T002, T003, T004, and T005, in tons, calculated in accordance with f)(1)b.;
- e. the total controlled emissions of each individual HAP from emissions units B001, B002, P005, P006(scrubber), P007, P008, P009, P010, P011, P012, P013, P014 and P014(bypass) in tons, calculated in accordance with f)(1)c.;
- f. the total controlled emissions of combined HAPs from emissions units B001, B002, P005, P006(scrubber), P007, P008, P009, P010, P011, P012, P013, P014 and P014(bypass) in tons, calculated in accordance with f)(1)c.;
- g. the rolling, 12-month summation of the individual HAP emissions from all emissions units operating at the facility, in tons; and
- h. the rolling, 12-month summation of the total combined HAP emissions from all emissions units operating at the facility, in tons.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act, or can be obtained by contacting the Central District Office.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. any exceedance of the rolling, 12-month individual HAP emission limitation for each HAP; and

- ii. any exceedance of the rolling, 12-month total combined HAPs emission limitation.

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (Central District Office).

f) Testing Requirements

(1) Emissions Limitations:

Emissions of any single HAP shall not exceed 9.9 tons per rolling, 12-month period.

Emissions of total combined HAPS shall not exceed 24.9 tons per rolling, 12-month period.

Applicable Compliance Method:

- a. For any de minimis emissions units as defined in OAC rule 3745-15-05, any registration status and/or permit exempt/permit-by-rule emissions units pursuant to OAC rule 3745-31-03, the permittee shall calculate HAP emissions consistent with the information presented in the installation and/or operating permit application using U.S. EPA approved emissions factors or emissions factors otherwise approved by Central District Office.
 - b. For emissions units P006 (pressure relief valves), J001, P801, T001, T002, T003, T004, and T005 the permittee shall calculate HAP emissions consistent with the information presented in the installation and/or operating permit application using U.S. EPA approved emissions factors or emissions factors otherwise approved by Central District Office.
 - c. For emissions units B001, B002, P005, P006 (scrubber), P007, P008, P009, P010, P011, P012, P013, P014 and P014 (atmospheric stack) the permittee shall determine HAP emissions using site-specific HAP emissions factors established in accordance with f)(2).
- (2) The permittee demonstrated compliance with the limitations identified in f)(1)c. above through emissions tests conducted on April 12 through April 14, 2011. If required, the permittee shall conduct, or have conducted, emission testing for each emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted to demonstrate compliance with the facility-wide single HAP and combined HAP limitations.

- b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Methods 18 or 320 from 40 CFR Part 60, Appendix A for HAPs (for, but not limited to, the compounds listed in the Midwest Scaling Protocol in Version 1.6 dated August 2004);
- c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
- d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- e. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

C. Emissions Unit Terms and Conditions

1. F001, F001

Operations, Property and/or Equipment Description:

paved roadways and parking areas

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	No visible PE from paved roadways and parking areas except for a period of time not to exceed one minute during any 60-minute observation period.

(2) Additional Terms and Conditions

a. In accordance with the Joint Stipulation and Settlement Agreement (JSSA) in resolution of Environmental Review Appeals Commission case number 245955, Ohio EPA has agreed to include the following terms and conditions in this permit to install:

i. The permittee shall keep records of the number of trucks hauling ethanol and distiller's dried grains entering and leaving the facility and the truck's respective weight; and

ii. The permittee shall sweep paved roads at least three times per week. This requirement does not apply in the months of December, January, or February and within forty-eight hours of precipitation. Ohio EPA may remove this requirement in future permit modifications or renewals provided the requirement remains for at least five years from the date that the JSSA is executed (April 2, 2007).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

No visible PE from paved roadways and parking areas except for a period of time not to exceed one minute during any 60-minute observation period.

Applicable Compliance Method:

If required, compliance with the visible PE limitation listed above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

g) Miscellaneous Requirements

(1) None.

2. J001, C0E09

Operations, Property and/or Equipment Description:

ethanol loadout rack to truck and rail; equipped with a flare

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)e. and d)(3)

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Nitrogen oxide (NO _x) emissions shall not exceed 0.84 pound per hour (lb/hr) and 3.68 tons per year (TPY). See b)(2)a. and b)(2)c.
b.	OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
c.	ORC 3704.03(T)	Carbon monoxide (CO) emissions shall not exceed 0.37 pound per million British thermal unit (lb/MMBtu). The VOC emissions limitation established by this rule is equivalent to the VOC emissions limitation established pursuant to OAC rule 3745-31-05(D). See b)(2)d.
d.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD for VOC)	Volatile organic compound (VOC) emissions shall not exceed 41.68 tons per rolling, 12-month period. No visible emissions from the loadout flare stack except for periods not to exceed a total of 5 minutes during any 120 consecutive minutes. See b)(2)e., b)(2)f., and c)(1).
e.	ORC 3704.03(F)	See d)(3)

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.
- b. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:
 - i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO_x emissions from this air contaminant source because the calculated annual emission rate for NO_x is less than 10 TPY.
- c. The hourly and annual NO_x emissions limitations were established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, or reporting requirements to ensure compliance with these limitations.
- d. The rolling, 12-month CO emissions limitation was established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, or reporting requirements to ensure compliance with this limitation.
- e. Except where specifically identified for truck, the permittee shall comply with the following requirements during ethanol loadout to truck and rail:
 - i. During any transfer of material through the loading rack, 100% of the vapors displaced from the delivery vessel shall be vented to a flare;
 - ii. The loading rack shall utilize top submerged filling or bottom filling for the transfer of materials;
 - iii. All material loading lines, unloading lines and vapor lines shall be equipped with fittings which are vapor tight;
 - iv. A vapor tight lid shall be placed onto truck's fill point before loading operations; and
 - v. The vapor head space in the truck's tank shall be evacuated through a solid vapor line then routed to the flare.

- f. The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design and operations manual. The flare shall be operated at all times when emissions are vented to it and in compliance with the following requirements:
- i. The flare shall be designed for and operated with no visible emissions as determined by U.S. EPA Method 22, except for periods not to exceed a total of 5 minutes during any 120 consecutive minutes.
 - (a) The flare shall be operated with either a pilot flame or an electric arc ignition system.
 - (i) If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or other equivalent device to detect the presence of the pilot flame.
 - (ii) If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.
 - ii. The flare shall be steam-assisted, air-assisted or nonassisted.
 - iii. The net heating value of the gas being combusted in a steam-assisted or air-assisted flare shall be 300 Btu/scf or greater, as determined by the method specified in OACrule 3745- 21-10(P)(2);
 - iv. The net heating value of the gas being combusted in a nonassisted flare shall be 200 Btu/scf or greater, as determined by the method specified in OACrule 3745- 21-10(P)(2).
 - v. The flare shall be designed and operated with an actual exit velocity of less than 60 feet per second, as determined by the method specified in OAC rule 3734-21-10(P)(3), if the flare is steam-assisted or nonassisted; or shall be designed and operated with an actual exit velocity less than the maximum permitted velocity determined per OAC rule 3734-21-10(P)(4) if the flare is air-assisted; with the following exceptions where a steam-assisted or nonassisted flare meets both of the following requirements:
 - (a) the net heating value of the gas being combusted in the flare, as determined by the method specified in OACrule 3745-21-10(P)(2), is greater than 1,000 Btu/scf; and
 - (b) the flare is designed and operated with an actual exit velocity, as determined by the method specified in OACrule 3745-21-10(P)(3), less than 400 feet per second.

c) Operational Restrictions

- (1) All of the emissions from this emissions unit shall be vented to a flare.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to a flare.
 - b. the rolling, 12-month summation of denatured ethanol loaded to truck, in gallons;
 - c. the rolling, 12-month summation of denatured ethanol loaded to rail, in gallons; and
 - d. the rolling, 12-month summation of VOC emissions from emissions unit J001, in tons, calculated in accordance with the testing requirements for this emissions unit.
- (2) The permittee shall perform daily checks, when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the abnormal visible emissions.
- (3) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified PTI prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials or use of new materials that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to a flare; and
 - ii. each rolling, 12-month period during which the VOC emissions for emissions unit J001 exceeded 41.68 tons;

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.
- (3) The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (Central District Office).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

NO_x emissions shall not exceed 0.84lb/hr and 3.68 TPY (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourly NO_x emissions limitation may be determined by multiplying the maximum heating capacity (12.4MMBtu/hr) by the following AP-42 emission factor:

<u>Pollutant</u>	<u>Emissions Factor*</u>
NO _x	0.068lb/MMBtu

Compliance with the annual NO_x emissions limitation was determined by multiplying the hourly emissions limitation by 8,760 hours per year and dividing by 2,000 pounds per ton.

* AP-42, Volume I, Fifth Edition, Section 13.5, "Industrial Flares", Table 13.5-1, September 1991.

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 7.

b. Emissions Limitation:

CO emissions shall not exceed 0.37 lb/MMBtu.

Applicable Compliance Method:

Compliance shall be demonstrated using the emissions factor for CO from USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 13.5 Table 13.5-1 (9/91).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 10.

c. Emissions Limitation:

VOC emissions shall not exceed 41.68 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the recordkeeping required in d)(1) and the following equation:

$$\text{VOC} = \text{VOC}_T + \text{VOC}_R$$

where,

VOC = Total VOC emissions per rolling, 12-month period from truck and rail loadout;

VOC_T = VOC emissions per rolling, 12-month period from truck loadout;

$$\text{VOC}_T = (\text{Fugitive VOC}_T + \text{Stack VOC}_T)/2000$$

where,

$$\text{Fugitive VOC}_T = (\text{GAL}_T * \text{EF}_T) * (1 - \text{CapE})$$

where,

GAL_T = gallons of denatured ethanol loaded to truck per rolling, 12-month period;

EF_T = AP-42[#] emissions factor for truck loadout (0.00509 lb VOC/gal);

CapE = loading rack capture efficiency (90%); and

$$\text{Stack VOC}_T = (GAL_T * EF_T) * \text{CapE} * (1 - \text{CE})$$

where,

GAL_T = gallons of denatured ethanol loaded to truck per rolling, 12-month period;

EF_T = AP-42[#] emissions factor for truck loadout (0.00509 lb VOC/gal);

CapE = loading rack capture efficiency (90%); and

CE = Loadout flare control efficiency (98%)

VOC_R = VOC emissions per rolling, 12-month period from rail loadout;

$$VOC_R = (\text{Fugitive } VOC_R + \text{Stack } VOC_R)/2000$$

where,

$$\text{Fugitive } VOC_R = (GAL_R * EF_R) * (1 - \text{CapE})$$

where,

GAL_R = gallons of denatured ethanol loaded to rail per rolling, 12-month period;

EF_R = AP-42[#] emissions factor for railloadout (0.00051 lb VOC/gal);

CapE = loading rack capture efficiency (90%); and

$$\text{Stack } VOC_R = (GAL_R * EF_R) * \text{CapE} * (1 - \text{CE})$$

where,

GAL_R = gallons of denatured ethanol loaded to rail per rolling, 12-month period;

EF_R = AP-42[#] emissions factor for railloadout (0.00051 lb VOC/gal);

CapE = loading rack capture efficiency (90%); and

CE = Loadout flare control efficiency (98%)

The VOC emissions factors for truck and rail loadout were calculated according to equation 1 of AP-42, Chapter 5.2, *Transportation and Marketing of Petroleum Liquids* (June, 2008).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 18, 25 or 25A.

d. Emissions Limitation:

No visible emissions from the loadout flare stack except for periods not to exceed a total of 5 minutes during any 120 consecutive minutes.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g) Miscellaneous Requirements

(1) None.

3. P006, P006

Operations, Property and/or Equipment Description:

Fermentation Process consisting of fermenting units 1-7 (EU025-EU031) and beerwell (EU032) venting to a wet scrubber

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)c., and d)(6) through d)(9)

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	VOC emissions, excluding emissions from the pressure relief valves utilized during the clean-in-place (CIP) process, shall be controlled by a high efficiency wet scrubber (CO ₂ scrubber) with a minimum control efficiency of 98.5%
b.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD for VOC)	VOC emissions, including emissions from the pressure relief valves utilized during the CIP process, shall not exceed 90.27 pounds per fermentation drop cycle. VOC emissions, including emissions from the pressure relief valves utilized during the CIP process, shall not exceed 55.34 tons per rolling, 12-month period. See b)(2)a. and c)(1).
c.	ORC 3704.03(F)	See d)(6) through d)(9).

(2) Additional Terms and Conditions

a. For the purpose of this permit, a “fermentation drop cycle” shall be defined as the cumulative time beginning with the release of fermentation liquid from a fermentation vessel into the beerwell and ending just before the next successive release of fermentation liquid from another fermentation vessel into the beerwell.

c) Operational Restrictions

- (1) Except for emissions vented through the pressure relief valves during the CIP process, all of the emissions from this emissions unit shall be vented to the wet scrubber whenever the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The scrubber water flow rate shall be continuously maintained, while the emissions unit is in operation, at a value of not less than the minimum water flow rate established during the most recent emission test that demonstrated the emissions unit to be in compliance or as recommended by the scrubber manufacturer until such testing is completed.
- (2) The scrubber bisulfite flow rate shall be continuously maintained, while the emissions unit is in operation, at a value of not less than the minimum bisulfite flow rate established during the most recent emission test that demonstrated the emissions unit to be in compliance or as recommended by the scrubber manufacturer until such testing is completed.
- (3) The permittee shall properly install, operate and maintain equipment to continuously monitor and record the water flow rate and the bisulfite flow rate of the scrubber while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

The permittee shall record the following operating parameters for the scrubber on a continuous basis:

- a. the water flow rate, in gallons per minute; and
 - b. the bisulfite rate, in milliliters per minute.
- (4) The permittee shall collect and record the following information for this emissions unit on a daily basis:
 - a. Any period of time that the emissions unit was operating and not venting emissions to the wet scrubber, except emissions vented to the pressure relief valves during the CIP process.
 - (5) The permittee shall collect and record the following information for this emissions unit on a monthly basis:
 - a. the cumulative period of time when the scrubber water flow rate was less than the minimum water flow rate established during the most recent emission test that demonstrated the emissions unit to be in compliance or as recommended by the scrubber manufacturer until such testing is completed.
 - b. the cumulative period of time when the scrubber bisulfite rate was less than the minimum bisulfite flow rate established during the most recent emission test that

demonstrated the emissions unit to be in compliance or as recommended by the scrubber manufacturer until such testing is completed.

- c. the number of fermentation drop cycles;
 - d. the total number of fermentation drop cycles per rolling, 12-month period;
 - e. the rolling, 12-month VOC emissions from scrubber [calculated by multiplying d)(5)d. by the lbs VOC/fermentation drop cycle emissions factor established during the most recent emission test that demonstrated the emissions unit to be in compliance and then dividing by 2000 to convert to tons];
 - f. the rolling, 12-month VOC emissions from pressure relief valves [calculated by multiplying d)(5)d. by the emission factor for the CIP process (1.23 lbs VOC/fermentation cycle) and then dividing by 2000 to convert to tons]; and
 - g. the total rolling, 12-month VOC emissions for emissions unit P006 [calculated by adding d)(5)e. and d)(5)f.].
- (6) The PTI application for emissions unit P006 was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "24" hours per day and "7" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/24 \times 5/7 = 4 \text{ TLV}/\text{XY} = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: Acetaldehyde
TLV (mg/m³): 45.04
Maximum Hourly Emission Rate (lbs/hr): 1.18
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 8.266
MAGLC (ug/m³): 1072.4

The permittee, has demonstrated that emissions of acetaldehyde from emissions unit P006 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (7) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC

3704.03(F), has been documented. If the change(s) meet(s) the definition of a “modification”, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (8) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (9) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

- i. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions, except for emissions vented through the pressure relief valves during the CIP process, were not vented to the wet scrubber;
- ii. any period of time (start time and date, and end time and date) when the scrubber water flow rate was outside of the acceptable range;
- iii. any period of time (start time and date, and end time and date) when the scrubber bisulfite flow rate was outside of the acceptable range; and
- iv. each rolling, 12-month period during which the total VOC emissions from this emissions unit exceeded 55.34 tons.

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

- (3) The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (Central District Office).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitation:

VOC emissions, including emissions from the pressure relief valves utilized during the CIP process, shall not exceed 90.27 pounds per fermentation drop cycle.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the testing requirements identified in f)(2) and the following calculations:

$$\text{Total VOC} = \text{VOC emissions from CIP} + \text{VOC emissions from scrubber stack}$$

where,

$$\text{VOC emissions from CIP} = \text{Number of CIP processes executed per hour} * 1.23 \text{ lbs VOC per CIP process; and}$$

$$\text{VOC emissions from scrubber stack} = \text{lbs VOC/fermentation drop cycle emissions factor established during the most recent emission test that demonstrated the emissions unit to be in compliance.}$$

b. Emissions Limitation:

VOC emissions shall not exceed 55.34 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the recordkeeping required in d)(5).

(2) The permittee demonstrated compliance with the limitations identified in f)(1)a. and f)(1)b. above through emissions tests conducted on April 12 through April 14, 2011. If required, the permittee shall conduct, or have conducted, emission testing for each emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted to demonstrate compliance with the limitations identified in f)(1), the 98.5% VOC control efficiency requirement for the wet scrubber, and the facility wide HAP limitations identified in B.2.b);
- b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content; and
 - ii. Method 25 or Method 25A from 40 CFR Part 60, Appendix A for VOC (as specified by the Midwest Scaling Protocol).

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Central District Office.
- d. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Central District Office's refusal to accept the results of the emission test(s).

Draft Permit-to-Install

Valero Renewable Fuels Company, LLC

Permit Number: P0108710

Facility ID: 0124000132

Effective Date: To be entered upon final issuance

- f. Personnel from the Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central District Office.

g) Miscellaneous Requirements

- (1) None.

4. P008, P008

Operations, Property and/or Equipment Description:

Methanator Process consisting of 4 reactors venting to either the biomethanator flare (CE007) or Dryer A and waste heat recovery/boiler unit B001

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) b)(1)e. and d)(6) through d)(9)
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Volatile organic compound (VOC) emissions shall not exceed 0.19 pound per hour (lb/hr). Nitrogen oxide (NO _x) emissions shall not exceed 0.44 lb/hr and 1.93 tons per year (TPY). Sulfur dioxide (SO ₂) emissions shall not exceed 1.59 lbs/hr and 6.80 TPY. See b)(2)a. and b)(2)c.
b.	OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
c.	ORC 3704.03(T)	Carbon monoxide (CO) emissions shall not exceed 0.37 pound per million British thermal unit (lb/MMBtu). See b)(2)d.
d.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD for VOC)	No visible emissions from the biomethanator flare stack except for periods not to exceed a total of 5 minutes during any 120 consecutive minutes. VOC emissions from the biomethanator flare shall not exceed 0.83 tons per rolling, 12-month period.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)e., b)(2)f., and c)(1).
e.	ORC 3704.03(F)	See d)(6) through d)(9).

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.
- b. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:
 - i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC, NO_x, and SO₂ emissions from this air contaminant source because the calculated annual emission rate for each pollutant is less than 10 TPY, taking into consideration the federally enforceable rule limitations and operational restrictions established under OAC rule 3745-31-05(D).
- c. The hourly VOC emissions limitation was established to reflect the potential to emit for this emissions unit as vented to a thermal oxidizer or to a flare. The monitoring, recordkeeping, reporting, and testing requirements for the thermal oxidizer and flare as established in the following terms and conditions are sufficient to demonstrate compliance with this limitation.

The hourly and annual NO_x and SO₂ emissions limitations were established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, or reporting requirements to ensure compliance with these limitations.
- d. The rolling, 12-month CO emissions limitation was established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, or reporting requirements to ensure compliance with this limitation.

- e. The following limitations apply to the combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack):
 - i. VOC emissions shall not exceed 0.12 pounds per thousand gallons of 200-proof ethanol produced (lbs/Kgal ethanol) and 8.16 tons per rolling, 12-month period.
- f. The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design and operations manual. The flare shall be operated at all times when emissions are vented to it and in compliance with the following requirements:
 - i. The flare shall be designed for and operated with no visible emissions as determined by U.S. EPA Method 22, except for periods not to exceed a total of 5 minutes during any 120 consecutive minutes.
 - (a) The flare shall be operated with either a pilot flame or an electric arc ignition system.
 - (i) If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or other equivalent device to detect the presence of the pilot flame.
 - (ii) If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.
 - ii. The flare shall be steam-assisted, air-assisted or nonassisted.
 - iii. The net heating value of the gas being combusted in a steam-assisted or air-assisted flare shall be 300 Btu/scf or greater, as determined by the method specified in OACrule 3745- 21-10(P)(2);
 - iv. The net heating value of the gas being combusted in a nonassisted flare shall be 200 Btu/scf or greater, as determined by the method specified in OACrule 3745- 21-10(P)(2).
 - v. The flare shall be designed and operated with an actual exit velocity of less than 60 feet per second, as determined by the method specified in OAC rule 3734-21-10(P)(3), if the flare is steam-assisted or nonassisted; or shall be designed and operated with an actual exit velocity less than the maximum permitted velocity determined per OAC rule 3734-21-10(P)(4) if the flare is air-assisted; with the following exceptions where a steam-assisted or nonassisted flare meets both of the following requirements:

- (a) the net heating value of the gas being combusted in the flare, as determined by the method specified in OACrule 3745-21-10(P)(2), is greater than 1,000 Btu/scf; and
 - (b) the flare is designed and operated with an actual exit velocity, as determined by the method specified in OACrule 3745-21-10(P)(3), less than 400 feet per second.
- c) Operational Restrictions
 - (1) All of the emissions from this emissions unit shall be vented to a thermal oxidizer or to a flare.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to a thermal oxidizer or to a flare;
 - b. the total number of hours when the emissions unit(s) was/were in operation and the process emissions were vented to the biomethanator flare;
 - c. the total number of hours, per rolling, 12-month period when the emissions unit(s) was/were in operation and the process emissions were vented to the biomethanator flare; and
 - d. the rolling 12-month summation of VOC emissions from the biomethanator flare, in tons, calculated in accordance with f)(1).
 - (2) In accordance with the requirements established for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014, the permittee shall collect and record the following information each month:
 - a. the number of gallons of 200-proof ethanol produced, in gallons;
 - b. the rolling, 12-month summation of 200-proof ethanol production, in gallons; and
 - c. the rolling, 12-month summation of VOC emissions for emissions units B001, B002, P005, P007, P008(except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack), in tons, calculated in accordance with the testing requirements established for each emissions unit.
 - (3) The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

- (4) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
- (5) On any during which the emissions from this emissions unit are directed to the biomethanator flare, the permittee shall perform daily checks, when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the biomethanator flare stack. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the abnormal visible emissions.
- (6) The PTI application for emissions units P005, P007, P008 and P009 was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
- i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "24" hours per day and "7" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/24 \times 5/7 = 4 \text{ TLV}/\text{XY} = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: Acetaldehyde

TLV (mg/m³): 45.04

Maximum Hourly Emission Rate (lbs/hr): 0.63

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 0.1724

MAGLC (ug/m³): 1072.4

Toxic Contaminant: Formaldehyde

TLV (mg/m³): 0.368

Maximum Hourly Emission Rate (lbs/hr): 0.48

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 0.1314

MAGLC (ug/m³): 8.77

Toxic Contaminant: Methanol

TLV (mg/m³): 262.09

Maximum Hourly Emission Rate (lbs/hr): 0.28

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 0.07665

MAGLC (ug/m³): 6240.1

The permittee, has demonstrated that emissions of acetaldehyde, formaldehyde and methanol from emissions units P005, P007, P008 and P009 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (7) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (8) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);

- c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (9) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. each 3-hour block of time(start time and date, and end time and date)when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to a thermal oxidizer or to a flare;
 - iii. each rolling, 12-month period during which the VOC emissions from the biomethanator flare exceeded 0.83 tons; and
 - iv. each rolling, 12-month period during which the VOC emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack) exceeded 8.16 tons.

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

- (3) The quarterly reports shall be submitted,electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (Central District Office).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

VOC emissions shall not exceed 0.19lb/hr(as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourlyVOCemissions limitation may be determined by multiplying the maximum hourly biogas production rate (3,360 standard cubic feet per hour) by the conversion factor of 359 cubic feet per pound mole and an overall control efficiency for the flare of 98%.

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 18, 25, or 25A.

b. Emissions Limitations:

NO_x emissions shall not exceed 0.44lb/hr and 1.93 TPY (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourlyNO_xemissions limitation may be determined by multiplying the maximum heating capacity (6.4MMBtu/hr) by the following AP-42 emission factor:

<u>Pollutant</u>	<u>Emissions Factor*</u>
NO _x	0.068lb/MMBtu

Compliance with the annual NO_x emissions limitation was determined by multiplying the hourly emissions limitation by 8,760 hours per year and dividing by 2,000 pounds per ton.

* AP-42, Volume I, Fifth Edition, Section 13.5, "Industrial Flares", Table 13.5-1, September 1991.

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 7.

c. Emissions Limitation:

SO₂ emissions shall not exceed 1.59lbs/hr and 6.80 TPY (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourly SO₂ emissions limitation shall be determined in accordance with the following equation:

$$SO_2 = (MaxE_h * E_f)$$

where,

MaxE_h = the maximum, hourly 200-proof ethanol production rate (15,858 gal);

E_f = the SO₂ emissions factor from stack tests performed on April 13, 2011 (0.10lb/Kgal ethanol); and

Compliance with the annual SO₂ emissions limitation shall be determined in accordance with the following equation:

$$SO_2 = (MaxE * E_f)/2,000$$

where,

MaxE = the maximum, rolling, 12-month 200-proof ethanol production rate (136,000,000 gal); and

E_f = the SO₂ emissions factor from stack tests performed on April 13, 2011 (0.10lb/Kgal ethanol).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 6.

d. Emissions Limitation:

CO emissions shall not exceed 0.37 lb/MMBtu.

Applicable Compliance Method:

Compliance shall be demonstrated using the emissions factor for CO from USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 13.5 Table 13.5-1 (9/91).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 10.

e. Emissions Limitation:

No visible emissions from the loadout flare stack except for periods not to exceed a total of 5 minutes during any 120 consecutive minutes.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

f. Emissions Limitation:

VOC emissions from the biomethanator flare shall not exceed 0.83 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the rolling, 12-month VOC emissions limitation shall be determined in accordance with the following equation:

$$\text{VOC emissions from the biomethanator flare} = [\text{BP} * \text{HR} * \text{CF} * (1 - \text{CE})] / 2,000$$

where,

BP = the maximum hourly biogas production rate (3,360 standard cubic feet)

HR = the total number of hours, per rolling, 12-month period when the emissions unit(s) was/were in operation and the process emissions were vented to the biomethanator flare;

CF = the conversion factor of 1 lb VOC per 359 standard cubic feet; and

CE = the combustion flare control efficiency (98%).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, methods 18, 25 or 25A).

g. Emissions Limitations:

Combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack) shall not exceed:

i. 0.12 lbs VOC/Kgal ethanol and 8.16 tons VOC per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the lbs VOC/Kgal ethanol limitation shall be demonstrated in accordance with the testing requirements identified in f)(2).

Compliance with the rolling, 12-month VOC emissions limitation shall be determined by multiplying the actual gallons of 200-proof ethanol production per rolling, 12-month period by the lbs VOC/Kgalemissions rate determined in accordance with the testing requirements identified in f)(2).

- (2) The permittee demonstrated compliance with the limitations identified in f)(1)g. above through emissions tests conducted on April 12 through April 14, 2011. If required, the permittee shall conduct, or have conducted, emission testing for each emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted to demonstrate compliance with the limitations identified in f)(1)g. and the facility wide HAP limitations identified in B.2.b);
 - b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. Method 25 or Method 25A from 40 CFR Part 60, Appendix A for VOC (as specified by the Midwest Scaling Protocol).

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Central District Office.
- d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Central District Office's refusal to accept the results of the emission test(s).
- e. Personnel from the Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Central District Office within 30 days following completion of the test(s). The

permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central District Office.

- g) Miscellaneous Requirements
 - (1) None.

5. P014, EU046

Operations, Property and/or Equipment Description:

DDGS Cooling Drum and product collection system (CE008) vented to waste heat recovery/boiler units B001 and B002 and the cooling drum atmospheric stack

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	Particulate emissions (PE) shall not exceed 10.28 tons per rolling, 12-month period. Volatile organic compound (VOC) emissions from emissions unit P014 venting to the cooling drum atmospheric stack shall not exceed 5.44 tons per rolling, 12-month period. See b)(2)a., b)(2)b., and b)(2)d.
b.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD for VOC)	See b)(2)c. and c)(1).

- (2) Additional Terms and Conditions
 - a. The rolling, 12-month PE limitation was established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, or reporting requirements to ensure compliance with this limitation.
 - b. The rolling, 12-month VOC emissions limitation was established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, or reporting requirements to ensure compliance with this limitation.

- c. The following limitations apply to the combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack):
 - i. VOC emissions shall not exceed 0.12 pounds per thousand gallons of 200-proof ethanol produced (lbs/Kgal ethanol) and 8.16 tons per rolling, 12-month period.
 - d. For the purposes of this permit all PE is considered to be PM₁₀.
- c) Operational Restrictions
- (1) Except for emissions designed to vent to the cooling drum atmospheric stack, all of the emissions from this emissions unit shall be vented to a thermal oxidizer whenever the emissions unit is in operation.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions, except for emissions designed to vent to the cooling drum atmospheric stack, were not vented to a thermal oxidizer.
 - (2) In accordance with the requirements established for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014, the permittee shall collect and record the following information each month:
 - a. the number of gallons of 200-proof ethanol produced, in gallons;
 - b. the rolling, 12-month summation of 200-proof ethanol production, in gallons;
 - c. the VOC emissions for emissions units B001, B002, P005, P007, P008(except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack), in tons, calculated in accordance with the testing requirements established for each emissions unit; and
 - d. the rolling, 12-month summation of VOC emissions for emissions units B001, B002, P005, P007, P008(except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack), in tons, calculated in accordance with the testing requirements established for each emissions unit.
 - (3) The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

- (4) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to a thermal oxidizer;
 - ii. each 3-hour block of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range; and
 - iii. each rolling, 12-month period during which the VOC emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack) exceeded 8.16 tons.

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

- (3) The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (Central District Office).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

PE shall not exceed 10.28 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the rolling, 12-month PE limitation shall be determined in accordance with the following equation:

$$PE = PE_{\text{combined stack}} + PE_{\text{atmospheric stack}}$$

where,

$$PE_{\text{combined stack}} = (MaxE * Ef)/2,000$$

where,

MaxE = the maximum, rolling, 12-month 200-proof ethanol production rate (136,000,000 gal);

Ef = the uncontrolled particulate emissions factor from the combined stack (0.11 lb/Kgal ethanol); and

$$PE_{\text{atmospheric stack}} = (0.64 \text{ lb/hr} * 8,760 \text{ hr/yr})/2,000$$

The 0.64 lb/hr emissions rate was established by multiplying the DDGS baghouse grain loading rate (0.005 grains/dscf) by the blower capacity (15,000 acfm) and the conversion factor of one pound per 7,000 grains and 60 minutes per hour.

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 5.

b. Emissions Limitation:

VOC emissions from emissions unit P014 venting to the cooling drum atmospheric stack shall not exceed 5.44 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the rolling, 12-month VOC emissions limitation shall be determined in accordance with the following equation:

$$\text{VOC} = \text{VOC combined stack} + \text{VOC atmospheric stack}$$

where,

$$\text{VOC combined stack} = (\text{MaxE} * \text{Ef})/2,000$$

where,

MaxE = the maximum, rolling, 12-month 200-proof ethanol production rate (136,000,000 gal);

Ef = the controlled VOC emissions factor from the combined stack (0.12 lb/Kgal ethanol); and

$$\text{VOC atmospheric stack} = (\text{MaxE} * \text{Ef})/2,000$$

where,

MaxE = the maximum, rolling, 12-month 200-proof ethanol production rate (136,000,000 gal); and

Ef = the uncontrolled VOC emissions factor from the atmospheric stack (0.08 lb/Kgal ethanol).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, methods 18, 25 or 25A.

c. Emissions Limitations:

Combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack) shall not exceed:

- i. 0.12 lbs VOC/Kgal ethanol and 8.16 tons VOC per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the lbs VOC/Kgal ethanol limitation shall be demonstrated in accordance with the testing requirements identified in f)(2).

Compliance with the rolling, 12-month VOC emissions limitation shall be determined by multiplying the actual gallons of 200-proof ethanol production per rolling, 12-month period by the lbs VOC/Kgal emissions rate determined in accordance with the testing requirements identified in f)(2).

- (2) The permittee demonstrated compliance with the limitations identified in f)(1)c. above through emissions tests conducted on April 12 through April 14, 2011. If required, the permittee shall conduct, or have conducted, emission testing for each emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted to demonstrate compliance with the limitations identified in f)(1)c. and the facility wide HAP limitations identified in B.2.b);
 - b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. Method 25 or Method 25A from 40 CFR Part 60, Appendix A for VOC (as specified by the Midwest Scaling Protocol).
- Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Central District Office.
 - d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Central District Office's refusal to accept the results of the emission test(s).
 - e. Personnel from the Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central District Office.
- g) Miscellaneous Requirements
- (1) None.

6. P801, P801

Operations, Property and/or Equipment Description:

Fugitive VOC Emissions (leaks)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	Volatile organic compound (VOC) emissions shall not exceed 39.31 tons per rolling, 12-month period. See b)(2)a.
b.	OAC rule 3745-21-09(DD)	See b)(2)b., b)(2)c., and b)(2)d.
c.	40 CFR Part 60, subpart VVa	See b)(2)d. and b)(2)e.
d.	40 CFR Part 60, subpart A	See b)(2)e.

(2) Additional Terms and Conditions

a. The rolling, 12-month VOC emissions limitation for this emissions unit was established to reflect the potential-to-emit in accordance with the information provided in the PTI application and taking into consideration the implementation of a leak detection and repair (LDAR) program sufficient to demonstrate compliance with OAC rule 3745-21-09(DD). The monitoring, recordkeeping, reporting, and testing requirements associated with the LDAR program as established in the following terms and conditions are sufficient to demonstrate compliance with this limitation.

b. The permittee of the process unit, producing one or more of the organic chemicals identified in Appendix A to OAC 3745-21-09 as an intermediate or final product, shall comply with the requirements identified in OAC 3745-21-09 paragraphs (DD)(2) to (DD)(6).

c. The permittee shall develop and implement an LDAR program for the process unit in accordance with the requirements specified in OAC 3745-21-09 paragraphs (DD)(2)(b) to (DD)(2)(m). At a minimum, the program shall include all the

appropriate process equipment and regulated components that are subject to this program and clearly identify how the permittee will comply with the appropriate provisions (including operational restrictions, monitoring and recordkeeping requirements, reporting requirements, and testing requirements) of OAC rule 3745-21-09(DD).

- d. This emissions unit is subject to the requirements of OAC rule 3745-21-09(DD), "Leaks from Process Units that Produce Organic Chemicals" and 40 CFR Part 60, subpart VVa, "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". In the event that the permittee is subject to overlapping requirements under these regulations, a single LDAR program may be developed and implemented for the purpose of demonstrating compliance with both of these regulations, provided that the more stringent requirement is met.
- e. The complete 40 CFR Part 60 requirements, including the General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Central District Office. 40 CFR Part 60, subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.

c) Operational Restrictions

(1) When a leak is detected the following procedures shall be followed:

- a. a weatherproof identification tag with the equipment identification number and the date shall be immediately attached to the leaking equipment;
- b. a record of the leak, the date it was first detected, and any attempt to repair the leak and date is entered into the leak repair log;
- c. an identification tag that was attached to a leaking valve "in gas/vapor service" or "in light liquid service" may be removed only after the valve is repaired and found to have no leaks for two consecutive months; and
- d. an identification tag attached to leaking equipment that is exempted from the monitoring requirements of OAC 3745-21-09(DD)(2)(b) may be removed immediately following the repair of the leak.

(2) Repair of a leak shall be attempted no later than 5 calendar days after it is detected, where practicable, and shall include, but not limited to, the following best maintenance practices:

- a. tightening of bonnet bolts;
- b. replacement of bonnet bolts;
- c. tightening of packing gland nuts; and

- d. injection of lubricant into lubricated packing.
- (3) Except where meeting one of the conditions defined in OAC 3745-21-09(DD)(11), where a delay in repair is allowed, a leak shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected. Leaking equipment shall be deemed repaired if the maximum VOC concentration is measured to be less than 10,000 ppmv.
- (4) Each compressor shall be equipped with a seal that has a barrier fluid system and sensor which comply with the requirements specified in OAC 3745-21-09(DD)(8), with the following exceptions:
- a. any compressor designated for “no detectable emissions”, and meeting the requirements of OAC 3745-21-09 (DD)(7).
 - b. any compressors equipped with a closed vent system capable of capturing and transporting any leakage from the compressor seal to control equipment, where the closed vent system and the control equipment comply with the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10).
 - c. any reciprocating compressor that meets the following conditions:
 - i. the compressor was installed prior to May 9, 1986; and
 - ii. the permittee demonstrates, to the satisfaction of the Director, that recasting the compressor distance piece or replacing the compressor are the only options available to bring it into compliance with the requirements to equip it with a seal with a barrier fluid system and sensor.
- (5) Except as otherwise provided below, any pressure relief device “in gas/vapor service” in the process unit shall comply with the following requirements:
- a. Except during pressure releases, the pressure relief device shall be operated with “no detectable emissions”, as indicated by an instrument reading of less than 500 ppmv above background, as measured by the method specified in OAC 3745-21-10(F)
 - b. No later than 5 calendar days after a pressure release, a pressure relief device shall be tested to confirm the condition of “no detectable emissions” in accordance with the method specified in OAC 3745-21-10(F).
 - c. Except for a delay of repair as provided in OAC 3745-21-09(DD)(11), a pressure relief device shall be returned to a condition of “no detectable emissions” as soon as practicable, but no later than 5 calendar days after a pressure release.

Any pressure relief device that is equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to control equipment meeting the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10) is excluded from these requirements.

- (6) With the exception of an “in-situ sampling system” (a non-extractive sampler or an in-line sampler), each sampling connection system in the process unit shall be equipped with a

closed purge system or a closed vent system that meets one of the following requirements:

- a. the purged process fluid is returned directly to the process line with zero VOC emissions to the ambient air;
 - b. the purged process fluid is collected and recycled with zero VOC emissions to the ambient air; or
 - c. the closed purge system or closed vent system is designed and operated to capture and transport all the purged process fluid to control equipment that meet the control equipment requirements specified in OAC 3745-21-09(DD)(10).
- (7) Each open-ended valve or line in the process unit shall be equipped with a cap, blind flange, plug, or second valve which shall comply with the following requirements:
- a. Except during operations requiring the flow of process fluid through the open-ended valve or line, the cap, blind flange, plug, or second valve shall seal the open end of the open-ended valve or line.
 - b. If equipped with a second valve, the open-ended valve or line shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
 - c. A bleed valve or line from a double block and bleed system may remain open during operations that require venting the line between the block valves, but the line/valve shall be sealed (as in “a” above) at all other times.
- (8) A pump or compressor equipped with a seal that has a barrier fluid system and sensor, which are employed to meet the requirements of OAC 3745-21-09(DD)(2)(d)(ii) for a pump or 3745-21-09(DD)(3)(a) and (b) for a compressor, shall be operated and maintained to comply with the following requirements.
- a. The barrier fluid system shall meet one of the three following conditions:
 - i. The barrier fluid system is operated with a barrier fluid at a pressure that is greater, at all times, than the stuffing box pressure of the pump or compressor.
 - ii. The barrier fluid system is equipped with a barrier fluid degassing reservoir that is connected by a closed vent system to control equipment and the closed vent system and control equipment comply with the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10).
 - iii. The barrier fluid system is equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the ambient air.
 - b. The barrier fluid system shall be “in heavy liquid service” or shall not be “in VOC service”.

- c. The barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both, based on design criteria and operating experience of the permittee.
- (9) A delay of the repair of a detected leak or a delay in returning a pressure relief valve/device to a condition of “no detectable emissions” shall be allowed only if complying with the following requirements:
- a. A delay of repair shall be allowed if the repair is technically infeasible without shutdown of the process unit. However, the repair shall occur before the end of the next process unit shutdown.
 - b. A delay of repair shall be allowed for a piece of equipment that is isolated from the process and that does not remain “in VOC service” (for example, isolated from the process and properly purged).
 - c. A delay of repair for a valve shall be allowed if:
 - i. it can be demonstrated that the emissions from purged material resulting from immediate repair is greater than the emissions likely to result from delay of repair; and
 - ii. the purged material is collected and destroyed or recovered in control equipment that meets the requirements specified in OAC 3745-21-09(DD)(10).
 - d. A delay of repair for a valve beyond a process unit shutdown shall be allowed if:
 - i. a valve assembly replacement is necessary during the process unit shutdown, and
 - ii. the valve assembly supplies have been depleted, and
 - iii. valve assembly supplies had been sufficiently stocked before the supplies were depleted.

A delay of repair beyond the next process unit shutdown shall not be allowed for the valve unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.
 - e. A delay of repair for a pump shall be allowed if:
 - i. the repair requires the use of a dual mechanical seal system and associated barrier fluid system; and
 - ii. the repair is completed as soon as practicable, but no later than 6 months after the leak was detected.
- (10) Operational restrictions necessary to demonstrate compliance with 40 CFR Part 60, subpart VVa and 40 CFR Part 60, subpart A.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in OAC 3745-21-09(DD)(2)(c) and (DD)(2)(d), equipment shall be monitored for leaks in accordance with the method specified OAC 3745-21-10(F) and as follows:
 - a. Any pump “in light liquid service” shall be monitored monthly.
 - b. Any valve “in gas/vapor service” or “in light liquid service” shall be monitored monthly, except that quarterly monitoring may be employed where no leaks are detected during two consecutive months. Quarterly monitoring may begin with the next calendar quarter following the two consecutive months of no detected leaks. Monitoring shall be conducted in the first month of each calendar quarter; and quarterly monitoring may continue until a leak is detected, at which time monitoring shall again be employed monthly.
 - c. The following equipment shall be monitored within 5 calendar days after evidence of a leak or potential leak from the equipment by visual, audible, olfactory, or other detection method:
 - i. a pump “in heavy liquid service”;
 - ii. a valve “in heavy liquid service”;
 - iii. a pressure relief device “in light liquid service” or “in heavy liquid service”;
and
 - iv. a flange or other connector.
 - d. Any equipment in which a leak is detected, as defined in OAC 3745-21-09(DD)(2)(g), shall be monitored within 5 working days after each attempt to repair it, unless the equipment was not successfully repaired.
- (2) For any valve “in gas/vapor service” or “in light liquid service”, an alternative monitoring schedule may be employed, in lieu of the monitoring schedule specified in OAC 3745-21-09(DD)(2)(b)(ii), above, if meeting one of the three following requirements:
 - a. The valve is designated as “difficult to monitor” and is monitored once each calendar year if meeting all of the following conditions:
 - i. construction of the process unit commenced prior to May 9, 1986;
 - ii. the permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 6 feet above a support surface; and
 - iii. the permittee has a written plan that requires monitoring of the valve at least once per year.

- b. The valve is designated as “unsafe to monitor” and is monitored as frequently as practical during times when it is safe to monitor, provided the following conditions are met:
 - i. the permittee demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of monitoring on a monthly basis; and
 - ii. the permittee adheres to a written plan that requires monitoring of the valve as frequently as practical during times when it is safe to monitor.
 - c. The valve qualifies for an alternative monitoring schedule based on a “skip period” as allowed per OAC 3745-21-09(DD)(12).
- (3) The permittee may elect to implement an alternative monitoring schedule, to that of OAC 3745-21-09(DD)(2)(b)(ii) and as identified below, for the process unit valves if the following conditions are met:
- a. no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring schedule; and such notification identifies:
 - i. which valves will be subject to the alternative monitoring schedule; and
 - ii. which work practice, identified in OAC 3745-21-09(DD)(12)(e), will be implemented;
 - c. the permittee monitors the valves initially monthly, to quarterly, as allowed and according to the requirements specified in OAC 3745-21-09(DD)(2)(b)(ii); and
 - d. the valves continue to meet with the conditions specified in OAC 3745-21-09(DD)(2)(g) to (DD)(2)(m).

If meeting all of the above conditions (“a” through “d”), one of the following monitoring periods for valve leak detection may be implemented:

- e. after two consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first quarter of every two consecutive quarterly leak detection periods is skipped; or
- f. after 5 consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first three quarters of every four consecutive quarterly periods is skipped.

The alternative monitoring schedule shall be based on skipping quarterly monitoring periods. Any valve “in vacuum service”, “in heavy liquid service”, or not “in VOC service” shall be excluded from the monitoring schedule. If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this

alternative monitoring schedule after meeting and documenting all of the above requirements.

- (4) The percentage of valves leaking, used to qualify for “skipped period” alternative monitoring schedule, shall be determined as the sum of the number of those valves found leaking during any portion of the current monitoring period and the number of those valves found leaking during a previous monitoring period for which repair has been delayed during the current monitoring period, divided by the total number of valves, and multiplied by 100.
- (5) The following information shall be recorded in a log, that is kept in a readily accessible location, if the “skipped period” alternative monitoring schedule for leak detection of process unit valves is established:
 - a. the identification numbers of the valves subject to the alternative monitoring schedule;
 - b. the schedule established for monitoring the subject valves;
 - c. the valves exempt from the alternative monitoring schedule and reason for the exemption, i.e., “in vacuum service”, “in heavy liquid service”, or not “in VOC service”;
 - d. the percentage of valves leaking during each monitoring period; and
 - e. the maximum instrument reading and date each valve was monitored.
- (6) The permittee may elect to implement an alternative monitoring schedule to that of OAC 3745-21-09(DD)(2)(b)(ii) for the process unit valves, as provided in OAC 3745-21-09(DD)(2)(d)(v), if the following conditions are met:
 - a. it can be demonstrated that no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring standard;
 - c. the demonstration of compliance to document that the percentage of valves leaking does not exceed 2.0% is conducted initially upon implementation and annually thereafter and as follows:
 - i. all valves subject to the alternative monitoring standard shall be monitored for leaks within a one-week period by the method specified in OAC 3745-21-10(F);
 - ii. any leak detected and measured with an instrument reading of 10,000ppmv or greater shall be recorded as a leak; and
 - iii. the percentage of valves leaking shall be determined as the number of valves for which a leak is detected, divided by the number of valves monitored, and multiplied by 100.

All valves "in gas/vapor service" or "in light liquid service" in the process unit shall be subject to this alternative monitoring standard, except for valves not "in VOC service", valves "in vacuum service", and valves which are designated as unsafe to monitor as provided in OAC 3745-21-09(DD)(2)(c)(ii).

- (7) When a leak is detected as described above, the leaking valve shall be repaired in accordance with OAC 3745-21-09(DD)(2)(h) and (DD)(2)(i). If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.
- (8) The following equipment is excluded from the monitoring requirements of OAC 3745-21-09(DD)(2)(b):
 - a. any pump that has no externally actuated shaft penetrating the pump housing and that is designated for no detectable emissions as provided in OAC 3745-21-09(DD)(7);
 - b. any pump that is equipped with a dual mechanical seal which has a barrier fluid system and sensor that comply with the requirements specified in OAC 3745-21-09 (DD)(8);
 - c. any pump that is equipped with a closed vent system capable of capturing and transporting any leakage from the pump seal to control equipment, provided the closed vent system and the control equipment comply with the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10);
 - d. any valve that has no externally actuated stem penetrating the valve and that is designated for "no detectable emissions" as provided in OAC 3745-21-09(DD)(7); and
 - e. any valve that qualifies for the alternative monitoring standard based on the percentage of valves leaking, as provided in OAC 3745-21-09(DD)(13).
- (9) Any pump "in light liquid service" shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, unless the pump is equipped with a closed vent system capable of transporting any leakage from the pump seal to control equipment, and the closed vent system and control equipment comply with the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10).
- (10) Any sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii), for a pump equipped with a dual mechanical seal using a barrier fluid system and sensor; or a sensor employed pursuant to OAC 3745-21-09(DD)(3)(b), for a compressor equipped with a seal using a barrier fluid system and sensor; and complying with the requirements specified in OAC 3745-21-09(DD)(8), shall be checked daily, unless the sensor is equipped with an audible alarm.

- (11) A leak is detected when:
- a. a concentration of 10,000 ppmv or greater is measured from a potential leak interface of any equipment, that is monitored for leaks using the method specified in OAC 3745-21-10(F);
 - b. there is an indication of liquids dripping from the seal of a pump “in light liquid service”; or
 - c. a sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii) or (DD)(3)(b) indicates failure of the seal system, the barrier fluid system, or both.
- (12) When a leak is detected, the following information shall be recorded in the leak repair log:
- a. the identification number of the leaking equipment;
 - b. for each leak required to be monitored, the identification numbers of the leak detection instrument and its operator;
 - c. how the leak was detected, e.g., monitoring, visual inspection, odor detected, or sensor alarm/signal;
 - d. the date on which the leak was detected and the date of each attempt to repair the leaking equipment;
 - e. the methods of repair applied in each attempt to repair the leak;
 - f. one of the following entries within 5 working days after each attempt to repair the leaking equipment:
 - i. “not monitored,” denoting the leaking equipment was presumed to still be leaking and it was not monitored; or
 - ii. if the leaking equipment was monitored with a leak detection instrument, the maximum concentration that was measured as follows:
 - (a) the actual reading in ppmv; or
 - (b) a record stating that the measured concentration was “below 10,000 ppmv”; or
 - (c) a record stating that the measured concentration was “above 10,000 ppmv”;
 - g. if the leak is not repaired within 15 calendar days after the date on which it was detected:
 - i. a record stating that repair was delayed and the reason for the delay;

- ii. if repair is being delayed until the next process unit shutdown due to technical infeasibility of repair, the signature of the operator whose decision it was that repair is technically infeasible without a process unit shutdown;
 - iii. the expected date of successful repair of the leak; and
 - iv. the dates of process unit shutdowns that occur while the leaking equipment is unrepaired; and
 - h. the date on which the leak was successfully repaired.
- (13) The leak repair log shall be kept in a readily accessible location and maintained by the operator of the process unit. Each record shall be retained in the log for a minimum of two years following the date on which it was recorded.
- (14) The following information shall be recorded for the/each process unit in a log that is kept in a readily accessible location:
- a. a list of identification numbers for equipment subject to the requirements of OAC 3745-21-09(DD)(2) to (DD)(10);
 - b. a list of identification numbers for equipment designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7), and the signature of the permittee/operator authorizing the designation of each piece of equipment;
 - c. a list of identification numbers for pressure relief devices subject to OAC 3745-21-09(DD)(4);
 - d. a list of identification numbers for closed vent systems subject to OAC 3745-21-09(DD)(9);
 - e. for compliance tests required under OAC 3745-21-09(DD)(4)(c), (DD)(7)(c), and (DD)(9)(c):
 - i. the date each compliance test is conducted;
 - ii. the background VOC emissions level measured during each compliance test; and
 - iii. the maximum instrument reading measured at the equipment during each compliance test;
 - f. the following information pertaining to valves subject to an alternative monitoring schedule, as provided in OAC 3745-21-09(DD)(2)(c):
 - i. a list of identification numbers for valves designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve;

- ii. a list of identification numbers for valves 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; and
 - iii. a list of identification numbers for valves subject to the alternative monitoring schedule based on a “skip period”, a schedule for monitoring these valves, and the percentage of valves leaking during each monitoring period;
- g. the following information pertaining to closed vent systems and control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10):
- i. detailed schematics, design specifications, and piping and instrumentation diagrams for the closed vent systems and collection and control equipment;
 - ii. the dates and descriptions of any changes in the design specifications above;
 - iii. a description of the parameter(s) monitored, as required in OAC 3745-21-09(DD)(10)(d), to ensure that the control equipment is operated and maintained in conformance with its design, and the reason for selecting the parameter(s);
 - iv. periods when the closed vent systems and control equipment are not operated as designed, including periods when a flare pilot light does not have a flame; and
 - v. dates of startups and shutdowns of the closed vent systems and control equipment;
- h. the following information pertaining to barrier fluid systems and sensors described in OAC 3745-21-09(DD)(8):
- i. a list of identification numbers of pumps and compressors equipped with such barrier fluid systems and sensors;
 - ii. the criteria that indicate failure of the seal system, the barrier fluid system, or both, as required in OAC 3745-21-09(DD)(8)(d) and an explanation of the criteria; and
 - iii. any changes to such criteria and the reasons for the changes;
- i. the following information for use in determining an exemption for the process unit as provided in OAC 3745-21-09(DD)(17)(a):
- i. an analysis demonstrating the design capacity of the process unit;
 - ii. a statement listing the feed and raw materials and products from the process unit and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohols; or

- iii. an analysis demonstrating that equipment that is documented as “not in VOC service” meets this condition; and
- j. the following information pertaining to specific equipment that are exempt as provided in OAC 3745-21-09(DD)(17)(b):
 - i. a list of identification numbers of equipment “in vacuum service”;
 - ii. a list of identification numbers of equipment “not in VOC service” and the information or data used to demonstrate this; and
 - iii. a list of equipment subject to an equivalent emission requirement that is approved by the Director pursuant to OAC 3745-21-09(DD)(16).

One recordkeeping system may be used to comply with the recordkeeping requirements for multiple process units provided the system identifies each process unit to which each record pertains.

- (15) The following facility process units are exempted from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
 - a. any process unit that has a design capacity to produce less than 1,100 tons per year;
 - b. any process unit that produces only heavy liquid chemicals from heavy liquid feed or raw materials;
 - c. any process unit that produces beverage alcohol;
 - d. any process unit that has no equipment “in VOC service” as determined in accordance with OAC 3745-21-10(O)(2); and
 - e. any process unit at a petroleum refinery, as defined in OAC 3745-21-01(E)(15).
- (16) The following process equipment are exempt from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
 - a. any equipment “not in VOC service”, as determined in accordance with OAC 3745-21-10(O)(2);
 - b. any equipment “in vacuum service”; and
 - c. any equipment subject to an equivalent emission limitation as provided in OAC 3745-21-09(DD)(16).
- (17) Monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart VVa and 40 CFR Part 60, subpart A.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) Semiannual reports shall be submitted to the Director by the first day of February and August and shall include the following information for each preceding semiannual period of operations:
 - a. the process unit identification;
 - b. the number of pumps "in light liquid service" associated with the process unit, excluding:
 - i. pumps that have no externally actuated shaft penetrating the pump housing and designated for "no detectable emissions"; and
 - ii. pumps equipped with a closed vent system capable of capturing and transporting leakage from the pump seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10);
 - c. the number of valves "in gas/vapor service" or "in light liquid service" associated with the process unit, excluding:
 - i. valves that have no externally actuated stem penetrating the valve and designated for "no detectable emission"; and
 - ii. valves qualified for the alternative monitoring standard based on the percentage of valves leaking, under the provision of OAC 3745-21-09(DD)(13);
 - d. the number of compressors associated with the process unit, excluding:
 - i. compressors designated for and meeting the requirements for "no detectable emissions";
 - ii. compressors equipped with a closed vent system capable of capturing and transporting leakage from the compressor seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10); and/or
 - iii. reciprocating compressors installed prior to 5/9/86, where it can be demonstrated that recasting or replacing the compressor would be the only means of complying with the requirement to equip it with a seal with a barrier fluid system and sensor;
 - e. for each month during the semiannual period:
 - i. the number of pumps "in light liquid service" for which leaks were detected (as required in this permit);

- ii. the number of pumps “in light liquid service” for which leaks were not repaired within 15 calendar days after the date of leak detection;
 - iii. the number of valves “in gas/vapor service” or “in light liquid service” for which leaks were detected (as required in this permit);
 - iv. the number of valves “in gas/vapor service” or “in light liquid service” for which leaks were not repaired within 15 calendar days after the date of leak detection;
 - v. the number of compressors for which leaks were detected (as required in this permit);
 - vi. the number of compressors for which leaks were not repaired within 15 calendar days after the date of leak detection; and
 - vii. for each delay of repair allowed pursuant to OAC 3745-21-09(DD)(11), the reason for the delay;
- f. the dates of process unit shutdowns that occurred within the semiannual period; and
- g. the results of compliance tests for equipment identified as having “no detectable emissions”, along with the associated equipment identification numbers from the compliance log.

Semiannual reports shall be submitted to the appropriate Ohio EPA district office or local air agency by the first day of February and August and shall include information for the preceding semiannual period.

- (3) If required, the permittee shall submit compliance test reports in accordance with OAC rule 3745-21-09(DD)(15).
- (4) Reporting requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart VVa and 40 CFR Part 60, subpart A.

f) Testing Requirements

- (1) Except as otherwise provided in OAC rules 3745-21-09(DD)(2)(c) and 3745-21-09(DD)(2)(d), all equipment shall be monitored for leaks in accordance with the method specified in OAC rule 3745-21-10(F).

In accordance with OAC rule 3745-21-10(F)(4), leak detection instrument(s) shall be calibrated before use on each day of its use.

- (2) If required, the permittee shall conduct compliance tests in accordance with OAC rules 3745-21-09(DD)(4)(c), 3745-21-09(DD)(7)(c) and 3745-21-09(DD)(9)(c).
- (3) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

VOC emissions shall not exceed 39.31 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the rolling, 12-month VOC emissions limitation has been determined using the actual component count and emission factors from 'Protocol for Equipment Leak Emission Estimates', EPA-453/R-95-017, Table 5-2.

Testing may be requested pursuant to OAC rule 3745-15-04(A). Such testing would be required to comply with methods described in OAC rule 3745-21-10 for volatile organic compounds.

- (4) Testing requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart VVa and 40 CFR Part 60, subpart A.

g) Miscellaneous Requirements

- (1) None.

7. P903, EU037

Operations, Property and/or Equipment Description:

DDGS Loadout to truck and rail (EU037) equipped with a baghouse

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Fugitive particulate emissions (PE) shall not exceed 0.16 pound per hour (lb/hr) and 0.70 ton per year (TPY). See b)(2)a. and b)(2)c.
b.	OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
c.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD for VOC)	The baghouse for emissions units P902 and P903 shall achieve an outlet emission rate of not greater than 0.005 grain of PE per dry standard cubic foot of exhaust gases (gr/dscf). Combined PE from the stack serving emissions units P902 and P903 shall not exceed 1.71 tons per rolling, 12-month period. See b)(2)d. and c)(1).

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to

which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.

- b. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:
 - i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE from this air contaminant source because the calculated annual emission rate for PE is less than 10 TPY, taking into consideration the federally enforceable rule limit of 1.71 tons PE per rolling, 12-month period established under OAC rule 3745-31-05(D) for emissions units P902 and P903 combined.
 - c. The hourly fugitive PE limitation was established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, or reporting requirements to ensure compliance with this limitation.
 - d. For the purposes of this permit all PE is considered to be PM₁₀.
- c) Operational Restrictions
 - (1) The baghouse serving emissions units P902 and P903 shall be operated at all times when either emissions unit is in operation.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. the hours of operation for the baghouse;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to a baghouse;
 - c. the particulate emissions for the stack serving emissions units P902 and P903, in tons, calculated in accordance with f)(1):
 - d. the rolling, 12-month summation of particulate emissions from the stack serving emissions units P902 and P903, in tons.
 - (2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 0.1 to 6.0 inches of water.

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Central District Office (CDO). The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future

testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date) when the baghouse was not operated while the emissions unit(s) was/were in operation; and
 - iii. each rolling, 12-month period when the PE from the stack serving emissions units P902 and P903 exceeded 1.71 tons.
 - b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.
- (3) The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (Central District Office).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

Fugitive PE shall not exceed 0.16lb/hr and 0.70 TPY(as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance shall be determined using the following equation:

$$(49 \text{ tons/hr}) \times (0.0033 \text{ lb PE/ton}) = 0.16 \text{ ton of fugitive PE per year.}$$

where:

0.0033 lb PE/ton is the AP-42 emissions factor for feed shipping; Table 9.9.1-2, (March, 2003).

Compliance with the annual limitation is determined by multiplying the hourly emissions limitation by 8,760 hours and dividing by 2,000 pounds per ton.

b. Emissions Limitation:

Combined particulate emissions from the stack serving emissions units P902 and P903 shall not exceed 1.71 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be determined through the recordkeeping required in d)(1) and the following equation:

$$PE = AOC * EV * (60 \text{ min/hr}) * (1 \text{ lb/7000 gr}) * (HO) * (\text{ton/2000 lbs})$$

where,

AOC = the actual outlet concentration measured during the most recent compliance demonstration that demonstrated compliance with the 0.005 gr/dscf limitation, in gr/dscf;

EV = the stack exit velocity measured during the most recent compliance demonstration that demonstrated compliance with the 0.005 gr/dscf limitation, in dscf/min; and

HO = the actual rolling, 12-month hours of operation for the baghouse.

c. Emissions Limitation:

The baghouse for emissions units P902 and P903 shall achieve an outlet emission rate of not greater than 0.005 gr/dscf.

Applicable Compliance Method:

Compliance with the allowable grain outlet concentration shall be determined through the performance testing as described in f)(2) below.

- (2) The permittee demonstrated compliance with the limitations identified in f)(1)b. and f)(1)c. above through emissions tests conducted on July 31, 2008. If required, the permittee shall conduct, or have conducted, emission testing for emissions units P902 and P903 in accordance with the following requirements:
- a. The permittee demonstrated compliance with the limitations identified in f)(1)b. and f)(1)c. above through emissions tests conducted on July 31, 2008. Emission testing shall be conducted within 6 months prior to the permit expiration.
 - b. The emission testing shall be conducted to demonstrate compliance with the following limitations:
 - i. Combined particulate emissions from the stack serving emissions units P902 and P903 shall not exceed 1.71 tons per rolling, 12-month period; and
 - ii. The baghouse for emissions units P902 and P903 shall achieve an outlet emission rate of not greater than 0.005 gr/dscf.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. Methods 1-5 of 40 CFR Part 60, Appendix A

Alternative U.S. EPA approved test methods may be used with prior approval from CDO.
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by CDO.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in CDO's refusal to accept the results of the emission test(s).
 - f. Personnel from CDO shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to

Draft Permit-to-Install

Valero Renewable Fuels Company, LLC

Permit Number: P0108710

Facility ID: 0124000132

Effective Date: To be entered upon final issuance

CDO within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from CDO.

g) Miscellaneous Requirements

(1) None.

8. T003, T003

Operations, Property and/or Equipment Description:

200,000 gal, 200-proof ethanol storage tank

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Volatile organic compound (VOC) emissions shall not exceed 0.56 ton per year (TPY). See b)(2)a. and b)(2)c.
b.	OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
c.	40 CFR Part 60, subpart Kb	See b)(2)d. and b)(2)e.
d.	40 CFR Part 60, subpart A	See b)(2)f.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.

b. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:

- i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source because the calculated annual emission rate for VOC is less than 10 TPY, taking into consideration the federally enforceable requirements established under 40 CFR Part 60, subpart Kb.
- c. The annual VOC emissions limitation was established to reflect the potential to emit for this emissions unit, taking into consideration the requirements established under 40 CFR Part 60, subpart Kb. The monitoring, recordkeeping, and reporting requirements for the purpose of demonstrating compliance with 40 CFR Part 60, subpart Kb, as established in the following terms and conditions, are sufficient to demonstrate compliance with this limitation.
- d. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR, Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR, Part 60 are also federally enforceable.
- e. The permittee shall demonstrate compliance with the applicable standards monitoring and recordkeeping requirements, reporting requirements and testing requirements identified in 40 CFR Part 60, subpart Kb.

In accordance with 40 CFR 60.110b(a) and 60.110b(b), this emissions unit is determined to be a part of the affected facility to which 40 CFR Part 60, subpart Kb applies because it stores volatile organic liquids (VOL), construction of this source commenced after July 23, 1984, the capacity of the source is greater than 151 m³ and it stores a liquid with a maximum true vapor pressure greater than 3.5 kPa.

- f. The complete 40 CFR Part 60 requirements, including the General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Central District Office. 40 CFR Part 60, subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.

c) Operational Restrictions

- (1) Operational restrictions necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

d) Monitoring and/or Recordkeeping Requirements

- (1) Monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) Reporting requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

VOC emissions shall not exceed 0.56 TPY (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance shall be determined in accordance with the methods and formulas specified in AP-42, 5th Edition, Chapter 7.1, Storage of Organic Liquids or based upon the most recent version of the U.S. EPA Tanks program.

- (2) Testing requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

g) Miscellaneous Requirements

- (1) None.

9. T005, T005

Operations, Property and/or Equipment Description:

200,000 gal, 190-proof ethanol storage tank

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Volatile organic compound (VOC) emissions shall not exceed 0.69 ton per year (TPY). See b)(2)a. and b)(2)c.
b.	OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
c.	40 CFR Part 60, subpart Kb	See b)(2)d. and b)(2)e.
d.	40 CFR Part 60, subpart A	See b)(2)f.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.

b. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:

i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source because the calculated annual emission rate for VOC is less than 10 TPY, taking into consideration the federally enforceable requirements established under 40 CFR Part 60, subpart Kb.

c. The annual VOC emissions limitation was established to reflect the potential to emit for this emissions unit, taking into consideration the requirements established under 40 CFR Part 60, subpart Kb. The monitoring, recordkeeping, and reporting requirements for the purpose of demonstrating compliance with 40 CFR Part 60, subpart Kb, as established in the following terms and conditions, are sufficient to demonstrate compliance with this limitation.

d. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR, Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR, Part 60 are also federally enforceable.

e. The permittee shall demonstrate compliance with the applicable standards monitoring and recordkeeping requirements, reporting requirements and testing requirements identified in 40 CFR Part 60, subpart Kb.

In accordance with 40 CFR 60.110b(a) and 60.110b(b), this emissions unit is determined to be a part of the affected facility to which 40 CFR Part 60, subpart Kb applies because it stores volatile organic liquids (VOL), construction of this source commenced after July 23, 1984, the capacity of the source is greater than 151 m³ and it stores a liquid with a maximum true vapor pressure greater than 3.5 kPa.

f. The complete 40 CFR Part 60 requirements, including the General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Central District Office. 40 CFR Part 60, subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.

c) Operational Restrictions

(1) Operational restrictions necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

d) Monitoring and/or Recordkeeping Requirements

(1) Monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) Reporting requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

VOC emissions shall not exceed 0.69 TPY (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance shall be determined in accordance with the methods and formulas specified in AP-42, 5th Edition, Chapter 7.1, Storage of Organic Liquids or based upon the most recent version of the U.S. EPA Tanks program.

- (2) Testing requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

g) Miscellaneous Requirements

- (1) None.

10. Emissions Unit Group -DDGS Dryers: P010,P011,P012,P013,

EU ID	Operations, Property and/or Equipment Description
P010	38 MMBtu natural gas and biogas DDGS Dryer A equipped with four integral multiclones venting to waste heat recovery/boiler unit B001
P011	38 MMBtu natural gas DDGS Dryer B equipped with four integral multiclones venting to waste heat recovery/boiler unit B001
P012	38 MMBtu natural gas DDGS Dryer C equipped with four integral multiclones venting to waste heat recovery/boiler unit B002
P013	38 MMBtu natural gas DDGS Dryer D equipped with four integral multiclones venting to waste heat recovery/boiler unit B002

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
- (1) None
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	<p>Volatile organic compound (VOC) emissions shall not exceed 0.20 pound per hour (lb/hr).</p> <p>Particulate emissions (PE) shall not exceed 1.01 lbs/hr and 4.43 tons per year (TPY).</p> <p>See b)(2)a., b)(2)c., and b)(2)e.</p> <p>For emissions unit P010: Sulfur dioxide (SO₂) emissions shall not exceed 1.61lbs/hr and 6.89TPY.</p> <p>For emissions units P011, P012, and P013, each: SO₂ emissions shall not exceed 0.02 lb/hr and 0.09 TPY.</p>
b.	OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
c.	ORC 3704.03(T)	Nitrogen oxide (NO _x) emissions shall not

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>exceed 0.098 pound per million British thermal unit (lb/MMBtu).</p> <p>Carbon monoxide emissions shall not exceed 0.082 lb/MMBtu.</p>
d.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD for VOC)	See b)(2)d. and c)(1).
e.	OAC rule 3745-18-06(E)(2)	<p>Emissions units P011, P012 and P013 are exempt from the requirements of OAC rule 3745-18-06(E)(2) pursuant to OAC rule 3745-18-06(A).</p> <p>The emissions limitation established by this rule for emissions unit P010 is less stringent than the emissions limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)b.ii.</p>

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.
- b. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:
 - i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO₂, PE, or VOC emissions from this air contaminant source because the calculated annual emission rate for each pollutant is less than 10 TPY; and
 - ii. SO₂ emissions from emissions unit **P010** shall not exceed 160.32 lbs/hr.

- c. The hourly VOC emissions limitation and hourly and annual SO₂ and PE limitations were established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, or reporting requirements to ensure compliance with these limitations.
 - d. The following limitations apply to the combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack):
 - i. VOC emissions shall not exceed 0.12 pounds per thousand gallons of 200-proof ethanol produced (lbs/Kgal ethanol) and 8.16 tons per rolling, 12-month period.
 - e. For the purposes of this permit all PE is considered to be PM₁₀.
- c) Operational Restrictions
- (1) All of the emissions from this emissions unit shall be vented to a thermal oxidizer whenever the emissions unit is in operation.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to a thermal oxidizer.
 - (2) In accordance with the requirements established for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014, the permittee shall collect and record the following information each month:
 - a. the number of gallons of 200-proof ethanol produced, in gallons;
 - b. the rolling, 12-month summation of 200-proof ethanol production, in gallons;
 - c. the VOC emissions for emissions units B001, B002, P005, P007, P008(except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack), in tons, calculated in accordance with the testing requirements established for each emissions unit; and
 - d. the rolling, 12-month summation of VOC emissions for emissions units B001, B002, P005, P007, P008(except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack), in tons, calculated in accordance with the testing requirements established for each emissions unit.

- (3) The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
- (4) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance; and
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to a thermal oxidizer;
 - ii. each 3-hour block of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range; and
 - iii. each rolling, 12-month period during which the VOC emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack) exceeded 8.16 tons.

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

- (3) The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (Central District Office).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

SO₂ emissions from emissions units **P011**, **P012**, and **P013** shall not exceed 0.02lb/hr and 0.09 TPY, each (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourly SO₂ emissions limitation may be determined by multiplying the maximum heating capacity (38MMBtu/hr) by the following AP-42 emission factor:

<u>Pollutant</u>	<u>Emissions Factor*</u>
SO ₂	0.000588lb/MMBtu

Compliance with the annual SO₂ emissions limitation was determined by multiplying the hourly emissions limitation by 8,760 hours per year and dividing by 2,000 pounds per ton.

* AP-42, Volume I, Fifth Edition, Section 1.4, "Natural Gas Combustion", Table 1.4-2, July 1998.

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 6.

b. Emissions Limitations:

SO₂ emissions from emissions unit **P010** shall not exceed 1.61lbs/hr and 6.89 TPY (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourly SO₂ emissions limitation shall be determined in accordance with the following equation:

$$\text{Total hourly SO}_2 \text{ emissions} = \text{hourly natural gas SO}_2 + \text{hourly biogas SO}_2$$

where,

$$\text{hourly natural gas SO}_2 = \text{Max MMBtu} * \text{Ef}$$

where,

Max MMBtu = the maximum hourly Btu rating of the dryer (38 MMBtu); and

Ef = the SO₂ emission factor from AP-42, Volume I, Fifth Edition, Section 1.4, "Natural Gas Combustion", Table 1.4-2, July 1998 (0.000588 lb/MMBtu); and

$$\text{hourly biogas SO}_2 = \text{MaxE}_h * \text{Ef}$$

where,

MaxE_h = the maximum, hourly 200-proof ethanol production rate (15,858 gal); and

Ef = the SO₂ emissions factor from stack tests performed on April 13, 2011 (0.10lb/Kgal ethanol).

Compliance with the annual SO₂ emissions limitation shall be determined in accordance with the following equation:

$$\text{Total annual SO}_2 = \text{annual natural gas SO}_2 + \text{annual biogas SO}_2$$

where,

$$\text{annual natural gas SO}_2 = (\text{Max MMBtu} * \text{Ef}) * 8,760 / 2,000$$

where,

Max MMBtu = the maximum hourly Btu rating of the dryer (38 MMBtu); and

Ef = the SO₂ emission factor from AP-42, Volume I, Fifth Edition, Section 1.4, "Natural Gas Combustion", Table 1.4-2, July 1998 (0.000588 lb/MMBtu); and

$$\text{Annual biogas SO}_2 = (\text{MaxE} * \text{Ef}) / 2,000$$

where,

MaxE = the maximum, rolling, 12-month 200-proof ethanol production rate (136,000,000 gal); and

Ef = the SO₂ emissions factor from stack tests performed on April 13, 2011 (0.10 lb/Kgal ethanol).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 6.

c. Emissions Limitation:

SO₂ emissions from emissions unit **P010** shall not exceed 160.32 lbs/hr (as applicable after U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

The permittee demonstrated compliance with the SO₂ emissions limitation through performance tests conducted on April 13, 2011. The results of the test indicated an average SO₂ emissions rate of 1.41 lbs/hr and a maximum SO₂ emissions rate of 1.48 lbs/hr for emissions units B001, B002, P005, P007, P009, P008, P010, P011, P012, P013, and P014 combined.

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 6.

d. Emissions Limitation:

VOC emissions shall not exceed 0.20lb/hr (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourly VOC emissions limitation may be determined by multiplying the maximum heating capacity (38MMBtu/hr) by the following AP-42 emission factor:

<u>Pollutant</u>	<u>Emissions Factor*</u>
VOC	0.00539lb/MMBtu

* AP-42, Volume I, Fifth Edition, Section 1.4, "Natural Gas Combustion", Table 1.4-2, July 1998.

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, methods 18, 25, or 25A.

e. Emissions Limitation:

PE shall not exceed 1.01lb/hr and 4.43 TPY (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourly PE limitation may be determined using the following equation:

$$\text{Total PE} = \text{Combustion PE} + \text{Process PE}$$

where,

$$\text{Combustion PE} = 38 \text{ MMBtu} * \text{Ef}$$

where,

Ef = the PE emissions factor from AP-42, Volume I, Fifth Edition, Section 1.4, "Natural Gas Combustion", Table 1.4-2, July 1998 (0.00745lb/MMBtu); and

$$\text{Process PE} = 12.2 \text{ T/hr} * \text{Ef} * (1-\text{CE})$$

where,

Ef = the PE emissions factor from AP-42, Volume I, Fifth Edition, Section 9.9.1, "Grain Elevators and Processes", Table 9.9.1-1, March 2003 (3.0 lb PE/Ton); and

CE = the multiclone control efficiency (98%).

Compliance with the annual PE limitation was determined by multiplying the hourly emissions limitation by 8,760 hours per year and dividing by 2,000 pounds per ton.

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 5.

f. Emissions Limitation:

NO_x emissions shall not exceed 0.098 lb/MMBtu.

Applicable Compliance Method:

Compliance shall be demonstrated using the emissions factor for NO_x from USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Table 1.4-1 (7/98).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 7E.

g. Emissions Limitation:

CO emissions shall not exceed 0.082 lb/MMBtu.

Applicable Compliance Method:

Compliance shall be demonstrated using the emissions factor for CO from USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Table 1.4-1 (7/98).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 10.

h. Emissions Limitations:

Combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack) shall not exceed:

- i. 0.12 lbs VOC/Kgal ethanol and 8.16 tons VOC per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the lbs VOC/Kgal ethanol limitation shall be demonstrated in accordance with the testing requirements identified in f)(2).

Compliance with the rolling, 12-month VOC emissions limitation shall be determined by multiplying the actual gallons of 200-proof ethanol production per rolling, 12-month period by the lbs VOC/Kgal emissions rate determined in accordance with the testing requirements identified in f)(2).

- (2) The permittee demonstrated compliance with the limitations identified in f)(1)h. above through emissions tests conducted on April 12 through April 14, 2011. If required, the permittee shall conduct, or have conducted, emission testing for each emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted to demonstrate compliance with the limitations identified in f)(1)h. and the facility wide HAP limitations identified in B.2.b);
- b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. Method 25 or Method 25A from 40 CFR Part 60, Appendix A for VOC (as specified by the Midwest Scaling Protocol).

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Central District Office.

Draft Permit-to-Install

Valero Renewable Fuels Company, LLC

Permit Number: P0108710

Facility ID: 0124000132

Effective Date: To be entered upon final issuance

- d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Central District Office's refusal to accept the results of the emission test(s).
 - e. Personnel from the Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central District Office.
- g) Miscellaneous Requirements
- (1) None.

11. Emissions Unit Group -Denatured ethanol storage tanks: T001,T002,

EU ID	Operations, Property and/or Equipment Description
T001	1.5 MMgal denatured ethanol storage tank
T002	1.5 MMgal denatured ethanol storage tank

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Volatile organic compound (VOC) emissions shall not exceed 0.82 ton per year (TPY). See b)(2)a. and b)(2)c.
b.	OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
b.	40 CFR Part 60, subpart Kb	See b)(2)d. and b)(2)e.
c.	40 CFR Part 60, subpart A	See b)(2)f.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.

- b. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:
 - i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source because the calculated annual emission rate for VOC is less than 10 TPY, taking into consideration the federally enforceable requirements established under 40 CFR Part 60, subpart Kb.
- c. The annual VOC emissions limitation was established to reflect the potential to emit for this emissions unit, taking into consideration the requirements established under 40 CFR Part 60, subpart Kb. The monitoring, recordkeeping, and reporting requirements for the purpose of demonstrating compliance with 40 CFR Part 60, subpart Kb, as established in the following terms and conditions, are sufficient to demonstrate compliance with this limitation.
- d. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR, Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR, Part 60 are also federally enforceable.
- e. The permittee shall demonstrate compliance with the applicable standards monitoring and recordkeeping requirements, reporting requirements and testing requirements identified in 40 CFR Part 60, subpart Kb.

In accordance with 40 CFR 60.110b(a) and 60.110b(b), emissions units T001 and T002 are determined to be a part of the affected facility to which 40 CFR Part 60, subpart Kb applies because they store volatile organic liquids (VOL), construction of these sources commenced after July 23, 1984, the capacity of each of these sources is greater than 151 m³ and they store a liquid with a maximum true vapor pressure greater than 3.5 kPa.

- f. The complete 40 CFR Part 60 requirements, including the General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Central District Office. 40 CFR Part 60, subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.
- c) Operational Restrictions
 - (1) Operational restrictions necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.
 - d) Monitoring and/or Recordkeeping Requirements
 - (1) Monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) Reporting requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

VOC emissions shall not exceed 0.82 TPY (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance shall be determined in accordance with the methods and formulas specified in AP-42, 5th Edition, Chapter 7.1, Storage of Organic Liquids or based upon the most recent version of the U.S. EPA Tanks program.

- (2) Testing requirements necessary to demonstrate compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 60, subpart A.

g) Miscellaneous Requirements

- (1) None.

12. Emissions Unit Group -Process Units P005, P007 & P009: P005,P007,P009,

EU ID	Operations, Property and/or Equipment Description
P005	Cook-Mash process consisting of one process-mixer (EU006), slurry tanks 1 (EU007) and 2 (EU008), two cook tubes (EU010), one flash tank (EU009), liquefaction tanks 1 (EU011) and 2 (EU012) and yeast tanks 1 (EU016) and 2 (EU015) vented to waste heat recovery/boiler units B001 and B002
P007	Distillation Process consisting of beer column (EU017), side stripper (EU018), rectifier column (EU019) and 190-proof condenser (EU020) vented to waste heat recovery/boiler units B001 and B002
P009	Molecular Sieve Process consisting of two sets of three mole-sieve bottles (EU021), sieve vaporizer (ET-4620), evap 1 (ET-4101, evap 2 (ET-4102), 200 proof flash receiver (TP-4611), 200 proof flash vessel (TP-4613), cooler and 200 proof filters vented to waste heat recovery/boiler units B001 and B002

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

(1) b)(1)d. and d)(5) through d)(8)

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Volatile organic compound (VOC) emissions shall not exceed 1.90 pounds per hour (lbs/hr). See b)(2)a. and b)(2)c.
b.	OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
c.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD for VOC)	See b)(2)d. and c)(1).
d.	ORC rule 3704.03(F)	See d)(5) through d)(8).

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was

revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.

- b. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:
 - i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source because the calculated annual emission rate for VOC is less than 10 TPY, taking into consideration the federally enforceable rule limitations and operational restrictions established under OAC rule 3745-31-05(D).
- c. The hourly VOC emissions limitation was established to reflect the potential to emit for this emissions unit as vented to a thermal oxidizer. The monitoring, recordkeeping, reporting, and testing requirements for the thermal oxidizer as established in the following terms and conditions are sufficient to demonstrate compliance with this limitation.
- d. The following limitations apply to the combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack):
 - i. VOC emissions shall not exceed 0.12 pounds per thousand gallons of 200-proof ethanol produced (lbs/Kgal ethanol) and 8.16 tons per rolling, 12-month period.

c) **Operational Restrictions**

- (1) All of the emissions from this emissions unit shall be vented to a thermal oxidizer.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to a thermal oxidizer.

- (2) In accordance with the requirements established for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014, the permittee shall collect and record the following information each month:
- a. the number of gallons of 200-proof ethanol produced, in gallons;
 - b. the rolling, 12-month summation of 200-proof ethanol production, in gallons;
 - c. the VOC emissions for emissions units B001, B002, P005, P007, P008(except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack), in tons, calculated in accordance with the testing requirements established for each emissions unit; and
 - d. the rolling, 12-month summation of VOC emissions for emissions units B001, B002, P005, P007, P008(except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack), in tons, calculated in accordance with the testing requirements established for each emissions unit.
- (3) The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
- (4) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance; and
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
- (5) The PTI application for emissions units P005, P007, P008 and P009 was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per

year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "24" hours per day and "7" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/24 \times 5/7 = 4 \text{ TLV}/\text{XY} = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: Acetaldehyde
TLV (mg/m3): 45.04
Maximum Hourly Emission Rate (lbs/hr): 0.63
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.1724
MAGLC (ug/m3): 1072.4

Toxic Contaminant: Formaldehyde
TLV (mg/m3): 0.368
Maximum Hourly Emission Rate (lbs/hr): 0.48
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.1314

MAGLC (ug/m3): 8.77

Toxic Contaminant: Methanol

TLV (mg/m3): 262.09

Maximum Hourly Emission Rate (lbs/hr): 0.28

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.07665

MAGLC (ug/m3): 6240.1

The permittee, has demonstrated that emissions of acetaldehyde, formaldehyde and methanol from emissions units P005, P007, P008 and P009 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (6) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (7) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):

- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (8) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to a thermal oxidizer;
 - ii. each 3-hour block of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range; and
 - iii. each rolling, 12-month period during which the VOC emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014

(except emissions vented to the cooling drum atmospheric stack)
exceeded 8.16 tons.

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

- (3) The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (Central District Office).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

VOC emissions shall not exceed 1.90lbs/hr(as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourly VOC emissions limitation may be determined by multiplying the maximum hourly 200-proof ethanol production rate (15.858 Kgal) by the 0.12 lb VOC/Kgal ethanol emissions limitation established under OAC rule 3745-31-05(D).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 18, 25, or 25A.

b. Emissions Limitations:

Combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack) shall not exceed:

- i. 0.12 lbs VOC/Kgal ethanol and 8.16 tons VOC per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the lbs VOC/Kgal ethanol limitation shall be demonstrated in accordance with the testing requirements identified in f)(2).

Compliance with the rolling, 12-month VOC emissions limitation shall be determined by multiplying the actual gallons of 200-proof ethanol production per rolling, 12-month period by the lbs VOC/Kgal emissions rate determined in accordance with the testing requirements identified in f)(2).

- (2) The permittee demonstrated compliance with the limitations identified in f)(1)b. above through emissions tests conducted on April 12 through April 14, 2011. If required, the permittee shall conduct, or have conducted, emission testing for each emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted to demonstrate compliance with the limitations identified in f)(1)b. and the facility wide HAP limitations identified in B.2.b);
 - b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. Method 25 or Method 25A from 40 CFR Part 60, Appendix A for VOC (as specified by the Midwest Scaling Protocol).

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Central District Office.
 - d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Central District Office's refusal to accept the results of the emission test(s).
 - e. Personnel from the Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central District Office.
- g) Miscellaneous Requirements
- (1) None.

13. Emissions Unit Group -Waste Heat Recovery Boilers: B001,B002,

EU ID	Operations, Property and/or Equipment Description
B001	143 MMBtu/hr natural gas thermal oxidizer/heat recovery boiler unit
B002	143 MMBtu/hr natural gas thermal oxidizer/heat recovery boiler unit

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
- (1) None
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Sulfur dioxide (SO ₂) emissions shall not exceed 0.08 pounds per hour (lb/hr) and 0.35 tons per year (TPY). Volatile organic compound (VOC) emissions shall not exceed 1.90lbs/hr. See b)(2)a. and b)(2)c.
b.	OAC 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
c.	ORC 3704.03(T)	Carbon monoxide emissions shall not exceed 0.082 lb/MMBtu. The nitrogen oxide (NO _x) emissions limitation established by this rule is equivalent to the limitation established pursuant to 40 CFR Part 60, subpart Db. The particulate emissions (PE) limitation established by this rule is equivalent to the limitation established pursuant to OAC rule 3745-17-10(B)(1).
d.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD for VOC)	See b)(2)d.
e.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020lb/MMBtu of actual heat input.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)e.
f.	40 CFR Part 60, subpart Db (40 CFR 60.40b-60.49b)	NO _x emissions shall not exceed 0.10 lb/MMBtu of actual heat input. See b)(2)f.
g.	40 CFR Part 60, subpart A (40 CFR 60.1-60.18)	See b)(2)g. and b)(2)h.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.
- b. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:
 - i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO₂ and VOC emissions from this air contaminant source because the calculated annual emission rate for each pollutant is less than 10 TPY.
- c. The hourly VOC emissions limitation and hourly and annual SO₂ emissions limitations were established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, or reporting requirements to ensure compliance with these limitations.
- d. The following limitations apply to the combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack):
 - i. VOC emissions shall not exceed 0.12 pounds per thousand gallons of 200-proof ethanol produced (lbs/Kgal ethanol) and 8.16 tons per rolling, 12-month period.

- e. For the purposes of this permit all PE is considered to be PM₁₀.
- f. The permittee shall demonstrate compliance with the applicable emissions limitations identified in 40 CFR Part 60, subpart Db, including the following sections:

40 CFR 60.44b	Standard for nitrogen oxides (NO _x)
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- g. The permittee shall demonstrate compliance with the applicable requirements identified in 40 CFR Part 60, subpart Db in accordance with 40 CFR Part 60, subpart A, including the following sections:

40 CFR 60.1	Applicability.
40 CFR 60.6	Review of plans.
40 CFR 60.7	Notification and record keeping.
40 CFR 60.8	Performance tests.
40 CFR 60.11	Compliance with standards and maintenance.
40 CFR 60.12	Circumvention.
40 CFR 60.13	Monitoring requirements.
40 CFR 60.14	Modification.
40 CFR 60.15	Reconstruction.
40 CFR 60.18	General control device requirements.

The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Central District Office. 40 CFR Part 60, subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.

- h. In accordance with 40 CFR Part 60, Appendix F, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NO_x monitoring system, designed to ensure continuous valid and representative readings of NO_x emissions in units of the applicable standard(s). The quality assurance/quality control plan and a logbook dedicated to the continuous NO_x monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In accordance with the requirements established for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P012, P013 and P014, the permittee shall collect and record the following information each month:
 - a. the number of gallons of 200-proof ethanol produced, in gallons;
 - b. the rolling, 12-month summation of 200-proof ethanol production, in gallons;
 - c. the VOC emissions for emissions units B001, B002, P005, P007, P008(except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack), in tons, calculated in accordance with the testing requirements established for each emissions unit; and
 - d. the rolling, 12-month summation of VOC emissions for emissions units B001, B002, P005, P007, P008(except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack), in tons, calculated in accordance with the testing requirements established for each emissions unit.
- (2) The permittee shall demonstrate compliance with the applicable monitoring requirements identified in 40 CFR Part 60, subpart Db, including the following sections:

40 CFR 60.48b	Emission monitoring for particulate matter and nitrogen oxides.
40 CFR 60.49b	Reporting and recordkeeping requirements.

- (3) The permittee shall maintain on-site, the document of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NO_x monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2. The letter/document of certification shall be made

available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

- (4) The permittee shall operate and maintain equipment to continuously monitor and record NO_x emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of all data obtained by the continuous NO_x monitoring system including, but not limited to:

- a. emissions of NO_x in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NO_x in units of the applicable standard(s) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous NO_x monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NO_x monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NO_x monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:

- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. each rolling, 12-month period during which the VOC emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack) exceeded 8.16 tons.
- (3) If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.
- (4) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NOx monitoring system:
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of NOx emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, 40 CFR Parts 75 and 76, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
 - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous NOx and other associated monitors;
 - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - v. the total NOx emissions for the calendar quarter (tons);
 - vi. the total operating time (hours) of the emissions unit;

- vii. the total operating time of the continuous NOx monitoring system while the emissions unit was in operation;
- viii. results and dates of quarterly cylinder gas audits or linearity checks;
- ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing the continuous NOx monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any/each malfunction** of the continuous NOx monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime** of the continuous NOx monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter. Data substitution procedures from 40 CFR 75 are not to be used for showing compliance with the short term OAC 3745-31-05(A)(3) rule-based or NSPS-based limitation(s) in this permit.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

** each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

- (5) If burner tuning has been performed during the calendar quarter, the permittee shall submit a copy of the burner tuning report. The burning tuning report shall include exhaust gas values for O₂, NO_x, and CO.
- (6) The permittee shall demonstrate compliance with the applicable reporting requirements identified in 40 CFR Part 60, subpart Db, including the following sections:

40 CFR 60.49b	Reporting and recordkeeping requirements.
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f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

SO₂ emissions shall not exceed 0.08lb/hr and 0.35 TPY (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourly SO₂ emissions limitation may be determined by multiplying the maximum heating capacity (38MMBtu/hr) by the following AP-42 emission factor:

<u>Pollutant</u>	<u>Emissions Factor*</u>
SO ₂	0.000588lb/MMBtu

Compliance with the annual SO₂ emissions limitation was determined by multiplying the hourly emissions limitation by 8,760 hours per year and dividing by 2,000 pounds per ton.

* AP-42, Volume I, Fifth Edition, Section 1.4, "Natural Gas Combustion", Table 1.4-2, July 1998.

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 6.

b. Emissions Limitation:

VOC emissions shall not exceed 1.90lbs/hr (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

Compliance with the hourly VOC emissions limitation may be determined by multiplying the maximum hourly 200-proof ethanol production rate (15.858 Kgal) by the 0.12 lb VOC/Kgal ethanol emissions limitation established under OAC rule 3745-31-05(D).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 18, 25, or 25A.

c. Emissions Limitation:

PE shall not exceed 0.020 lb/MMBtu of actual heat input.

Applicable Compliance Method:

Compliance shall be demonstrated using the emissions factor for PE from USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Table 1.4-2 (7/98).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 5.

d. Emissions Limitation:

CO emissions shall not exceed 0.082 lb/MMBtu.

Applicable Compliance Method:

Compliance shall be demonstrated using the emissions factor for CO from USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Table 1.4-1 (7/98).

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, method 10.

e. Emissions Limitation:

NO_x emissions shall not exceed 0.10 lb NO_x per MMBtu of actual heat input.

Applicable Compliance Method:

The permittee shall demonstrate compliance through an initial compliance demonstration performed in accordance with 40 CFR 60.46b and 40 CFR 60.8.

The permittee shall demonstrate continuous compliance through the use of a continuous emissions monitor required by d)(4) and in accordance with 40 CFR 60.48b and 40 CFR 60.13.

Ongoing compliance with the NO_x emission limitations contained in this permit, 40 CFR Part 60 and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.

f. Emissions Limitations:

Combined process and combustion emissions from emissions units B001, B002, P005, P007, P008 (except emissions vented to the biomethanator flare), P009, P010, P011, P012, P013 and P014 (except emissions vented to the cooling drum atmospheric stack) shall not exceed:

- i. 0.12 lbs VOC/Kgal ethanol and 8.16 tons VOC per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the lbs VOC/Kgal ethanol limitation shall be demonstrated in accordance with the testing requirements identified in f)(2).

Compliance with the rolling, 12-month VOC emissions limitation shall be determined by multiplying the actual gallons of 200-proof ethanol production per rolling, 12-month period by the lbs VOC/Kgal emissions rate determined in accordance with the testing requirements identified in f)(2).

- (2) The permittee demonstrated compliance with the limitations identified in f)(1)f. above through emissions tests conducted on April 12 through April 14, 2011. If required, the permittee shall conduct, or have conducted, emission testing for each emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted to demonstrate compliance with the limitations identified in f)(1)f. and the facility wide HAP limitations identified in B.2.b);
 - b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. Method 25 or Method 25A from 40 CFR Part 60, Appendix A for VOC (as specified by the Midwest Scaling Protocol).

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Central District Office.
- d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Central District Office's refusal to accept the results of the emission test(s).
- e. Personnel from the Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Central District Office within 30 days following completion of the test(s). The

permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central District Office.

- g) Miscellaneous Requirements
 - (1) None.