



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

11/4/2015

Mr. Mark Borer
Summit Ethanol dba POET Biorefining - Leipsic
3875 State Route 65
Leipsic, OH 45856

Certified Mail

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0369000051
Permit Number: P0119694
Permit Type: Administrative Modification
County: Putnam

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)352-8461 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: Ohio EPA-NWDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Summit Ethanol dba POET Biorefining - Leipsic**

Facility ID:	0369000051
Permit Number:	P0119694
Permit Type:	Administrative Modification
Issued:	11/4/2015
Effective:	11/4/2015
Expiration:	2/13/2020



Division of Air Pollution Control
Permit-to-Install and Operate
for
Summit Ethanol dba POET Biorefining - Leipsic

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Final Permit-to-Install and Operate
Summit Ethanol dba POET Biorefining - Leipsic
Permit Number: P0119694
Facility ID: 0369000051
Effective Date: 11/4/2015

Authorization

Facility ID: 0369000051
Application Number(s): M0003613
Permit Number: P0119694
Permit Description: Administrative Modification to address the scrubber bypass scenario and include the reduced beer feed rate from 850 gpm to 650 gpm based on stack testing results.
Permit Type: Administrative Modification
Permit Fee: \$625.00
Issue Date: 11/4/2015
Effective Date: 11/4/2015
Expiration Date: 2/13/2020
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Summit Ethanol dba POET Biorefining - Leipsic
3875 State Route 65
Leipsic, OH 45856

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

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402
(419)352-8461

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (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 described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Craig W. Butler
Director



Final Permit-to-Install and Operate
Summit Ethanol dba POET Biorefining - Leipsic
Permit Number: P0119694
Facility ID: 0369000051
Effective Date: 11/4/2015

Authorization (continued)

Permit Number: P0119694

Permit Description: Administrative Modification to address the scrubber bypass scenario and include the reduced beer feed rate from 850 gpm to 650 gpm based on stack testing results.

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

Emissions Unit ID:	P007
Company Equipment ID:	ethanol production
Superseded Permit Number:	P0118561
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
Summit Ethanol dba POET Biorefining - Leipsic
Permit Number: P0119694
Facility ID: 0369000051
Effective Date: 11/4/2015

A. Standard Terms and Conditions

1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions of this permit will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the [DO/LAA] in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means 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.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



Final Permit-to-Install and Operate
Summit Ethanol dba POET Biorefining - Leipsic
Permit Number: P0119694
Facility ID: 0369000051
Effective Date: 11/4/2015

B. Facility-Wide Terms and Conditions



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.



Final Permit-to-Install and Operate
Summit Ethanol dba POET Biorefining - Leipsic
Permit Number: P0119694
Facility ID: 0369000051
Effective Date: 11/4/2015

C. Emissions Unit Terms and Conditions



1. P007, ethanol production

Operations, Property and/or Equipment Description:

ethanol production operations (mash tank, fermenters, beer well, distillation column, stripper, rectifier and evaporator)

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. b)(1)h., d)(5) – d)(7) and e)(3).

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. 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(F)	<p><u>Emission limits during normal operation:</u></p> <p>Carbon monoxide (CO) emissions from P007, P008 and P009, combined, shall not exceed 10.50 lbs/hr and 45.99 TPY [see b)(2)a. and c)(1)].</p> <p>Particulate matter equal to or less than 10 microns in size (PM10), from emissions units P007, P008 and P009, combined, shall not exceed 10.0 lbs/hr and 43.8 TPY [see b)(2)a., b)(2)c. and c)(1)]</p> <p>Volatile organic compound (VOC) emissions from P007, P008 and P009, combined, shall not exceed 10.34 lbs/hr and 45.3 TPY. [see b)(2)a. and c)(1)]</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p><u>Emission limits during downtime of the RTO</u></p> <p>During downtime of the RTO, emissions unit P007 shall be the only emissions unit exhausted to the fermentation scrubber.</p> <p>VOC emissions shall not exceed 20.0 lbs/hr and 5.0 TPY [see b)(2)a., b)(2)d. and c)(1) and c)(2)].</p> <p>Visible particulate emissions (PE) from the stack(s) serving this emissions unit shall not exceed 5% opacity, as a six-minute average during normal and RTO downtime operations.</p> <p><u>Emission limits during downtime of the scrubber</u></p> <p>VOC emissions shall not exceed 37.94 lbs/hr and 1.9 TPY [See b)(2)a.,b)(2)d., b)(2)h., c)(1), c)(3) and c)(4) .</p> <p>Visible particulate emissions (PE) from the stack(s) serving this emissions unit shall not exceed 5% opacity, as a six minute average during normal and scrubber downtime bypass operations.</p> <p>See b)(2)d. and c)(4)</p>
b.	ORC rule 3704.03(T)	<p>Nitrogen oxides (NOx) emissions from emissions units P007, P008 and P009, combined, shall not exceed 11.0 lbs/hr.</p> <p>See b)(2)e.</p>
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)f. and b)(2)g.
d.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/06	See b)(2)h.
e.	OAC rule 3745-21-09(DD)	See the requirements for emissions unit P801.
f.	40 CFR Part 60, Subpart VVa	See the requirements for emissions unit P801.
g.	OAC rule 3745-17-07(A)	See b)(2)i.
h.	OAC rule 3745-17-11(B)	See b)(2)i.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
i.	OAC rule 3745-114-01 ORC 3704.03(F)	See d)(5) – d)(7) and e)(3).

(2) Additional Terms and Conditions

- a. This permit establishes the following legally and practically enforceable emission limitations for CO, PM10 and VOC. The legally and practically enforceable limitations are voluntary restrictions established under OAC rule 3745-31-05(F) and are based on the operational restrictions contained in c)(1) which require control equipment and process control:
 - i. 10.50 lbs/hr and 45.99 tpy CO (for P007, P008 and P009, combined);
 - ii. 10.0 lbs/hr PM10 and 43.8 tpy PM10(for P007, P008 and P009, combined);
 - iii. Visible PE shall not exceed 5% opacity, as a six-minute average (during normal operations and downtime of the RTO);
 - iv. Visible PE shall not exceed 5% opacity, as a six-minute average (during normal operations and downtime of the scrubber);
 - v. 10.34 lbs/hr and 45.3 tpy VOC (during normal operations) (for P007, P008 and P009, combined); and
 - vi. 20.0 lbs/hr and 5.00 tpy VOC (during downtime of the RTO)
 - vii. 37.94 lbs/hr and 1.9 tpy VOC (during downtime of the scrubber)
- b. The annual allowable emission rate is based on the annual production of 79,000,000 gallons denatured ethanol (includes up to 10,000,000 gallons of E85). Since the facility’s annual production rate is equivalent to the maximum facility capacity, no operational restrictions, monitoring, record keeping or reporting requirements are necessary to ensure that this emissions unit does not exceed its annual allowable emission rates. The requirement to record the amount of ethanol produced is in the terms and conditions of emissions unit J001.
- c. All emissions of particulate matter are PM10.
- d. When the RTO is shutdown for unscheduled maintenance* or other operational reasons, while this emissions unit is in operation, this emissions unit shall be controlled by the fermentation scrubber. Down time of the RTO, while this emissions unit continues to operate, shall not exceed 500 hours per year and the permittee must also shut down emissions units P008 and P009 during the unscheduled downtime of the RTO.

*RTO shutdown for unscheduled maintenance is considered any maintenance, malfunction, etc. which the permittee does not address under the provisions of OAC rule 3745-15-06.

- e. The Best Available Technology (BAT) requirements under ORC 3704.03(T) have been determined to be a NO_x emission limitation not to exceed 11.0 lbs/hr (for P007, P008 and P009 combined) and compliance with the lb/hr limitations established under OAC rule 3745-31-05(F).

The emission rates above represent the potential to emit (defined as the maximum capacity to emit an air pollutant under the physical and operational design). Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure compliance with these emission limitations.

- f. The emissions of sulfur dioxide (SO₂) from this emissions unit have been determined to be negligible and are therefore emission limitations under OAC rule 3745-31-05(A)(3), as effective 11-30-01, have not been established in this permit.
- g. The permittee has satisfied the BAT requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective 11/30/01, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the 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. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, these emission limitations/control measures no longer apply.
- h. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO₂ emissions from this air contaminant source since the potential to emit of SO₂ is less than 10 tons per year.
- i. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).
- j. Down time of the scrubber, while this emissions unit continues to operate, shall not exceed 100 hours per year. The permittee shall schedule and perform the activities to correspond to other shut down maintenance activities.

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [see b)(2)a.]:

- a. the use of a wet scrubber meeting a minimum control efficiency of 95% for VOC emissions;
 - b. the use of a regenerative thermal oxidizer (RTO) following the wet scrubber meeting a minimum control efficiency of 90% for CO and particulate matter* and 98% for VOC emissions; and
 - c. firing only natural gas in the RTO.
 - d. *The control of particulate matter includes a multiclone/cyclone for removal of particulate matter (as dried product) prior to entering the RTO. The control system shall result in a PM10 emission rate not to exceed 10.0 lbs/hr from the RTO.
- (2) The unscheduled down time of the RTO, while this emissions unit continues to operate, shall not exceed 500 hours per calendar year.
 - (3) The unscheduled down time of the scrubber, while this emissions unit continues to operate shall not exceed 100 hours per calendar year.
 - (4) When the scrubber is shutdown for maintenance or other operational reasons while this emissions unit is in operation, the beer feed rate from the beer well shall be limited to 650 gpm.
- d) **Monitoring and/or Recordkeeping Requirements**
- (1) The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature within the thermal oxidizer during operation of this emissions unit. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).
 - a. The permittee shall record the combustion temperature within the thermal oxidizer on a continuous basis.
 - b. Whenever the monitored value for the combustion temperature deviates from the value specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
 - i. the date and time the deviation began and the magnitude of the deviation at that time;
 - ii. the date(s) the investigation was conducted;
 - iii. the names of the personnel who conducted the investigation; and
 - iv. the findings and recommendations.
 - c. 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 value specified below, unless the permittee determines that corrective action is not necessary.

- i. The permittee shall maintain records of the following information for each deviation when it was determined that corrective action was not necessary:
 - (a) the reason(s) corrective action was not necessary; and
 - (b) the date and time the deviation ended.
 - ii. The permittee shall maintain records of the following information for each corrective action taken:
 - (a) a description of the corrective action;
 - (b) the date it 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 combustion temperature within the thermal oxidizer immediately after the corrective action; and
 - (f) the names of the personnel who performed the work.
 - iii. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.
- d. The average combustion temperature within the thermal incinerator, 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.
 - e. The temperature range/limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/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.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the scrubber water flow rate, in gallons per minute during operation of this emissions unit. The monitoring equipment shall be installed, calibrated, operated, and

maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

- a. The permittee shall record the following reading 90 minutes after startup of an RTO bypass scenario and shall record a reading for each hour thereafter during the RTO bypass:
 - i. the scrubber water flow rate, in gallons per minute, based upon a one hour average.
- b. Whenever the recorded value for the water flow rate deviates from the values specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
 - i. the date and time the deviation began and the magnitude of the deviation at that time;
 - ii. the date(s) the investigation was conducted;
 - iii. the names of the personnel who conducted the investigation; and
 - iv. the findings and recommendations.
- c. 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 value specified below, unless the permittee determines that corrective action is not necessary
 - i. The permittee shall maintain records of the following information for each deviation when it was determined that corrective action was not necessary:
 - (a) the reason(s) corrective action was not necessary; and
 - (b) the date and time the deviation ended.
 - ii. The permittee shall maintain records of the following information for each corrective action taken:
 - (a) a description of the corrective action;
 - (b) the date it was completed;
 - (c) the date and time the deviation ended;
 - (d) the total period of time (in minutes) during which there was a deviation, the pressure drop and/or water flow rate reading immediately after the corrective action; and
 - (e) the names of the personnel who performed the work.

- iii. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.
 - d. Scrubber water flow rate indicator range

In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable scrubber liquid flow rate during an RTO bypass shall not be less than 50 gallons per minute (≥ 50 gpm) , based upon a one hour average or as established during the most recent performance test that demonstrated the emissions unit was in compliance.
 - e. The water flow rate is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the water flow rate based upon information obtained during future emission tests that demonstrate compliance with the allowable emission rates for this emissions unit. In addition, approved revisions to the water flow rate value will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into the operating permit for the facility by means of an administrative modification.
- (3) For each time period during which emissions units P008 and/or P009 were in operation when the RTOWas shut down [see b)(2)d. and c)(2)], the permittee shall maintain a record of the number of hours emissions unit P008 and/or P009 were in operation during that time period. Also, the permittee shall maintain a record of all instances when emissions unit P008 and/or P009 were in operation when the RTO was shut down.
 - (4) The permittee shall maintain monthly records of the number of hours the RTOWas shut down while this emissions unit remained in operation [see b)(2)d. and c)(2)] (in hours per month and total hours, to date for the calendar year).
 - (5) The permittee shall maintain monthly records of the number of hours the scrubber was shut down while this emissions unit remained in operation [see c)(3)] (in hours per month and total hours, to date for the calendar year).
 - (6) The initial PTI application(s) [PTI 03-17156 issued 12/5/2006] for this/these emissions unit(s), B001, B002, J001, P007, P008, P009 and P010, were 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):

$$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year):
- i. Toxic Contaminant: Hexane
TLV (mg/m³): 176.23
Maximum Hourly Emission Rate (lbs/hr): 0.70
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 2.77
MAGLC (ug/m³): 4,196
 - ii. Toxic Contaminant: Formaldehyde
TLV (mg/m³): 368
Maximum Hourly Emission Rate (lbs/hr): 0.40
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 1.14
MAGLC (ug/m³): 6.47

iii. Toxic Contaminant: Acetaldehyde

TLV (mg/m³): 33.2

Maximum Hourly Emission Rate (lbs/hr): 4.5

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 85.16

MAGLC (ug/m³): 790

The permittee, has demonstrated that emissions of hexane, formaldehyde, and acetaldehyde, from emissions unit(s) B001, B002, J001, P007, P008, P009, and P010, are each 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 PTIO 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.
- e) Reporting Requirements
- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
 - (2) The permittee shall identify in the annual permit evaluation report the following information during the 12-month reporting period for this/these emissions unit(s):
 - a. any deviations from 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 to remedy the deviations.

If no deviations occurred during the reporting period, the permittee shall identify in the permit evaluation report that no deviations occurred during the reporting period.
 - (3) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

f) Testing Requirements

- (1) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 180 days of permit issuance [emission testing completed on 4/23/15 and 4/24/15].
 - b. The emission testing shall be conducted to demonstrate compliance with the NO_x, CO, VOC, and PM₁₀ mass emission limitations from the regenerative thermal oxidizer controlling this emissions unit. Emission testing shall also be conducted to demonstrate compliance with the control efficiency limitation for VOCs from the scrubber controlling this emissions unit, and for the control efficiency limitation for VOCs from the regenerative thermal oxidizer controlling this emissions unit.
 - c. The following test methods shall be employed to demonstrate compliance with the above emission limitations:
 - i. for PM₁₀, Methods 201/201A and 202 of 40 CFR Part 51, Appendix M;
 - ii. for NO_x, Methods 1-4 and 7 of 40 CFR Part 60, Appendix A;
 - iii. for CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A; and
 - iv. for total VOC, Methods 1-4 and 18, 25 or 25A of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A of 40 CFR Part 60, Appendix A for determining total VOC mass emissions.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO. The test method(s) which must be employed to demonstrate compliance with the control efficiencies are specified below.

- 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 Methods 18, 25, or 25A of 40 CFR Part 60, Appendix A for VOC emissions .
- e. 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.
- f. The test(s) shall be conducted while emissions units P007, P008 and P009 are operating at their maximum capacities, unless otherwise specified or approved by the Ohio EPA, NWDO.
- g. During emission testing, the permittee shall also record the following information:
 - i. the pressure drop across the scrubber, in inches of water;

- ii. the scrubber water flow rate, in gallons/minute; and
 - iii. the average combustion temperature within the thermal incinerator, in degrees Fahrenheit; and
 - iv. the beer feed rate from the beer well, in gallons/minute
- h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, NWDO 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.

A comprehensive written report of the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, NWDO 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 Ohio EPA, NWDO.

Future testing requirements shall be conducted in accordance with applicable rules, policies, etc. (i.e. Engineering Guide #16, OAC rule 3745-15-04, etc.) Testing time frames may be amended or waived for cause upon prior request of and written approval of, the Ohio EPA Northwest District Office.

- (2) 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:
 - 10.34 lb VOC/hr, 45.3 tpy VOC (for emissions units P007, P008 and P009 combined)
 - 11.0 lbs NOx/hr (for emissions units P007, P008 and P009 combined)
 - 10.50 lbs CO/hr, 45.99 tpy CO (for emissions units P007, P008 and P009 combined)
 - 10.0 lbs PM10/hr, 43.8 tpy PM10 (for emissions units P007, P008 and P009 combined)
 - 20.0 lbs VOC/hr and 5.0 TPY VOC (for emission limits during downtime of RTO)

37.94 lbs VOC/hr and 1.9 TPY VOC (for emission limits during downtime of scrubber)

Applicable Compliance Method:

Compliance with the hourly allowable emission limitations was demonstrated based on the results of emission testing conducted on 12/14/2011 in accordance with the following:

- i. for PM₁₀, Methods 201/201A and 202 of 40 CFR Part 51, Appendix M;
- ii. for NO_x, Methods 1-4 and 7 of 40 CFR Part 60, Appendix A;
- iii. for CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A; and
- iv. for total VOC, Methods 1-4 and 18, 25 or 25A of 40 CFR Part 60, Appendix A.
- v. Alternative U.S. EPA approved test methods may be used prior to approval from the Ohio EPA, NWDO. The test method(s) which must be employed to demonstrate compliance with the control efficiencies are specified below.

Additional testing requirements shall be conducted in accordance with applicable rules, policies, etc. (i.e. Engineering Guide #16, OAC rule 3745-15-04, etc.)

The annual emission limitations were developed by multiplying the respective hourly emission limitations by the maximum operating schedule of 8760 hours/year, and then dividing by 2000 lbs/ton. Therefore, if compliance is shown with the hourly limitations, compliance with the annual limitations shall also be demonstrated.

b. Emission Limitation:

Visible PE from the RTO stack shall not exceed 5% opacity, as a six-minute average (during normal operations and RTO downtime).

Appliance Compliance Method:

If required compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

c. Emission Limitation:

The scrubber shall meet a minimum control efficiency of 95% for VOC emissions.

The regenerative thermal oxidizer shall meet a minimum control efficiency of 98% for VOC emissions, and a minimum control efficiency of 90% for CO and PM₁₀*.



*The control of particulate matter includes a multiclone/cyclone for removal of particulate matter (as dried product) prior to entering the RTO. The control system shall result in a PM10 emission rate not to exceed 10.0 lbs/hr from the RTO.

Applicable Compliance Method:

Compliance with the control efficiency requirements above was demonstrated based on the results of emission testing conducted on 12/14/2011 in accordance with the methods outlined in Section f)(1) of this permit. Compliance with the CO destruction efficiency shall be assumed as long as compliance with the hourly CO mass emission limitation is maintained. [Due to the creation of CO in the RTO, it is not possible to perform testing to demonstrate compliance directly associated with the destruction of CO entering the RTO.]

d. Emission Limitation:

Visible PE from the scrubber stack shall not exceed 5% opacity, as a six-minute average (during normal operations and scrubber downtime).

Applicable Compliance Method:

If required compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

g) Miscellaneous Requirements

(1) None.