State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center **TELE:** (614) 644-3020 **FAX:** (614) 644-2329
Mailing Address:
Lazarus Gov.
Center

**RE: DRAFT PERMIT TO INSTALL MODIFICATION** **CERTIFIED MAIL**
**DARKE COUNTY**
**Application No: 08-04878**
**Fac ID:** 0819750245
**DATE:** 3/13/2008

Andersons Marathon Ethanol, LLC
Stacy Schmidt
PO Box 119 480 W. Dussel
Maumee, OH 43537

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install modification for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit modification. 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 proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit modification should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install modification may be issued in proposed of final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install modification a fee of **$ 0** will be due. Please do not submit any payment now.

The Ohio EPA is urging 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 Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Permit Issuance and Data Management Section at (614) 644-3631.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

**CC: USEPA** **RAPCA** **Miami Valley Regional Planning Commission** **IN**

**DARKE COUNTY**

PUBLIC NOTICE
ISSUANCE OF DRAFT PERMIT TO INSTALL **08-04878** FOR AN AIR CONTAMINANT SOURCE
FOR **Andersons Marathon Ethanol, LLC**

On 3/13/2008 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **Andersons Marathon Ethanol, LLC**, located at **5278 Sebring Warner Rd, Greenville**, Ohio.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 08-04878:

**Administrative modification for revision of vapor pressure restrictions on tanks T001-T006.**

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

John Paul, Regional Air Pollution Control Agency, 117 South Main street, Dayton, OH 45422-12084 [(937)225-4435]

**Permit To Install** **Issue Date: To be entered upon final issuance**
**Terms and Conditions** **Effective Date: To be entered upon final issuance**

## DRAFT MODIFICATION OF PERMIT TO INSTALL 08-04878

| | |
|---|---|
| Application Number: | 08-04878 |
| Facility ID: | 0819750245 |
| Permit Fee: | **To be entered upon final issuance** |
| Name of Facility: | Andersons Marathon Ethanol, LLC |
| Person to Contact: | Stacy Schmidt |
| Address: | PO Box 119 480 W. Dussel<br>Maumee, OH 43537 |

Location of proposed air contaminant source(s) [emissions unit(s)]:
**5278 Sebring Warner Rd**
**Greenville**, **Ohio**

Description of proposed emissions unit(s):
**Administrative modification for revision of vapor pressure restrictions on tanks T001-T006.**

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

## Part I - GENERAL TERMS AND CONDITIONS

### A. Permit to Install General Terms and Conditions

#### 1. Compliance Requirements

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

#### 2. Reporting Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. 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 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 appropriate Ohio EPA District Office or local air agency. 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.)

#### 3. Records Retention Requirements

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.

#### 4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections,

conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**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 of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of 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 emissions unit(s) that is (are) served by such control system(s).

**6. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

**7. 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.

**8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. 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.

**9. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental

Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. 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 the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install 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.

**10. 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.

**11. Applicability**

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

**12. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

**13. Source Operation and Operating Permit Requirements After Completion of Construction**

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

**14. Construction Compliance Certification**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**15. 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 this Permit to Install.

## B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

| Pollutant | Tons Per Year |
|---|---|
| Particulate | 99.77 |
| $PM_{10}$ | 51.12 |
| $NO_X$ | 98.15 |
| $SO_2$ | 95.82 |
| CO | 98.15 |
| VOC | 98.63 |
| Single HAP | 9.47 |
| Combined HAP | 14.63 |

Emissions Unit ID: **B001**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(B001) - 122 mmBtu/hr Natural Gas-fired Recuperative Thermal Oxidizer / Waste Heat Recovery Boiler**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B) and 3745-31-05(C). |
| OAC rule 3745-17-07(A)(1);<br>OAC rule 3745-17-10(B)(1); and<br>40 CFR Part 60 Subpart Db | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-18-06 | See Section A.2.b below. |
| OAC rule 3745-21-08(B) | See Section A.2.c below. |

| | |
|---|---|
| ORC 3704.03(F) and OAC rule 3745-114-01 | See C.9, C.10 and D.7 below. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating

practices" still exists as part of the federally-approved SIP for Ohio.

**2.d** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr and 2.6 lb PE and $PM_{10}$/hr were established for PTI purposes to

reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.e** Best available technology (BAT) control requirements for this emissions unit has been determined to be the use of low $NO_X$ burners, operation of this unit with a VOC destruction efficiency of 98%, and firing only natural gas. BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.f** Within 180 days of the effective date of this permit, 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 plan shall follow the requirements of 40 CFR Part 60, Appendix F. 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.

## B. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall record and maintain records of the amount of natural gas combusted and heat input during each hour. These records shall be maintained by the permittee for a period of two years following the date of such record.

2. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

3. The permittee shall properly install, operate, and maintain equipment to continuously

monitor and record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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.

4. 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 date and time of the visible emissions check and 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.

5. Prior to the installation of the continuous $NO_X$ monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specifications 2 for approval by the Ohio EPA, Central Office.

   Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

6. The permittee shall install, 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 Parts 60.

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

   a. emissions of $NO_X$ in parts per million on an instantaneous (one-minute) basis;

   b. emissions of $NO_X$ in pounds per hour and in all 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).

7. The permittee shall operate and maintain equipment to continuously monitor and record the fuel flow rate in order to stoichiometrically calculate emissions of $NO_X$, in pounds per hour. Fuel heat content values for each fuel burned, as applied in the stoichiometric calculations, shall also be recorded. The permittee shall maintain records of data obtained by the fuel flow monitor/meter, including the dates and results of each calibration check and the magnitude of calibration adjustments; periods of downtime and malfunction of the fuel flow monitor/meter; as well as, the reason (if known) and the corrective actions taken (if any) for each such event.

8. The permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70), in tons.

9. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetaldehyde
TLV ($mg/m^3$): 33.20
Maximum Hourly Emission Rate (lbs/hr): 0.40
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 61.20 (entire facility)
MAGLC ($ug/m^3$): 790

Pollutant: Formaldehyde
TLV ($mg/m^3$): 0.272
Maximum Hourly Emission Rate (lbs/hr): 0.48
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
MAGLC ($ug/m^3$): 6.47

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10. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that

describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to the Regional Air Pollution Control Agency within 30 days after the deviation occurs.

2. Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

   a. construction date (no later than 30 days after such date);

   b. actual start-up date (within 15 days after such date); and

   c. date of performance testing (if required, at least 30 days prior to testing).

   Reports are to be sent to:

   Regional Air Pollution Control Agency
   117 South Main Street

Dayton, Ohio 45422

3. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

4. The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous $NO_X$ 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 three-month period 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, OAC Chapter 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). If there are no excess emissions during the three-month period, the permittee shall submit a statement to that effect.

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b. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall include the following:

i. the facility name and address;

ii. the manufacturer and model number of the continuous $NO_X$ and other associated monitors;

iii. the location of the continuous $NO_X$ monitor;

iv. the exceedance report as detailed in (a) above;

v. the total $NO_X$ emissions for the calendar quarter (tons);

vi. the total operating time (hours) of the emissions unit;

vii. the total operating time of the continuous $NO_X$ monitoring system while the emissions unit was in operation;

viii. results and date of quarterly cylinder gas audits;

ix. results and date of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

x. the results of any relative accuracy test audit showing the continuous $NO_X$ 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 $NO_X$ monitoring system, emissions unit, and/or control equipment;

xii. the date, time, and duration of any downtime* of the continuous $NO_X$ 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 three-month period.

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

5. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

6. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

7. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. <u>Emissions Limitation</u>
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   <u>Applicable Compliance Method</u>
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. <u>Emissions Limitation</u>
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010,

P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

c. Emissions Limitation
Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

d. Emissions Limitation
Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;

95.7 tons of $SO_2$ per rolling 12-month period;
11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.8 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.8 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

h. Emissions Limitation
Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

   b. The emission testing shall be conducted to:

      i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

      ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

      iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

      iv. demonstrate compliance with the allowable combined emissions rate for PE and $PM_{10}$ of 2.6 lbs/hr;

      v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

      vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

      vii. verify the control efficiency (98% for VOC) of the thermal oxidizer.

   c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

      Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content;

Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

3. Within 60 days of the effective date of this permit, the permittee shall conduct certification tests of the continuous $NO_X$ monitoring system in units of the applicable standard(s), to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I).

   Personnel from the Ohio EPA Central Office, Division of Air Pollution Control, Compliance Monitoring Unit, and the Regional Air Pollution Control Agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Regional Air Pollution Control Agency and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

   Certification of the continuous $NO_X$ monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I). The letter/document of certification of the continuous $NO_X$ monitoring system, issued by the Ohio EPA, shall be maintained on file upon receipt and made available to the Regional Air Pollution Control Agency upon request.

   Ongoing compliance with the $NO_X$ emissions 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 requirements of 40 CFR Part 60.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.8, D.1 through D.6, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) combined.

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**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(B002) - 122 mmBtu/hr Natural Gas-fired Recuperative Thermal Oxidizer / Waste Heat Recovery Boiler**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B) and 3745-31-05(C). |
| OAC rule 3745-17-07(A)(1);<br>OAC rule 3745-17-10(B)(1); and<br>40 CFR Part 60 Subpart Db | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-18-06 | See Section A.2.b below. |
| OAC rule 3745-21-08(B) | See Section A.2.c below. |

| | |
|---|---|
| ORC 3704.03(F) and OAC rule 3745-114-01 | See C.9, C.10 and D.7 below. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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**2.d** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr and 2.6 lb PE and $PM_{10}$/hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary

to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.e** Best available technology (BAT) control requirements for this emissions unit has been determined to be the use of low $NO_X$ burners, operation of this unit with a VOC destruction efficiency of 98%, and firing only natural gas. BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.f** Within 180 days of the effective date of this permit, 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 plan shall follow the requirements of 40 CFR Part 60, Appendix F. 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.

## B. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall record and maintain records of the amount of natural gas combusted and heat input during each hour. These records shall be maintained by the permittee for a period of two years following the date of such record.

2. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

3. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature, in degrees Fahrenheit, within the

thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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.

4. 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 date and time of the visible emissions check and 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.

5. Prior to the installation of the continuous $NO_X$ monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specifications 2 for approval by the Ohio EPA, Central Office.

   Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

6. The permittee shall install, 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 Parts 60.

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

   a. emissions of $NO_X$ in parts per million on an instantaneous (one-minute) basis;

   b. emissions of $NO_X$ in pounds per hour and in all 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).

7. The permittee shall operate and maintain equipment to continuously monitor and record the fuel flow rate in order to stoichiometrically calculate emissions of $NO_X$, in pounds per hour. Fuel heat content values for each fuel burned, as applied in the stoichiometric calculations, shall also be recorded. The permittee shall maintain records of data obtained by the fuel flow monitor/meter, including the dates and results of each calibration check and the magnitude of calibration adjustments; periods of downtime and malfunction of the fuel flow monitor/meter; as well as, the reason (if known) and the corrective actions taken (if any) for each such event.

8. The permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70), in tons.

9. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetaldehyde
TLV ($mg/m^3$): 33.20
Maximum Hourly Emission Rate (lbs/hr): 0.40
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 61.20 (entire facility)
MAGLC ($ug/m^3$): 790

Pollutant: Formaldehyde
TLV ($mg/m^3$): 0.272
Maximum Hourly Emission Rate (lbs/hr): 0.48
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
MAGLC ($ug/m^3$): 6.47

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10. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that

describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to the Regional Air Pollution Control Agency within 30 days after the deviation occurs.

2. Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

   a. construction date (no later than 30 days after such date);

   b. actual start-up date (within 15 days after such date); and

   c. date of performance testing (if required, at least 30 days prior to testing).

   Reports are to be sent to:

   Regional Air Pollution Control Agency
   117 South Main Street
   Dayton, Ohio 45422

3. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

4. The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous $NO_X$ 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 three-month period 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, OAC Chapter 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). If there are no excess emissions during the three-month period, the permittee shall submit a statement to that effect.

   b. These quarterly reports shall be submitted by January 31, April 30, July 31, and

October 31 of each year and shall include the following:

i. the facility name and address;

ii. the manufacturer and model number of the continuous $NO_X$ and other associated monitors;

iii. the location of the continuous $NO_X$ monitor;

iv. the exceedance report as detailed in (a) above;

v. the total $NO_X$ emissions for the calendar quarter (tons);

vi. the total operating time (hours) of the emissions unit;

vii. the total operating time of the continuous $NO_X$ monitoring system while the emissions unit was in operation;

viii. results and date of quarterly cylinder gas audits;

ix. results and date of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

x. the results of any relative accuracy test audit showing the continuous $NO_X$ 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 $NO_X$ monitoring system, emissions unit, and/or control equipment;

xii. the date, time, and duration of any downtime* of the continuous $NO_X$ 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 three-month period.

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

5. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

6. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

7. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. Emissions Limitation
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

c. Emissions Limitation
Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

d. Emissions Limitation
Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;
95.7 tons of $SO_2$ per rolling 12-month period;

11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.8 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.8 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

h. Emissions Limitation
Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

   b. The emission testing shall be conducted to:

      i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

      ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

      iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

      iv. demonstrate compliance with the allowable combined emissions rate for PE and $PM_{10}$ of 2.6 lbs/hr;

      v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

      vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

      vii. verify the control efficiency (98% for VOC) of the thermal oxidizer.

   c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

      Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses,

velocity and volumetric flow rates, gas analysis, and moisture content;
Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

3. Within 60 days of the effective date of this permit, the permittee shall conduct certification tests of the continuous $NO_X$ monitoring system in units of the applicable standard(s), to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I).

   Personnel from the Ohio EPA Central Office, Division of Air Pollution Control, Compliance Monitoring Unit, and the Regional Air Pollution Control Agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Regional Air Pollution Control Agency and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

   Certification of the continuous $NO_X$ monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I). The letter/document of certification of the continuous $NO_X$ monitoring system, issued by the Ohio EPA, shall be maintained on file upon receipt and made available to the Regional Air Pollution Control Agency upon request.

   Ongoing compliance with the $NO_X$ emissions 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 requirements of 40 CFR Part 60.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.8, D.1 through D.6, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack

S70) combined.

Emissions Unit ID: **F001**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment - (F001) - Paved Roadways and Parking Areas**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | There shall be no visible particulate emissions (PE) except for one minute during any 60-minute period.<br><br>The permittee shall implement best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. See Sections A.2.a through A.2.f below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(C). |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | PE shall not exceed 48.89 tons per rolling 12-month period.<br><br>Emissions of particulate matter less than 10 microns in diameter ($PM_{10}$) shall not exceed 9.52 tons per rolling 12-month period. |
| OAC rule 3745-17-07(B) | See Section A.2.g below. |
| OAC rule 3745-17-08(B) | See Section A.2.h below. |

### 2. Additional Terms and Conditions

**2.a** The paved roadways and parking areas that are covered by this permit and subject to the above-mentioned requirements are listed below:

Paved Roadways:
All

Paved Parking Areas:
All

**2.b** The permittee shall employ best available control measures on all paved roadways and parking areas for the purpose of ensuring compliance with the

above-mentioned applicable requirements. In accordance with the permit application, the permittee has committed to treat the paved roadways and parking areas by sweeping and/or watering at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.c** The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for a paved roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above- mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

**2.d** The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.

**2.e** Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.

**2.f** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05.

**2.g** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

**2.h** This emissions unit is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

**2.i** The annual emissions limitation for this emissions unit was established to reflect the potential to emit. Therefore, it is not necessary to develop additional monitoring, record keeping and reporting requirements to ensure compliance with this emissions limitation.

Emissions Unit ID: **F001**

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform inspections of the paved roadways and parking areas in accordance with the following frequencies:

| Paved Roadways | Minimum Inspection Frequency |
|---|---|
| All | Once Per Day |

| Paved Parking Areas | Minimum Inspection Frequency |
|---|---|
| All | Once Per Day |

2. The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

3. The permittee shall maintain records of the following information:

   a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;

   b. the date and time of each inspection where it was determined by the permittee that it was necessary to implement the control measures;

   c. the dates the control measures were implemented; and

   d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

   The information required in C.3.d. shall be updated on a calendar quarter basis within

30 days after the end of each calendar quarter.

4. The permittee shall record the number of trucks entering the plant site and their respective weights on a daily basis.

5. The permittee shall maintain monthly records of the rolling, 12-month summation of PE and $PM_{10}$ emissions from this emissions unit, in tons.

## D. Reporting Requirements

1. The permittee shall submit deviation reports that identify any of the following occurrences:

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a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and

b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

2. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports which specify the total PE and $PM_{10}$ emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:
There shall be no visible particulate emissions except for one minute during any 60-minute period.

Applicable Compliance Method:
Compliance with the visible emission 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, 2002, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

b. Emission Limitation:
PE shall not exceed 48.89 tons per rolling 12-month period.

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements in Section C.5 above and shall be calculated using calculations in AP-42, Section 13.2.1 (December 2003) and inputs representing the Potential To Emit (PTE), as follows:

$E = k[(sL/2)^{0.65} (W/3)^{1.5}-C] (1-P/4N)$

Where

E = emission factor (lb/VMT)
k = particle size multiplier = 0.082
sL = silt content of road surface material, in $g/m^2$ = 0.4 (80% control applied)
W = mean vehicle weight, in tons = 27.1
C = emission factor for exhaust, brake wear and tire wear = 0.00047
P = number of wet days per averaging period with at least 0.01 inch of precipitation = 140
N = number of days per averaging period = 365

Using the equation and input values above:

E = 0.7007 lb PE/vehicle mile traveled (VMT)
Using the AP-42 emission factor and the maximum annual VMT:
PE = (0.7062 lb/VMT)(138,457 VMT/yr)(0.0005 ton/lb)
= 48.89 tons/year.

c. Emission Limitation:
$PM_{10}$ emissions shall not exceed 9.52 tons per rolling 12-month period.

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements in Section C.5 above and shall be calculated using calculations in AP-42, Section 13.2.1 (December 2003) and inputs representing the Potential To Emit (PTE), as follows:

$E = k[(sL/2)^{0.65} (W/3)^{1.5}-C] (1-P/4N)$

Where

E = emission factor (lb/VMT)
k = particle size multiplier = 0.016
sL = silt content of road surface material, in $g/m^2$ = 0.4 (80% control applied)
W = mean vehicle weight, in tons = 27.1
C = emission factor for exhaust, brake wear and tire wear = 0.00047
P = number of wet days per averaging period with at least 0.01 inch of precipitation = 140

Emissions Unit ID: **F001**

N = number of days per averaging period = 365

Using the equation and input values above:

E = 0.1375 lb $PM_{10}$/vehicle mile traveled (VMT)
Using the AP-42 emission factor and the maximum annual VMT:
$PM_{10}$ = (0.1375 lb/VMT)(138,457 VMT/yr)(0.0005 ton/lb)
= 9.52 tons/year.

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## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 12.74 tons/yr increase in PE and a 2.48 tons/yr increase in $PM_{10}$ emissions for this emissions unit.

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**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(F002) - 45 mmBtu/hr Column Grain Dryer**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) from this emissions unit shall not exceed 15.13 lbs/hr.<br><br>The requirements established pursuant to this rule also include compliance with the requirements of OAC rule 3745-31-05(C). |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV and BAT) | Carbon monoxide (CO) emissions from this emissions unit shall not exceed 2.52 tons per rolling 12-month period.<br><br>Nitrogen oxide ($NO_X$) emissions from this emissions unit shall not exceed 3.0 tons per rolling 12-month period.<br><br>Sulfur dioxide ($SO_2$) emissions from this emissions unit shall not exceed 0.018 ton per rolling 12-month period.<br><br>PE from this emissions unit shall not exceed 10.08 tons per rolling 12-month period.<br><br>Emissions of particulate matter less than 10 microns in diameter ($PM_{10}$) from this emissions unit shall not exceed 2.69 tons per rolling 12-month period.<br><br>Volatile organic compound (VOC) emissions from this emissions unit shall not exceed 0.17 ton per rolling 12-month period.<br><br>See Section A.2.a. |
| OAC rule 3745-17-07(B) | See Section A.2.b. |
| OAC rule 3745-17-08(B) | See Section A.2.c. |
| OAC rule 3745-18-06 | See Section A.2.d. |

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| | |
|---|---|
| OAC rule 3745-21-08(B) | CO emissions shall not exceed 3.78 lbs/hr.<br><br>See Section A.2.e. |
| 40 CFR Part 60, Subpart DD | Visible PE shall not exceed 0% opacity, except as provided by rule. |

## 2. Additional Terms and Conditions

**2.a** Permit to Install 08-04878 for this air contaminant source takes into account a limitation on the amount of fuel combusted as a voluntary restriction as proposed by the permittee. This restriction allows the permittee to avoid Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) for CO and $NO_X$ emissions.

**2.b** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

**2.c** The facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

**2.d** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.e** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the emissions limitations established pursuant to OAC rule 3745-21-08(B).

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

**2.f** The short term limitations of 15.13 lbs PE/hr and 3.78 lbs CO/hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring,

recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

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**2.g** The Best Available Technology (BAT) control requirements for this emissions unit have been determined to be the use of column plate perforations not exceeding 2.4 mm (0.094 inch) in diameter. BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

## B. Operational Restrictions

1. The annual grain throughput rate for this emissions unit shall not exceed 224,000 tons per year, based upon a rolling, 12-month summation of the grain throughput rates.

   To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the grain throughput levels specified in the following table:

| Month | Maximum Allowable Cumulative Grain Throughput (tons) |
|---|---|
| 1 | 56,000 |
| 1-2 | 112,000 |
| 1-3 | 168,000 |
| 1-4 | 224,000 |
| 1-5 | 224,000 |
| 1-6 | 224,000 |
| 1-7 | 224,000 |
| 1-8 | 224,000 |
| 1-9 | 224,000 |
| 1-10 | 224,000 |
| 1-11 | 224,000 |
| 1-12 | 224,000 |

   After the first 12 calendar months of operation, compliance with the annual grain throughput limitation shall be based upon the rolling, 12-month summation of the grain throughput.

2. The annual natural gas usage in this emissions unit shall not exceed 60 million cubic feet (mmcf) per year, based upon a rolling, 12-month summation of the natural gas usage rates.

   To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the natural gas usage levels specified in the following table:

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| Month | Maximum Allowable Cumulative Natural Gas Usage (mmcf) |
|---|---|
| 1 | 15 |
| 1-2 | 30 |
| 1-3 | 45 |
| 1-4 | 60 |
| 1-5 | 60 |
| 1-6 | 60 |
| 1-7 | 60 |
| 1-8 | 60 |
| 1-9 | 60 |
| 1-10 | 60 |
| 1-11 | 60 |
| 1-12 | 60 |

After the first 12 calendar months of operation, compliance with the annual natural gas usage limitation shall be based upon the rolling, 12-month summation of the natural gas usage.

3. The permittee shall only burn natural gas in this emissions unit.

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for this emissions unit:

   a. the operating hours;

   b. the natural gas usage, in mmcf;

   c. the rolling, 12-month summation of PE, $PM_{10}$, VOC, $NO_X$, CO and $SO_2$ emissions, in tons;

   d. beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the operating hours; and

   e. beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the natural gas usage, in mmcf.

During the first 12 calendar months of operation, the permittee shall record the cumulative operating hours and cumulative natural gas usage of this emissions unit.

2. For each day during which the permittee burns a fuel other than natural gas in this emissions unit, the permittee shall maintain a record of the type and quantity of fuel burned.

3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive emissions from the egress points (i.e. building windows, doors, roof monitors, etc.) serving this emissions unit. The date and time of the visible emissions check and the presence or absence of any visible emissions shall be noted in an operations log, including the date and time the daily check was performed. 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. the total duration of any visible emission incident; and

   c. any corrective actions taken to eliminate the visible emissions.

## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports to the Regional Air Pollution Control Agency that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

   a. the rolling, 12-month grain throughput limitation; and for the first 12 calendar months of operation, all exceedances of the allowable cumulative grain throughput;

   b. the rolling, 12-month natural gas usage limitation; and for the first 12 calendar months of operation, all exceedances of the allowable natural gas usage; and

   c. the rolling, 12-month summation of PE, $PM_{10}$, VOC, $NO_X$, CO and $SO_2$ emissions.

These reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, Section A of this permit.

3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e. hatches, doors, roof monitors, etc.) serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

4. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE and VOC emissions from this emissions unit in tons per rolling 12-month period for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of the terms and conditions of this permit shall be determined in accordance with the following methods:

   a. Emissions Limitation
   CO emissions shall not exceed 3.78 lbs/hr.

   Applicable Compliance Method
   Compliance shall be determined using AP-42 Table 1.4-1 (July 1998) and inputs representing the Potential To Emit (PTE), as follows:

   Emissions = (maximum heat input rating) * (emission factor) / (Fuel Heat Content)
   Emissions = (45 mmBtu/hr) * (84 lb/mmcf) / (1,000 mmBtu/mmcf) = 3.78 lbs/hr

   b. Emissions Limitation
   CO emissions from this emissions unit shall not exceed 2.52 tons per rolling 12-month period.

   Applicable Compliance Method
   Compliance shall be based upon the record keeping requirements in Section C.1 above and shall be calculated using AP-42 Table 1.4-1 (July 1998) as follows:

Emissions = (fuel usage) * (emission factor) * (Fuel Heat Content)
Emissions = (60 mmcf per rolling 12-month period) * (84 lb/mmcf) / (2,000 lbs/ton)
Emissions = 2.52 tons per rolling 12-month period

c. Emissions Limitation
$NO_X$ emissions from this emissions unit shall not exceed 3.0 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.1 above and shall be calculated using AP-42 Table 1.4-1 (July 1998) as follows:

Emissions = (fuel usage) * (emission factor) * (Fuel Heat Content)
Emissions = (60 mmcf per rolling 12-month period) * (100 lb/mmcf) / (2,000 lbs/ton)
Emissions = 3.0 tons per rolling 12-month period

d. Emissions Limitation
$SO_2$ emissions from this emissions unit shall not exceed 0.018 ton per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.1 above and shall be calculated using AP-42 Table 1.4-2 (July 1998) as follows:

Emissions = (fuel usage) * (emission factor) * (Fuel Heat Content)
Emissions = (60 mmcf per rolling 12-month period) * (0.6 lb/mmcf) / (2,000 lbs/ton)
Emissions = 0.018 tons per rolling 12-month period

e. Emissions Limitation
PE from this emissions unit shall not exceed 15.13 lbs/hr.

Applicable Compliance Method
Compliance shall determined using AP-42 Table 1.4-2 (July 1998) for the combustion emissions, the grain dryer manufacturer-provided emissions factor for the grain emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Combustion Emissions + Grain Emissions

Combustion Emissions = (maximum dryer heat input) * (emission factor) / (Fuel Heat Content)
Combustion Emissions = (45 mmBtu/hr) * (7.6 lb/mmcf) / (1,000 mmBtu/mmcf)
Combustion Emissions = 0.342 lb/hr

Grain Emissions = Emission Factor
Grain Emissions = 14.784 lbs/hr

Emissions = 0.342 + 14.784 = 15.13 lbs/hr

f. Emissions Limitation

PE from this emissions unit shall not exceed 10.08 tons per rolling 12-month period.

Applicable Compliance Method

Compliance shall be based upon the record keeping requirements in Section C.1 above and shall be calculated using AP-42 Table 1.4-2 (July 1998) for the combustion emissions, the grain dryer manufacturer-provided emissions factor for the grain emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Combustion Emissions + Grain Emissions

Combustion Emissions = (fuel usage) * (emission factor) * (Fuel Heat Content)
Combustion Emissions = (60 mmcf per rolling 12-month period) * (7.6 lb/mmcf) / (2,000 lbs/ton)
Combustion Emissions = 0.23 tons per rolling 12-month period

Grain Emissions = (emission factor) * (grain throughput) / (maximum grain dryer capacity) / (2000 lbs/ton)
Grain Emissions = (14.78 lbs PE/hr) * (224,000 tons grain per rolling 12-month period) / (168 tons grain/hr) / (2000 lbs/ton)
Grain Emissions = 9.85 tons per rolling 12-month period

Emissions = 0.23 + 9.85 = 10.08 tons per rolling 12-month period

g. Emissions Limitation

$PM_{10}$ emissions from this emissions unit shall not exceed 2.69 tons per rolling

12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.1 above and shall be calculated using AP-42 Table 1.4-2 (July 1998) for the combustion emissions, the grain dryer manufacturer-provided emissions factor for the grain emissions, AP-42 Table 9.9.1-1 (March 2003) for the $PM_{10}$ fraction and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Combustion Emissions + Grain Emissions

Combustion Emissions = (fuel usage) * (emission factor) * (Fuel Heat Content)
Combustion Emissions = (60 mmcf per rolling 12-month period) * (7.6 lb/mmcf) / (2,000 lbs/ton)
Combustion Emissions = 0.23 tons per rolling 12-month period

Grain Emissions = (PE emission factor) * (AP-42 $PM_{10}$ emission factor / AP-42 PE emission factor) * (grain throughput) / (maximum grain dryer capacity) / (2000 lbs/ton)
Grain Emissions = (14.78 lbs PE/hr) * (0.055 lb $PM_{10}$/ton / 0.22 lb PE/ton) * (224,000 tons grain per rolling 12-month period) / (168 tons grain/hr) / (2000 lbs/ton)
Grain Emissions = 1.85 tons per rolling 12-month period

Emissions = 0.23 + 2.46 = 2.69 tons per rolling 12-month period

h. Emissions Limitation
VOC emissions from this emissions unit shall not exceed 0.17 ton per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.1 above and shall be calculated using AP-42 Table 1.4-2 (July 1998) as follows:

Emissions = (fuel usage) * (emission factor) * (Fuel Heat Content)
Emissions = (60 mmcf per rolling 12-month period) * (5.5 lb/mmcf) / (2,000 lbs/ton)
Emissions = 0.17 tons per rolling 12-month period

i. Emissions Limitation

Emissions Unit ID: **F002**

Visible PE shall not exceed 0% opacity, except as provided by rule.

Applicable Compliance Method
Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 0.63 ton/yr increase in CO emissions, a 0.75 ton/yr increase in $NO_X$ emissions, a 0.004 ton/yr increase in $SO_2$ emissions, a 2.52 tons/yr increase in PE, a 0.67 ton/yr increase in $PM_{10}$ emissions and a 0.05 ton/yr increase in VOC emissions for this emissions unit.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(J001) - Denatured Ethanol Loading Rack Controlled with a Flare**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Volatile Organic Compound (VOC) emissions shall not exceed 9.0 lbs/hr.<br><br>See Sections A.2.b through A.2.g and B.2 below.<br><br>The requirements established pursuant to this rule also include compliance with the requirements of OAC rule 3745-31-05(C). |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV and BAT) | VOC emissions shall not exceed 14.39 tons per rolling 12-month period.<br><br>Carbon monoxide (CO) emissions from the flare shall not exceed 7.38 tons per rolling 12-month period.<br><br>Nitrogen oxide ($NO_X$) emissions from the flare shall not exceed 1.39 ton per rolling 12-month period.<br><br>Particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$) from the flare shall not exceed 0.003 ton per rolling 12-month period.<br><br>Sulfur dioxide ($SO_2$) emissions from the flare shall not exceed 0.003 ton per rolling 12-month period.<br><br>See Section A.2.a below. |
| OAC rule 3745-21-08(B) | CO emissions from the flare shall not exceed 4.60 lbs/hr.<br><br>See Section A.2.h below. |

| | |
|---|---|
| ORC 3704.03(F) and OAC rule 3745-114-01 | See C.3, C.4 and D.4 below. |

## 2. Additional Terms and Conditions

**2.a** Permit to Install 08-04878 for this air contaminant source takes into account a hours of operation limitation of 3200 hours per year as a voluntary restriction as proposed by the permittee. This restriction allows the permittee to avoid Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) for CO emissions.

**2.b** During any transfer of material through the loading rack, the vapors displaced from the delivery vessel shall be vented to a flare.

**2.c** The loading rack shall utilize top submerged filling or bottom filling for the transfer of materials.

**2.d** All material loading lines, unloading lines and vapor lines shall be equipped with fittings which are vapor tight.

**2.e** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.f** A vapor tight lid shall be placed onto the truck's fill point before loading operations.

**2.g** The vapor head space in the truck's tank shall be evacuated through a solid vapor line then routed to the flare

**2.h** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the emissions limitations established pursuant to OAC rule 3745-21-08(B).

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and U.S. EPA approves the revision to OAC rule 3745-21-08, the requirements to satisfy "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

**2.i** The short term limitations of 9.0 lbs VOC/hr and 4.60 lbs CO/hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.j** The Best Available Technology (BAT) control requirements for this emissions unit has been determined to be the use of a flare system, whenever this air contaminant source is in operation, with a minimum control efficiency of 98%, by weight for VOC. BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

## B. Operational Restrictions

1. The annual operating hours for this emissions unit shall not exceed 3,200, based upon a rolling, 12-month summation of the operating hours.

   To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the operating hour levels specified in the following table:

| Month | Maximum Allowable Cumulative Operating Hours |
|---|---|
| 1 | 800 |
| 1-2 | 1200 |
| 1-3 | 2000 |
| 1-4 | 3200 |
| 1-5 | 3200 |
| 1-6 | 3200 |
| 1-7 | 3200 |
| 1-8 | 3200 |
| 1-9 | 3200 |
| 1-10 | 3200 |
| 1-11 | 3200 |
| 1-12 | 3200 |

   After the first 12 calendar months of operation, compliance with the annual operating hour limitation shall be based upon the rolling, 12-month summation of the operating hours.

2. The permittee shall comply with the following restrictions on the flare controlling this emissions unit:

   a. the closed vent system shall be operated at all times when emissions may be vented to it;

   b. the flare shall be operated with a pilot flame. The flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame;

   c. the net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be 300 Btu/scf or greater;

   d. the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less that 60 feet per second; and,

   e. the permittee shall ensure the flare is operated and maintained in conformance with its design.

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for this emissions unit:

   a. the operating hours of the flare;

   b. the rolling, 12-month summation of $NO_X$, CO, VOC, PE, $PM_{10}$ and $SO_2$ emissions, in tons; and

   c. beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the operating hours of the flare.

   During the first 12 calendar months of operation, the permittee shall record the cumulative operating hours of the flare.

2. The permittee shall comply with the following monitoring and recordkeeping requirements on the flare controlling this emissions unit:

a. the flare shall be monitored with a thermocouple or any other equivalent device to detect the presence of a pilot flame;

b. the permittee shall maintain and operate a flow indicator which provides a record of the vent stream flow to the flare;

c. the permittee shall maintain records of the following:

i. flow rate to the flare, including records of all periods when the closed vent stream is diverted from the flare or when there is no flow rate;

ii. records of all periods when the flare pilot flame is absent;

iii. periods when the closed vent system and flare are not operated as designed; and

iv. dates of start-ups and shutdowns of the closed vent system and flare; and

d. the permittee shall collect and record a daily log or record of operating time for the closed vent system, flare and monitoring equipment.

3. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Toluene
TLV ($mg/m^3$): 188.4
Maximum Hourly Emission Rate (lbs/hr): 1.35
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 50.36 (entire facility)
MAGLC ($ug/m^3$): 4,486

Pollutant: Xylene

TLV (mg/$m^3$): 434.19
Maximum Hourly Emission Rate (lbs/hr): 1.08
Predicted 1-Hour Maximum Ground-Level Concentration (ug/$m^3$): 40.29 (entire facility)
MAGLC (ug/$m^3$): 10,338

Pollutant: Methyl tert-Butyl Ether (MTBE)
TLV (mg/$m^3$): 180.31
Maximum Hourly Emission Rate (lbs/hr): 0.67
Predicted 1-Hour Maximum Ground-Level Concentration (ug/$m^3$): 25.18 (entire facility)
MAGLC (ug/$m^3$): 4,293

4. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

## D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

   a. the rolling, 12-month operating hours limitation; and for the first 12 calendar months of operation, all exceedances of the allowable cumulative operating hours of the flare; and

   b. the rolling, 12-month summation of $NO_X$, CO, VOC, PE, $PM_{10}$ and $SO_2$ emissions.

   These reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, Section A of this permit.

2. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following requirements for the flare:

   a. exceedances of all monitored parameters (i.e., thermocouple or equivalent device and vent stream flow indicator);

   b. periods of time when the closed vent system stream is diverted from system control devices;

   c. all periods of time when the flare was not operational, including all periods of time during which the pilot flame on the flare is not functioning properly; and

   d. all periods of time when required monitoring data was not collected.

   These reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, Section A of this permit.

3. The permittee shall submit annual reports which specify the total $NO_X$, CO, VOC, PE, $PM_{10}$ and $SO_2$ emissions from this emissions unit in tons per rolling 12-month period for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

4. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of the terms and conditions of this permit shall be determined in accordance with the following methods:

   a. Emissions Limitation
   VOC emissions shall not exceed 9.0 lbs/hr.

   Applicable Compliance Method
   Compliance shall be determined using the loading loss (LL) calculations from AP-42 Section 5.2 (1/95). Trucks are a non-dedicated fleet and may transport gasoline from the loading rack from time to time; therefore, the vapor headspace of the trucks is assumed to be saturated with gasoline vapors. The vapor headspace of the railcars is assumed to be saturated with ethanol vapors. Compliance has been demonstrated using inputs representing Potential To Emit (PTE) conditions as follows:

   LL (lb VOC/1000 gallons) = [12.46 * (SPM / T)]

   where=
   S= saturation factor (1.0 for vapor balance, truck; and 0.6 for submerged load w/o vapor balance, rail)
   P= true vapor pressure of liquid loaded (4.55 for gasoline, truck; and 0.63 for denatured ethanol, rail)
   M= molecular weight of vapors (66 for gasoline, truck; and 49.8 for denatured ethanol, rail)
   T= temperature of bulk liquid (avg. of 51.34 F + 460 = 511 R)

   Using the values in the above equations, the VOC factors were used to calculate emissions as follows:

LL= 7.32 lb VOC/1000 gallons to truck and
LL= 0.46 lb VOC/1000 gallons to rail

Capture efficiency = 99%
Control efficiency of flare = 98%

Compliance with the 12-month rolling allowable emissions rate for VOCs will be determined as follows:

$LL_{truck}$ = [{(7.32 * 0.99 * (1 - 0.98)) + (7.32 * (1 - 0.99))} / 1000 gal] * 132,000,000 gal per rolling 12-month period / 3,200 hrs/yr = 9.0 lbs/hr

$LL_{rail}$ = [{(0.46 * 0.99 * (1 - 0.98)) + (0.46 * (1 - 0.99))} / 1000 gal] * 132,000,000 gal per rolling 12-month period / 3,200 lbs/ton = 0.56 lbs/hr

$LL_{total}$ = maximum of $LL_{truck}$ and $LL_{rail}$ = 9.0 lbs/hr

No testing for this emissions limitation is specifically required by this permit but, if required by Ohio EPA, may be requested pursuant to OAC rule 3745-15-04(A).

b. Emissions Limitation
VOC emissions shall not exceed 14.39 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.1 above and shall be calculated using the loading loss (LL) calculations from AP-42 Section 5.2 (1/95). Trucks are a non-dedicated fleet and may transport gasoline from the loading rack from time to time; therefore, the vapor headspace of the trucks is assumed to be saturated with gasoline vapors. The vapor headspace of the railcars is assumed to be saturated with ethanol vapors. Compliance has been demonstrated using inputs representing Potential To Emit (PTE) conditions as follows:

LL (lb VOC/1000 gallons) = [12.46 * (SPM / T)]

where=
S= saturation factor (1.0 for vapor balance, truck; and 0.6 for submerged load w/o vapor balance, rail)
P= true vapor pressure of liquid loaded (4.55 for gasoline, truck; and 0.63 for

denatured ethanol, rail)
M= molecular weight of vapors (66 for gasoline, truck; and 49.8 for denatured ethanol, rail)
T= temperature of bulk liquid (avg. of 51.34 F + 460 = 511 R)

Using the values in the above equations, the VOC factors were used to calculate emissions as follows:

LL= 7.32 lb VOC/1000 gallons to truck and
LL= 0.46 lb VOC/1000 gallons to rail

Capture efficiency = 99%
Control efficiency of flare = 98%

Compliance with the 12-month rolling allowable emissions rate for VOCs will be determined as follows:

$LL_{truck}$ = [{(7.32 * 0.99 * (1 - 0.98)) + (7.32 * (1 - 0.99))} / 1000 gal] * 132,000,000 gal per rolling 12-month period / 2,000 lbs/ton = 14.39 tons per rolling 12-month period

$LL_{rail}$ = [{(0.46 * 0.99 * (1 - 0.98)) + (0.46 * (1 - 0.99))} / 1000 gal] * 132,000,000 gal per rolling 12-month period / 2,000 lbs/ton = 0.89 tons per rolling 12-month period

$LL_{total}$ = maximum of $LL_{truck}$ and $LL_{rail}$ = 14.39 tons per rolling 12-month period

No testing for this emissions limitation is specifically required by this permit but, if required by Ohio EPA, may be requested pursuant to OAC rule 3745-15-04(A).

c. Emissions Limitation
CO emissions from the flare shall not exceed 7.38 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.1 above and shall be calculated using AP-42 Tables 1.4-1 (July 1998) for the pilot flame and 13.5-1 (January 1995) for the flare and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Flare Emissions + Pilot Light Emissions

Flare Emissions = (maximum heat input) * (emission factor) * (operating hours) / (2000 lbs/ton)
Flare Emissions = (12.4 mmBtu/hr) * (0.37 lb/mmBtu) * (3200 hrs/yr) / (2000 lbs/ton)
Flare Emissions = 7.34 tons per rolling 12-month period

Pilot Emissions = (maximum heat input) * (emission factor) * (operating hours) / (2000 lbs/ton)
Pilot Emissions = (0.1 mmBtu/hr) * (0.084 lb/mmBtu) * (8760 hrs/yr) / (2000 lbs/ton)
Pilot Emissions = 0.037 tons per rolling 12-month period

Emissions = 7.34 + 0.037 = 7.38 tons per rolling 12-month period

d. Emissions Limitation

$NO_X$ emissions from the flare shall not exceed 1.39 tons per rolling 12-month period.

Applicable Compliance Method

Compliance shall be based upon the record keeping requirements in Section C.1 above and shall be calculated using AP-42 Tables 1.4-1 (July 1998) for the pilot flame and 13.5-1 (January 1995) for the flare and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Flare Emissions + Pilot Light Emissions

Flare Emissions = (maximum heat input) * (emission factor) * (operating hours) / (2000 lbs/ton)
Flare Emissions = (12.4 mmBtu/hr) * (0.068 lb/mmBtu) * (3200 hrs/yr) / (2000 lbs/ton)
Flare Emissions = 1.35 tons per rolling 12-month period

Pilot Emissions = (maximum heat input) * (emission factor) * (operating hours) / (2000 lbs/ton)
Pilot Emissions = (0.1 mmBtu/hr) * (0.1 lb/mmBtu) * (8760 hrs/yr) / (2000 lbs/ton)
Pilot Emissions = 0.044 tons per rolling 12-month period

Emissions = 1.35 + 0.044 = 1.39 tons per rolling 12-month period

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e. Emissions Limitation
CO emissions from the flare shall not exceed 4.60 lbs/hr.

Applicable Compliance Method
Compliance shall be determined using AP-42 Tables 1.4-1 (July 1998) for the pilot flame and 13.5-1 (January 1995) for the flare and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Flare Emissions + Pilot Light Emissions

Flare Emissions = (maximum heat input) * (emission factor)
Flare Emissions = (12.4 mmBtu/hr) * (0.37 lb/mmBtu) = 4.59 lbs/hr

Pilot Emissions = (maximum heat input) * (emission factor)
Pilot Emissions = (0.1 mmBtu/hr) * (0.084 lb/mmBtu) = 0.01 lb/hr

Emissions = 4.59 + 0.01 = 4.60 lbs/hr

No testing for this emissions limitation is specifically required by this permit but, if required by Ohio EPA, may be requested pursuant to OAC rule 3745-15-04(A).

f. Emissions Limitation
PE from the flare shall not exceed 0.003 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be determined using AP-42 Tables 1.4-1 (July 1998) for the pilot flame and inputs representing the Potential To Emit (PTE), as follows:

Emissions = (maximum heat input) * (emission factor) * (operating hours) / (2000 lbs/ton)
Emissions = (0.1 mmBtu/hr) * (0.0076 lb/mmBtu) * (8760 hrs/yr) / (2000 lbs/ton)
Emissions = 0.003 ton per rolling 12-month period

g. Emissions Limitation
$PM_{10}$ emissions from the flare shall not exceed 0.003 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be determined using AP-42 Tables 1.4-1 (July 1998) for the pilot flame and inputs representing the Potential To Emit (PTE), as follows:

Emissions = (maximum heat input) * (emission factor) * (operating hours) / (2000 lbs/ton)
Emissions = (0.1 mmBtu/hr) * (0.0076 lb/mmBtu) * (8760 hrs/yr) / (2000 lbs/ton)
Emissions = 0.003 ton per rolling 12-month period

h. Emissions Limitation
$SO_2$ emissions from the flare shall not exceed 0.003 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be determined using AP-42 Tables 1.4-1 (July 1998) for the pilot flame and inputs representing the Potential To Emit (PTE), as follows:

Emissions = (maximum heat input) * (emission factor) * (operating hours) / (2000 lbs/ton)
Emissions = (0.1 mmBtu/hr) * (0.006 lb/mmBtu) * (8760 hrs/yr) / (2000 lbs/ton)
Emissions = 0.003 ton per rolling 12-month period

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued

**Issued: To be entered upon final issuance**

November 14, 2006 and represent a 11.56 tons/yr increase in VOC emissions, a 0.5 ton/yr increase in $NO_X$ emissions and a 2.76 tons/yr increase in CO emissions for this emissions unit.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P001) - Grain Hammermill No. 1 Controlled with a Baghouse**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV and BAT) | Combined emissions from P001, P002, P003 and P004 shall not exceed 3.90 tons per rolling 12-month period of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$).<br><br>See Section A.2.b. |
| OAC rule 3745-17-07(A) | Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity. |
| OAC rule 3745-17-11(B) | Combined PE from P001, P002, P003 and P004 shall not exceed 3.56 lbs/hr. |

### 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** Permit to Install 08-04878 for this air contaminant source takes into account the use of a baghouse, whenever this air contaminant source is in operation, with an outlet particulate emissions concentration of 0.004 gr/dscf, as a voluntary restriction as proposed by the permittee. This restriction allows the permittee to avoid Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

**2.c** The short term limitation of 3.56 lbs PE/hr was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to

ensure compliance with these emissions limitations.

Emissions Unit ID: **P001**

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer"s recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop, in inches of water, across the baghouse on a daily basis.

   Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. 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.

   The acceptable range for the pressure drop across the baghouse shall be established during the most recent emissions test that demonstrated the emissions unit to be in compliance or the baghouse pressure drop range shall be 0.25 to 8 inches of water until such testing is completed.

   This range is effective for the duration of this permit. In addition, approved revisions to the range 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 perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The date and time of the visible emissions check and 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 color of the emissions;

   b. the total duration of any visible emission incident; and

   c. any corrective actions taken to eliminate the visible emissions.

3. The permittee shall maintain monthly records of the rolling, 12-month summation of PE and $PM_{10}$ emissions from emissions units P001, P002, P003 and P004, in tons.

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the pressure drop across the baghouse was outside of the acceptable range;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total PE and $PM_{10}$ emissions in tons per rolling 12-month period from emissions units P001, P002, P003 and P004 for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation
   Combined PE from P001, P002, P003 and P004 shall not exceed 3.56 lbs/hr.

   Applicable Compliance Method
   Compliance with the allowable lb PE/hr shall be determined through the performance testing as described below in Section E.2.

   b. Emission Limitation
   Combined PE and $PM_{10}$ emissions from P001, P002, P003 and P004 shall not exceed 3.90 tons per rolling 12-month period.

   Applicable Compliance Method
   Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated as follows:

   PE and $PM_{10}$ emissions = (outlet particulate concentration) * (baghouse exhaust air flow rate) * (60 minutes/hr) * (8760 hrs/yr) / (7000 grains/lb) / (2000 lbs/ton)

   PE and $PM_{10}$ emissions = (0.004 gr/dscf) * (12,989 scfm + 12,989 scfm) * (60 minutes/hr) * (8760 hrs/yr) / (7000 grains/lb) / (2000 lbs/ton)

   PE and $PM_{10}$ emissions = 3.90 tons per rolling 12-month period.

The baghouse outlet PE and $PM_{10}$ concentrations shall be determined through the performance testing as described below in Section E.2.

c. Emission Limitation
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. The permittee shall conduct, or have conducted, emission testing for emissions units P001, P002, P003 and P004 in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the outlet concentration of 0.004 gr/dscf from each stack; and

ii. demonstrate compliance with the allowable emissions rate for PE of 3.56 lbs/hr.

c. The following test method shall be employed to demonstrate compliance with the above emissions limitations: for PE, Methods 1-5 of 40 CFR Part 60, Appendix A.
Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 1.36 tons/yr decrease in PE and $PM_{10}$ emissions for emissions units P001, P002, P003 and P004 combined.

Emissions Unit ID: **P002**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P002) - Grain Hammermill No. 2 Controlled with a Baghouse**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV and BAT) | Combined emissions from P001, P002, P003 and P004 shall not exceed 3.90 tons per rolling 12-month period of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$).<br><br>See Section A.2.b. |
| OAC rule 3745-17-07(A) | Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity. |
| OAC rule 3745-17-11(B) | Combined PE from P001, P002, P003 and P004 shall not exceed 3.56 lbs/hr. |

### 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** Permit to Install 08-04878 for this air contaminant source takes into account the use of a baghouse, whenever this air contaminant source is in operation, with an outlet particulate emissions concentration of 0.004 gr/dscf, as a voluntary restriction as proposed by the permittee. This restriction allows the permittee to avoid Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

**2.c** The short term limitation of 3.56 lbs PE/hr was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**Issued: To be entered upon final issuance**

**Issued: To be entered upon final issuance**

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer"s recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop, in inches of water, across the baghouse on a daily basis.

   Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. 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.

   The acceptable range for the pressure drop across the baghouse shall be established during the most recent emissions test that demonstrated the emissions unit to be in compliance or the baghouse pressure drop range shall be 0.25 to 8 inches of water until such testing is completed.

   This range is effective for the duration of this permit. In addition, approved revisions to

the range 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 perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The date and time of the visible emissions check and 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 color of the emissions;

   b. the total duration of any visible emission incident; and

   c. any corrective actions taken to eliminate the visible emissions.

3. The permittee shall maintain monthly records of the rolling, 12-month summation of PE and $PM_{10}$ emissions from emissions units P001, P002, P003 and P004, in tons.

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the pressure drop across the baghouse was outside of the acceptable range;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total PE and $PM_{10}$ emissions in tons per rolling 12-month period from emissions units P001, P002, P003 and P004 for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation
   Combined PE from P001, P002, P003 and P004 shall not exceed 3.56 lbs/hr.

   Applicable Compliance Method
   Compliance with the allowable lb PE/hr shall be determined through the performance testing as described below in Section E.2.

   b. Emission Limitation
   Combined PE and $PM_{10}$ emissions from P001, P002, P003 and P004 shall not exceed 3.90 tons per rolling 12-month period.

   Applicable Compliance Method
   Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated as follows:

   PE and $PM_{10}$ emissions = (outlet particulate concentration) * (baghouse exhaust air flow rate) * (60 minutes/hr) * (8760 hrs/yr) / (7000 grains/lb) / (2000 lbs/ton)

   PE and $PM_{10}$ emissions = (0.004 gr/dscf) * (12,989 scfm + 12,989 scfm) * (60 minutes/hr) * (8760 hrs/yr) / (7000 grains/lb) / (2000 lbs/ton)

PE and $PM_{10}$ emissions = 3.90 tons per rolling 12-month period.

The baghouse outlet PE and $PM_{10}$ concentrations shall be determined through the performance testing as described below in Section E.2.

c. Emission Limitation
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. The permittee shall conduct, or have conducted, emission testing for emissions units P001, P002, P003 and P004 in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the outlet concentration of 0.004 gr/dscf from each stack; and

ii. demonstrate compliance with the allowable emissions rate for PE of 3.56 lbs/hr.

c. The following test method shall be employed to demonstrate compliance with the above emissions limitations: for PE, Methods 1-5 of 40 CFR Part 60, Appendix A.
Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 1.36 tons/yr decrease in PE and $PM_{10}$ emissions for emissions units P001, P002, P003 and P004 combined.

Emissions Unit ID: **P003**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment - (P003) - Grain Hammermill No. 3 Controlled with a Baghouse**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV and BAT) | Combined emissions from P001, P002, P003 and P004 shall not exceed 3.90 tons per rolling 12-month period of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$).<br><br>See Section A.2.b. |
| OAC rule 3745-17-07(A) | Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity. |
| OAC rule 3745-17-11(B) | Combined PE from P001, P002, P003 and P004 shall not exceed 3.56 lbs/hr. |

### 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** Permit to Install 08-04878 for this air contaminant source takes into account the use of a baghouse, whenever this air contaminant source is in operation, with an outlet particulate emissions concentration of 0.004 gr/dscf, as a voluntary restriction as proposed by the permittee. This restriction allows the permittee to avoid Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

**2.c** The short term limitation of 3.56 lbs PE/hr was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

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**Issued: To be entered upon final issuance**

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer"s recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop, in inches of water, across the baghouse on a daily basis.

   Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. 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.

   The acceptable range for the pressure drop across the baghouse shall be established during the most recent emissions test that demonstrated the emissions unit to be in compliance or the baghouse pressure drop range shall be 0.25 to 8 inches of water until such testing is completed.

   This range is effective for the duration of this permit. In addition, approved revisions to

the range 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 perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The date and time of the visible emissions check and 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 color of the emissions;

   b. the total duration of any visible emission incident; and

   c. any corrective actions taken to eliminate the visible emissions.

3. The permittee shall maintain monthly records of the rolling, 12-month summation of PE and $PM_{10}$ emissions from emissions units P001, P002, P003 and P004, in tons.

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the pressure drop across the baghouse was outside of the acceptable range;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total PE and $PM_{10}$ emissions in tons per rolling 12-month period from emissions units P001, P002, P003 and P004 for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation
   Combined PE from P001, P002, P003 and P004 shall not exceed 3.56 lbs/hr.

   Applicable Compliance Method
   Compliance with the allowable lb PE/hr shall be determined through the performance testing as described below in Section E.2.

   b. Emission Limitation
   Combined PE and $PM_{10}$ emissions from P001, P002, P003 and P004 shall not exceed 3.90 tons per rolling 12-month period.

   Applicable Compliance Method
   Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated as follows:

   PE and $PM_{10}$ emissions = (outlet particulate concentration) * (baghouse exhaust air flow rate) * (60 minutes/hr) * (8760 hrs/yr) / (7000 grains/lb) / (2000 lbs/ton)

   PE and $PM_{10}$ emissions = (0.004 gr/dscf) * (12,989 scfm + 12,989 scfm) * (60 minutes/hr) * (8760 hrs/yr) / (7000 grains/lb) / (2000 lbs/ton)

PE and $PM_{10}$ emissions = 3.90 tons per rolling 12-month period.

The baghouse outlet PE and $PM_{10}$ concentrations shall be determined through the performance testing as described below in Section E.2.

c. Emission Limitation
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. The permittee shall conduct, or have conducted, emission testing for emissions units P001, P002, P003 and P004 in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the outlet concentration of 0.004 gr/dscf from each stack; and

ii. demonstrate compliance with the allowable emissions rate for PE of 3.56 lbs/hr.

c. The following test method shall be employed to demonstrate compliance with the above emissions limitations: for PE, Methods 1-5 of 40 CFR Part 60, Appendix A.
Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency.

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e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 1.36 tons/yr decrease in PE and $PM_{10}$ emissions for emissions units P001, P002, P003 and P004 combined.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment - (P004) - Grain Hammermill No. 4 Controlled with a Baghouse**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV and BAT) | Combined emissions from P001, P002, P003 and P004 shall not exceed 3.90 tons per rolling 12-month period of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$).<br><br>See Section A.2.b. |
| OAC rule 3745-17-07(A) | Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity. |
| OAC rule 3745-17-11(B) | Combined PE from P001, P002, P003 and P004 shall not exceed 3.56 lbs/hr. |

### 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** Permit to Install 08-04878 for this air contaminant source takes into account the use of a baghouse, whenever this air contaminant source is in operation, with an outlet particulate emissions concentration of 0.004 gr/dscf, as a voluntary restriction as proposed by the permittee. This restriction allows the permittee to avoid Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

**2.c** The short term limitation of 3.56 lbs PE/hr was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to

ensure compliance with these emissions limitations.

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## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer"s recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop, in inches of water, across the baghouse on a daily basis.

   Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. 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.

   The acceptable range for the pressure drop across the baghouse shall be established during the most recent emissions test that demonstrated the emissions unit to be in compliance or the baghouse pressure drop range shall be 0.25 to 8 inches of water until such testing is completed.

   This range is effective for the duration of this permit. In addition, approved revisions to

the range 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 perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The date and time of the visible emissions check and 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 color of the emissions;

   b. the total duration of any visible emission incident; and

   c. any corrective actions taken to eliminate the visible emissions.

3. The permittee shall maintain monthly records of the rolling, 12-month summation of PE and $PM_{10}$ emissions from emissions units P001, P002, P003 and P004, in tons.

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the pressure drop across the baghouse was outside of the acceptable range;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous

calendar quarter.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total PE and $PM_{10}$ emissions in tons per rolling 12-month period from emissions units P001, P002, P003 and P004 for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation
   Combined PE from P001, P002, P003 and P004 shall not exceed 3.56 lbs/hr.

   Applicable Compliance Method
   Compliance with the allowable lb PE/hr shall be determined through the performance testing as described below in Section E.2.

   b. Emission Limitation
   Combined PE and $PM_{10}$ emissions from P001, P002, P003 and P004 shall not exceed 3.90 tons per rolling 12-month period.

   Applicable Compliance Method
   Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated as follows:

   PE and $PM_{10}$ emissions = (outlet particulate concentration) * (baghouse exhaust air flow rate) * (60 minutes/hr) * (8760 hrs/yr) / (7000 grains/lb) / (2000 lbs/ton)

   PE and $PM_{10}$ emissions = (0.004 gr/dscf) * (12,989 scfm + 12,989 scfm) * (60 minutes/hr) * (8760 hrs/yr) / (7000 grains/lb) / (2000 lbs/ton)

PE and $PM_{10}$ emissions = 3.90 tons per rolling 12-month period.

The baghouse outlet PE and $PM_{10}$ concentrations shall be determined through the performance testing as described below in Section E.2.

c. Emission Limitation
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. The permittee shall conduct, or have conducted, emission testing for emissions units P001, P002, P003 and P004 in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the outlet concentration of 0.004 gr/dscf from each stack; and

ii. demonstrate compliance with the allowable emissions rate for PE of 3.56 lbs/hr.

c. The following test method shall be employed to demonstrate compliance with the above emissions limitations: for PE, Methods 1-5 of 40 CFR Part 60, Appendix A.
Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 1.36 tons/yr decrease in PE and $PM_{10}$ emissions for emissions units P001, P002, P003 and P004 combined.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment - (P005) - Mash and Yeast Operations (Mash Water Tank, Mingler, Slurry Tank and Cooker) Controlled with Recuperative Thermal Oxidizers**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B), 3745-21-09(DD), 3745-31-05(C) and 40 CFR Part 60, Subpart VV. |
| OAC rule 3745-17-07(A)(1); and<br>OAC rule 3745-17-10(B)(1) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-18-06 | See Section A.2.b below. |
| OAC rule 3745-21-08(B) | See Section A.2.c below. |

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| | |
|---|---|
| OAC rule 3745-21-09(DD) | See the requirements for emissions unit P801. |
| 40 CFR Part 60, Subpart VV | See the requirements for emissions unit P801. |
| ORC 3704.03(F) and OAC rule 3745-114-01 | See C.4, C.5 and D.4 below. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the

requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

**2.d** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr and 2.6 lb PE and $PM_{10}$/hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.e** Best available technology (BAT) control requirements for this emissions unit has been determined to be the following:

i. implementation of a fugitive leak detection and repair program (LDAR) for all the miscellaneous process equipment associated with this emissions unit;

ii. the use of the natural gas-fired thermal oxidizers to control VOC at 98%; and

iii. maintain enclosures and vent all the emissions to the thermal oxidizers to ensure compliance.

BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.f** The permittee shall include the appropriate process equipment and regulated components in a site fugitive Leak Detection and Repair (LDAR) program. The LDAR program shall comply with the appropriate provisions (includes operational restrictions, monitoring and recordkeeping, reporting, and testing) of OAC rule 3745-21-09(DD) Leaks from process units that produce organic chemicals, and 40 CFR 60 Subpart VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry).

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

**Issued: To be entered upon final issuance**

1. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer''s recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

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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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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 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 date and time of the visible emissions check and 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. The permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70), in tons.

4. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetaldehyde
TLV ($mg/m^3$): 33.20
Maximum Hourly Emission Rate (lbs/hr): 0.40
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 61.20 (entire facility)
MAGLC ($ug/m^3$): 790

Pollutant: Formaldehyde
TLV ($mg/m^3$): 0.272
Maximum Hourly Emission Rate (lbs/hr): 0.48
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
MAGLC ($ug/m^3$): 6.47

5. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per

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ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of

Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution

Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

4. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. Emissions Limitation
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

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c. Emissions Limitation

Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

Applicable Compliance Method

Compliance shall be demonstrated through performance testing as described in Section E.2 below.

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d. Emissions Limitation
Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;
95.7 tons of $SO_2$ per rolling 12-month period;
11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

h. Emissions Limitation
Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

iv. demonstrate compliance with the allowable combined emissions rate for

PE and $PM_{10}$ of 2.6 lbs/hr;

v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

vii. verify the control efficiency (98% for VOC) of the thermal oxidizer.

c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content;
Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

**Issued: To be entered upon final issuance**

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.3, D.1 through D.3, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) combined.

Emissions Unit ID: **P006**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P006) - Fermentation and Beer Well (Liquefaction Tanks and Fermentation Tanks) controlled with a Scrubber**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Volatile organic compound (VOC) emissions shall not exceed 8.75 lbs/hr.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(DD) and 40 CFR Part 60, Subpart VV. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV and BAT) | VOC emissions shall not exceed 38.34 tons per rolling 12-month period.<br><br>Particulate emissions (PE) shall not exceed 0.66 ton per rolling 12-month period.<br><br>Emissions of particulate matter less than 10 microns in diameter ($PM_{10}$) shall not exceed 0.35 ton per rolling 12-month period.<br><br>Single HAP emissions shall not exceed 6.13 tons per rolling 12-month period.<br><br>Combined HAP emissions shall not exceed 6.30 tons per rolling 12-month period.<br><br>See Section A.2.b. |
| OAC rule 3745-17-07(A)(1) | Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity. |
| OAC rule 3745-17-11(B)(1) | PE shall not exceed 66.7 lbs/hr. |
| OAC rule 3745-21-09(DD) | See the requirements for emissions unit P801. |
| 40 CFR Part 60, Subpart VV | See the requirements for emissions unit P801. |

| | |
|---|---|
| ORC 3704.03(F) and OAC rule 3745-114-01 | See C.4, C.5 and D.4 below. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** Permit to Install 08-04878 for this air contaminant source takes into account the use of a wet scrubber, whenever this air contaminant source is in operation, with a minimum control efficiency of 98%, by weight for PE and $PM_{10}$ emissions, as a voluntary restriction as proposed by the permittee. This restriction allows the permittee to avoid Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

**2.c** The short term limitations of 8.75 lbs VOC/hr and 66.7 lbs PE/hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.d** Best available technology (BAT) control requirements for the VOC emissions from this emissions unit has been determined to be the following:

i. implementation of a fugitive leak detection and repair program (LDAR) for all the miscellaneous process equipment associated with this emissions unit; and

ii. a high efficiency wet scrubber ($CO_2$ scrubber) to control VOC at 98%.

BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.e** The permittee shall include the appropriate process equipment and regulated components in a site fugitive Leak Detection and Repair (LDAR) program. The LDAR program shall comply with the appropriate provisions (includes operational restrictions, monitoring and recordkeeping, reporting, and testing) of OAC rule 3745-21-09(DD) Leaks from process units that produce organic chemicals, and 40 CFR 60 Subpart VV (Standards of Performance for

Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry).

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## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the water flow rate, in gallons per minute, and the pressure drop across the scrubber, in inches of water, during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the water flow rate, in gallons per minute, and the pressure drop across the scrubber, in inches of water on a once per shift basis.

   Whenever the monitored value for the water flow rate and/or pressure drop 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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 values specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the water flow rate and pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. 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.

   The acceptable value for the pressure drop across the scrubber is the minimum scrubber pressure drop established during the most recent emission test that demonstrated the emissions unit to be in compliance or the minimum scrubber pressure drop recommended by the scrubber manufacturer until such testing is completed.

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The acceptable value for the water flow rate is 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.

These values are effective for the duration of this permit. In addition, approved revisions to the values 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 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 date and time of the visible emissions check and 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. The permittee shall maintain monthly records of the rolling, 12-month summation of VOC, PE, $PM_{10}$, single HAP and combined HAP emissions from this emissions unit, in tons.

4. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

   Pollutant: Acetaldehyde

Emissions Unit ID: **P006**

TLV (mg/$m^3$): 33.20
Maximum Hourly Emission Rate (lbs/hr): 1.40
Predicted 1-Hour Maximum Ground-Level Concentration (ug/$m^3$): 61.20 (entire facility)
MAGLC (ug/$m^3$): 790

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Pollutant: Formaldehyde
TLV ($mg/m^3$): 0.272

Maximum Hourly Emission Rate (lbs/hr): 0.013
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
MAGLC ($ug/m^3$): 6.47

5. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

   b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

   c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the scrubber water flow rate and pressure drop was not equal to the acceptable values;

   b. an identification of each incident of deviation described in (a) where a prompt

investigation was not conducted;

c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the scrubber water flow rate and pressure drop into compliance with the acceptable values, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total VOC, PE, $PM_{10}$, single HAP and combined HAP emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

4. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation</u>
VOC emissions shall not exceed 8.75 lbs/hr.

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Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

b. Emission Limitation
VOC emissions shall not exceed 38.34 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

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c. Emission Limitation
PE shall not exceed 66.7 lbs/hr.

Applicable Compliance Method
Compliance shall be determined using an emission factor provided by the permittee and inputs representing the Potential To Emit (PTE), as follows:

Emissions = (ethanol throughput) * (emission factor) / (8760 hrs/yr)
Emissions = (125.71 mmgal/yr) * (10.51 lbs/mmgal) / (8760 hrs/yr)
Emissions = 0.15 lb/hr

If required, compliance shall be demonstrated through emissions testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

d. Emission Limitation
PE shall not exceed 0.66 ton per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated using an emission factor provided by the permittee and inputs representing the Potential To Emit (PTE), as follows:

Emissions = (ethanol throughput) * (emission factor) / (2000 lbs/ton)
Emissions = (125.71 mmgal per rolling 12-month period) * (10.51 lbs/mmgal) / (2000 lbs/ton)
Emissions = 0.66 ton per rolling 12-month period

e. Emission Limitation
$PM_{10}$ emissions shall not exceed 0.35 ton per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated using an emission factor provided by the permittee and inputs representing the Potential To Emit (PTE), as follows:

Emissions = (ethanol throughput) * (emission factor) / (2000 lbs/ton)
Emissions = (125.71 mmgal per rolling 12-month period) * (5.55 lbs/mmgal) / (2000 lbs/ton)
Emissions = 0.35 ton per rolling 12-month period

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f. Emission Limitation

Single HAP emissions shall not exceed 6.13 tons per rolling 12-month period. Combined HAP emissions shall not exceed 6.30 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

g. Emission Limitation
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the allowable emissions rate for VOC of 8.75 lbs/hr;

ii. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

iii. verify the control efficiency (98% for VOC) of the scrubber.

c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations for VOC and HAPs:

Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses,

velocity and volumetric flow rates, gas analysis, and moisture content;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.iii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are

federally enforceable: Sections A, B, C.1 through C.3, D.1 through D.3, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 11.63 tons/yr decrease in VOC emissions and a 0.16 ton/yr decrease in single and combined HAP emissions for this emissions unit.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P007) - Distillation Process (Distillation Columns, Stillage, and Condensation Equipment) controlled with Recuperative Thermal Oxidizers**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B), 3745-21-09(DD), 3745-31-05(C) and 40 CFR Part 60, Subpart VV. |
| OAC rule 3745-17-07(A)(1); and<br>OAC rule 3745-17-10(B)(1) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-18-06 | See Section A.2.b below. |
| OAC rule 3745-21-08(B) | See Section A.2.c below. |

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| | |
|---|---|
| OAC rule 3745-21-09(DD) | See the requirements for emissions unit P801. |
| 40 CFR Part 60, Subpart VV | See the requirements for emissions unit P801. |
| ORC 3704.03(F) and OAC rule 3745-114-01 | See C.4, C.5 and D.4 below. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the

requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

**2.d** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr and 2.6 lb PE and $PM_{10}$/hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.e** Best available technology (BAT) control requirements for this emissions unit has been determined to be the following:

i. implementation of a fugitive leak detection and repair program (LDAR) for all the miscellaneous process equipment associated with this emissions unit;

ii. the use of the natural gas-fired thermal oxidizers to control VOC at 98%; and

iii. maintain enclosures and vent all the emissions to the thermal oxidizers to ensure compliance.

BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.f** The permittee shall include the appropriate process equipment and regulated components in a site fugitive Leak Detection and Repair (LDAR) program. The LDAR program shall comply with the appropriate provisions (includes operational restrictions, monitoring and recordkeeping, reporting, and testing) of OAC rule 3745-21-09(DD) Leaks from process units that produce organic chemicals, and 40 CFR 60 Subpart VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry).

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

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1. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer''s recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

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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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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 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 date and time of the visible emissions check and 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. The permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70), in tons.

4. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetaldehyde
TLV ($mg/m^3$): 33.20
Maximum Hourly Emission Rate (lbs/hr): 0.40
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 61.20 (entire facility)
MAGLC ($ug/m^3$): 790

Pollutant: Formaldehyde
TLV ($mg/m^3$): 0.272
Maximum Hourly Emission Rate (lbs/hr): 0.48
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
MAGLC ($ug/m^3$): 6.47

5. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per

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ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of

Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution

Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

4. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. Emissions Limitation
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

Emissions Unit ID: **P007**

c. Emissions Limitation

Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

Applicable Compliance Method

Compliance shall be demonstrated through performance testing as described in Section E.2 below.

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d. Emissions Limitation
Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;
95.7 tons of $SO_2$ per rolling 12-month period;
11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

h. Emissions Limitation
Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

iv. demonstrate compliance with the allowable combined emissions rate for

PE and $PM_{10}$ of 2.6 lbs/hr;

v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

vii. verify the control efficiency (98% for VOC) of the thermal oxidizer.

c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content;
Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

**Issued: To be entered upon final issuance**

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.3, D.1 through D.3, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) combined.

Emissions Unit ID: **P008**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P008) - 45 mmBtu/hr DDGS Dryer No. 1 controlled with a Recuperative Thermal Oxidizer**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B) and 3745-31-05(C). |
| OAC rule 3745-17-07(A)(1); and<br>OAC rule 3745-17-10(B)(1) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-18-06 | See Section A.2.b below. |
| OAC rule 3745-21-08(B) | See Section A.2.c below. |
| ORC 3704.03(F) and<br>OAC rule 3745-114-01 | See C.5, C.6 and D.5 below. |

| | |
|---|---|
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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**2.d** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr and 2.6 lb PE and $PM_{10}$/hr were established for PTI purposes to

reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.e** Best available technology (BAT) control requirements for this emissions unit has been determined to be the following:

i. the use of the natural gas-fired thermal oxidizers to control VOC at 98%; and

ii. maintain enclosures and vent all the emissions to the thermal oxidizers to ensure compliance.

BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

## B. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

## C. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

2. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer''s recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

   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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who

conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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.

3. 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 date and time of the visible emissions check and 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.

4. The permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70), in tons.

5. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetaldehyde
TLV ($mg/m^3$): 33.20
Maximum Hourly Emission Rate (lbs/hr): 0.40
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 61.20 (entire facility)
MAGLC ($ug/m^3$): 790

Pollutant: Formaldehyde
TLV ($mg/m^3$): 0.272
Maximum Hourly Emission Rate (lbs/hr): 0.48
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
MAGLC ($ug/m^3$): 6.47

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to the Regional Air Pollution Control Agency within 30 days after the deviation occurs.

2. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

4. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack

S70) for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

5. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. Emissions Limitation
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

   c. Emissions Limitation
   Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

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d. Emissions Limitation

Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method

Compliance shall be demonstrated through performance testing as described in Section E.2 below.

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e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;
95.7 tons of $SO_2$ per rolling 12-month period;
11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

h. Emissions Limitation
Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

   b. The emission testing shall be conducted to:

      i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

      ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

      iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

      iv. demonstrate compliance with the allowable combined emissions rate for PE and $PM_{10}$ of 2.6 lbs/hr;

      v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

      vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

      vii. verify the control efficiency (98% for VOC) of the thermal oxidizer.

   c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

      Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses,

velocity and volumetric flow rates, gas analysis, and moisture content;
Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.4, D.1 through D.4, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) combined.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment - (P009) - 45 mmBtu/hr DDGS Dryer No. 2 controlled with a Recuperative Thermal Oxidizer**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B) and 3745-31-05(C). |
| OAC rule 3745-17-07(A)(1); and<br>OAC rule 3745-17-10(B)(1) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-18-06 | See Section A.2.b below. |
| OAC rule 3745-21-08(B) | See Section A.2.c below. |

| | |
|---|---|
| ORC 3704.03(F) and OAC rule 3745-114-01 | See C.5, C.6 and D.5 below. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating

practices" still exists as part of the federally-approved SIP for Ohio.

**2.d** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr and 2.6 lb PE and $PM_{10}$/hr were established for PTI purposes to

reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.e** Best available technology (BAT) control requirements for this emissions unit has been determined to be the following:

i. the use of the natural gas-fired thermal oxidizers to control VOC at 98%; and

ii. maintain enclosures and vent all the emissions to the thermal oxidizers to ensure compliance.

BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

## B. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

## C. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

2. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer''s recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

   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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who

conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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.

3. 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 date and time of the visible emissions check and 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.

4. The permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70), in tons.

5. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetaldehyde
TLV ($mg/m^3$): 33.20
Maximum Hourly Emission Rate (lbs/hr): 0.40
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 61.20 (entire facility)
MAGLC ($ug/m^3$): 790

Pollutant: Formaldehyde
TLV ($mg/m^3$): 0.272
Maximum Hourly Emission Rate (lbs/hr): 0.48
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
MAGLC ($ug/m^3$): 6.47

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

Emissions Unit ID: **P009**

## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to the Regional Air Pollution Control Agency within 30 days after the deviation occurs.

2. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

4. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) for the previous calendar year. This report shall be submitted by April 15 of each

year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

5. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. Emissions Limitation
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

   c. Emissions Limitation
   Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

d. Emissions Limitation

Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method

Compliance shall be demonstrated through performance testing as described in Section E.2 below.

Emissions Unit ID: **P009**

e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;
95.7 tons of $SO_2$ per rolling 12-month period;
11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

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h. Emissions Limitation
Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

   b. The emission testing shall be conducted to:

      i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

      ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

      iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

      iv. demonstrate compliance with the allowable combined emissions rate for PE and $PM_{10}$ of 2.6 lbs/hr;

      v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

      vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

      vii. verify the control efficiency (98% for VOC) of the thermal oxidizer.

   c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

      Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses,

velocity and volumetric flow rates, gas analysis, and moisture content;
Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.4, D.1 through D.4, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) combined.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P010) - 45 mmBtu/hr DDGS Dryer No. 3 controlled with a Recuperative Thermal Oxidizer**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B) and 3745-31-05(C). |
| OAC rule 3745-17-07(A)(1); and<br>OAC rule 3745-17-10(B)(1) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-18-06 | See Section A.2.b below. |
| OAC rule 3745-21-08(B) | See Section A.2.c below. |

Emissions Unit ID: **P010**

| | |
|---|---|
| ORC 3704.03(F) and OAC rule 3745-114-01 | See C.5, C.6 and D.5 below. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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**2.d** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr and 2.6 lb PE and $PM_{10}$/hr were established for PTI purposes to

reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.e** Best available technology (BAT) control requirements for this emissions unit has been determined to be the following:

i. the use of the natural gas-fired thermal oxidizers to control VOC at 98%; and

ii. maintain enclosures and vent all the emissions to the thermal oxidizers to ensure compliance.

BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

## B. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

## C. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

2. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer''s recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

   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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who

conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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.

3. 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 date and time of the visible emissions check and 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.

4. The permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70), in tons.

5. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetaldehyde
TLV ($mg/m^3$): 33.20
Maximum Hourly Emission Rate (lbs/hr): 0.40
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 61.20 (entire facility)
MAGLC ($ug/m^3$): 790

Pollutant: Formaldehyde
TLV ($mg/m^3$): 0.272
Maximum Hourly Emission Rate (lbs/hr): 0.48
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
MAGLC ($ug/m^3$): 6.47

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

Emissions Unit ID: **P010**

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to the Regional Air Pollution Control Agency within 30 days after the deviation occurs.

2. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

4. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack

S70) for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

5. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. Emissions Limitation
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

   c. Emissions Limitation
   Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in

Section E.2 below.

d. Emissions Limitation

Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method

Compliance shall be demonstrated through performance testing as described in Section E.2 below.

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e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;
95.7 tons of $SO_2$ per rolling 12-month period;
11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

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h. Emissions Limitation
Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

   b. The emission testing shall be conducted to:

      i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

      ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

      iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

      iv. demonstrate compliance with the allowable combined emissions rate for PE and $PM_{10}$ of 2.6 lbs/hr;

      v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

      vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

      vii. verify the control efficiency (98% for VOC) of the thermal oxidizer.

   c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

      Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses,

velocity and volumetric flow rates, gas analysis, and moisture content;
Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.4, D.1 through D.4, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) combined.

Emissions Unit ID: **P011**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment - (P011) - 45 mmBtu/hr DDGS Dryer No. 4 controlled with a Recuperative Thermal Oxidizer**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B) and 3745-31-05(C). |
| OAC rule 3745-17-07(A)(1); and<br>OAC rule 3745-17-10(B)(1) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-18-06 | See Section A.2.b below. |
| OAC rule 3745-21-08(B) | See Section A.2.c below. |
| ORC 3704.03(F) and<br>OAC rule 3745-114-01 | See C.5, C.6 and D.5 below. |

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| | |
|---|---|
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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**2.d** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr and 2.6 lb PE and $PM_{10}$/hr were established for PTI purposes to

reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.e** Best available technology (BAT) control requirements for this emissions unit has been determined to be the following:

i. the use of the natural gas-fired thermal oxidizers to control VOC at 98%; and

ii. maintain enclosures and vent all the emissions to the thermal oxidizers to ensure compliance.

BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

## B. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

## C. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

2. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer''s recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

   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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who

conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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.

3. 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 date and time of the visible emissions check and 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.

4. The permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70), in tons.

5. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetaldehyde
TLV ($mg/m^3$): 33.20
Maximum Hourly Emission Rate (lbs/hr): 0.40
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 61.20 (entire facility)
MAGLC ($ug/m^3$): 790

Pollutant: Formaldehyde
TLV ($mg/m^3$): 0.272
Maximum Hourly Emission Rate (lbs/hr): 0.48
Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
MAGLC ($ug/m^3$): 6.47

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to the Regional Air Pollution Control Agency within 30 days after the deviation occurs.

2. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

4. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack

S70) for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

5. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. Emissions Limitation
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

   c. Emissions Limitation
   Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

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d. Emissions Limitation

Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method

Compliance shall be demonstrated through performance testing as described in Section E.2 below.

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e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;
95.7 tons of $SO_2$ per rolling 12-month period;
11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

h. Emissions Limitation
Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

   b. The emission testing shall be conducted to:

      i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

      ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

      iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

      iv. demonstrate compliance with the allowable combined emissions rate for PE and $PM_{10}$ of 2.6 lbs/hr;

      v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

      vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

      vii. verify the control efficiency (98% for VOC) of the thermal oxidizer.

   c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

      Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses,

velocity and volumetric flow rates, gas analysis, and moisture content;
Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.4, D.1 through D.4, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) combined.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P012) - Cooling Towers**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$) shall not exceed 3.13 lbs/hr.<br><br>Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a 6-minute average, except as provided by rule.<br><br>See Section B.1 below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07(B). |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | PE and $PM_{10}$ emissions shall not exceed 13.7 tons per rolling 12-month period. |
| OAC rule 3745-17-07(A)(1); and<br>OAC rule 3745-17-11(B)(1) | The emissions limitation specified by these rules are less stringent than the emissions limitations established pursuant to OAC rule 3745-31-05(A)(3). |

### 2. Additional Terms and Conditions

**2.a** The Best Available Technology (BAT) control requirements for this emissions unit has been determined to be use of high efficiency drift eliminators. BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.b** The short term limitations of 3.13 lbs PE/hr and 3.13 lbs $PM_{10}$/hr were established for PTI purposes to reflect the potential to emit for this emissions

unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with this emissions limitation.

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## B. Operational Restrictions

1. The total dissolved solids content of the circulating cooling tower water shall not exceed 2,500 parts per million (ppm).

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall monitor the total dissolved solids content of the circulating cooling water on a monthly basis. The permittee shall maintain monthly records of the total dissolved solids content, in ppm.

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 date and time of the visible emissions check and 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 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 visible emissions.

3. The permittee shall maintain monthly records of the rolling, 12-month summation of PE and $PM_{10}$ emissions from this emissions unit, in tons.

## D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports to the Regional Air Pollution Control Agency which identify any exceedances of the total dissolved solids content listed in Section B.1 above. These reports shall be submitted to the Regional Air Pollution Control Agency in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, Section A of this permit.

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2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total PE and $PM_{10}$ emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of the terms and conditions of this permit shall be determined in accordance with the following method:

   a. Emission Limitation
   PE and $PM_{10}$ emissions shall not exceed 3.13 lbs/hr.

   Applicable Compliance Method
   Compliance shall be determined by multiplying the maximum circulating water flow (3,000,000 gal/hr) by the density of water (8.34 lb/gal), the percent drift (0.005%), and the maximum total dissolved solids concentration (2,500 lb solids/1,000,000 lbs water). If required, the permittee shall submit a testing proposal which will demonstrate that the maximum drift loss does not exceed 0.005 percent. Also, if required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 5, or an alternative U.S. EPA approved method.

   b. Emission Limitation
   PE and $PM_{10}$ emissions shall not exceed 13.7 tons per rolling 12-month period.

   Applicable Compliance Method
   Compliance shall be based upon the record keeping requirements in Sections C.1 and C.3 above and shall be calculated by multiplying the maximum circulating water flow (3,000,000 gal/hr) by the density of water (8.34 lb/gal), the percent drift (0.005%), the total dissolved solids concentration (ppm, as determined in Section C.1), and the number of hours operated during the month and divided by 1,000,000 and 2,000 lbs/ton.

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c. Emission Limitation
Visible PE shall not exceed 10% opacity, as a six minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

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## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent no change in emissions for this emissions unit; there was no modification to this emissions unit.

Emissions Unit ID: **P013**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment - (P013) - Methanators vented to DDGS Dryer Numbers 1 and 3 (P008 and P010) or to a Flare**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B), 3745-21-09(DD), 3745-31-05(C) and 40 CFR Part 60, Subpart VV. |
| OAC rule 3745-17-07(A)(1); and<br>OAC rule 3745-17-10(B)(1) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-18-06 | See Section A.2.c below. |
| OAC rule 3745-21-08(B) | See Section A.2.d below. |
| OAC rule 3745-21-09(DD) | See the requirements for emissions unit P801. |

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| | |
|---|---|
| 40 CFR Part 60, Subpart VV | See the requirements for emissions unit P801. |
| ORC 3704.03(F) and OAC rule 3745-114-01 | See C.7, C.8 and D.6 below. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** Emissions from this emissions unit are typically vented to DDGS Dryers Numbers 1 (P008) and 3 (P010). If the dryers are not operating, emissions from this emissions unit are vented to a flare. The worst-case emissions scenario is when this emissions unit vents to the dryers; therefore, no emissions limitations are necessary when the emissions unit vents to the flare.

**2.b** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.c** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.d** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

**2.e** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr and 2.6 lb PE and $PM_{10}$/hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.f** Best available technology (BAT) control requirements for this emissions unit has been determined to be the following:

i. implementation of a fugitive leak detection and repair program (LDAR) for all the miscellaneous process equipment associated with this emissions unit;

ii. the use of the natural gas-fired thermal oxidizers to control VOC at 98% (or when this emissions unit is not vented to the thermal oxidizers, it will be vented to the flare to control VOC at 98%); and

iii. maintain enclosures and vent all the emissions to the thermal oxidizers to ensure compliance.

BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

**2.g** The permittee shall include the appropriate process equipment and regulated components in a site fugitive Leak Detection and Repair (LDAR) program. The LDAR program shall comply with the appropriate provisions (includes operational restrictions, monitoring and recordkeeping, reporting, and testing) of OAC rule 3745-21-09(DD) Leaks from process units that produce organic chemicals, and 40 CFR 60 Subpart VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing

Industry).

**2.h** The flare shall meet the following requirements:

i. the flare shall be designed for and operated with no visible emissions except for periods not to exceed a total of five minutes during any one hundred twenty consecutive minutes; and

ii. the flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

## B. Operational Restrictions

1. The flare associated with this emissions unit shall combust only biomethanator off-gases and shall operate only when the DDGS Dryers Numbers 1 (P008) and 3 (P010) are not operating.

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer"s recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

   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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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 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 date and time of the visible emissions check and 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. The permittee shall maintain monthly records of each start-up time and shut-down time of the flare associated with this emission unit and shall specify the total down time, the shut-down time and start-up time of Dryers 1 (P008) and 3 (P010).

4. For each day during which the permittee burns a fuel other than biomethanator off-gases in this emissions unit, the permittee shall maintain a record of the type and quantity of fuel burned.

5. The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design.

6. The permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70), in tons.

7. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

   Pollutant: Acetaldehyde
   TLV ($mg/m^3$): 33.20
   Maximum Hourly Emission Rate (lbs/hr): 0.40
   Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 61.20 (entire facility)
   MAGLC ($ug/m^3$): 790

   Pollutant: Formaldehyde
   TLV ($mg/m^3$): 0.272
   Maximum Hourly Emission Rate (lbs/hr): 0.48
   Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 5.05 (entire facility)
   MAGLC ($ug/m^3$): 6.47

8. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify:

   a. the start-up time and shut-down time of the flare associated with this emission unit and the total down time, the shut-down time and start-up time of Dryers 1 (P008) and 3 (P010).

   b. any period of time when the flare associated with this emissions unit was operated while the Dryers 1 (P008) and 3 (P010) were operational.

The permittee shall also identify any corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 or each year.

4. The permittee shall submit deviation (excursion) reports to the Regional Air Pollution Control Agency that identify each day when a fuel other than biomethanator off-gases

was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

5. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

6. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. Emissions Limitation
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

Emissions Unit ID: **P013**

c. Emissions Limitation
Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

d. Emissions Limitation
Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;
95.7 tons of $SO_2$ per rolling 12-month period;
11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.6 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented

to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.6 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

h. Emissions Limitation
Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

iv. demonstrate compliance with the allowable combined emissions rate for

PE and $PM_{10}$ of 2.6 lbs/hr;

v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

vii. verify the control efficiency (98% for VOC) of the thermal oxidizer.

c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content;
Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

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f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.6, D.1 through D.5, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) combined.

Emissions Unit ID: **P014**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P014) - Emergency Fire Water Pump powered by 300 hp Diesel-fired Engine**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-17-07(A)(1) | Visible particulate emissions (PE) from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity. |
| OAC rule 3745-17-11(B)(5)(a) | PE shall not exceed 0.25 lb/mmBtu.<br><br>See Section A.2.a. |
| OAC rule 3745-17-11(B)(5)(a) | PE shall not exceed 0.310 lb/mmBtu<br><br>See Section A.2.b. |
| OAC rule 3745-18-06(G) | See Section A.2.c. |
| OAC rule 3745-21-08(B) | CO emissions shall not exceed 0.0006 lb/hp-hr.<br><br>See Section A.2.d. |
| OAC rule 3745-31-05(A)(3)(b) | See Section A.2.e. |
| 40 CFR Part 60 Subpart IIII | See Section A.2.f. |

### 2. Additional Terms and Conditions

**2.a** This limitation reflects the current State Implementation Plan (SIP) for Ohio approved by the U.S. EPA. Ohio EPA has requested that the limitation be modified to 0.310 lb PE/mmBtu of actual heat input but the new limitation will not become effective until it is approved by U.S. EPA as a revision to the Ohio SIP for particulate matter.

**2.b** This particulate emission limitation shall be effective and federally enforceable on the date the U.S. EPA approves this particulate emission limitation as a revision to the Ohio SIP for particulate matter.

**2.c** This emissions unit is exempt from the requirements of OAC rule 3745-18-06(G) in accordance with OAC rule 3745-18-06(B).

**2.d** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the emissions limitations established pursuant to OAC rule 3745-21-08(B).

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

**2.e** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled emissions from this air contaminant source since the potential to emit is less than ten tons per year.

**2.f** This emissions unit is subject to 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The permittee shall comply with all applicable requirements of 40 CFR Part 60, Subpart IIII. The permittee shall also comply with all applicable requirements of 40 CFR Part 60, Subpart A (General Provisions) as identified in Table 8 of 40 CFR Part 60, Subpart IIII.

**2.g** The short term limitations of 0.25 lb PE/mmBtu, 0.310 lb PE/mmBtu, and 0.0006 lb CO/hp-hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

## B. Operational Restrictions

1. The permittee shall only burn No. 2 oil or diesel fuel with a sulfur content of 0.5% or less in this emissions unit.

## C. Monitoring and/or Recordkeeping Requirements

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1. The permittee shall maintain monthly records of the type and quantity of fuel and the sulfur content of the fuel burned in this emissions unit. For each day during which the permittee burns a fuel other than No. 2 oil or diesel fuel in this emissions unit, the permittee shall maintain a record of the type and quantity of fuel burned.

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 date and time of the visible emissions check and 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.

## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports to the Regional Air Pollution Control Agency that identify each day when a fuel other than No. 2 Oil or diesel fuel and/or the sulfur content of the fuel was above 0.5% was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$ and VOC emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year.

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This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of the terms and conditions of this permit shall be determined in accordance with the following methods:

   a. Emissions Limitation
   PE shall not exceed 0.25 lb/mmBtu.
   PE shall not exceed 0.310 lb/mmBtu.

Applicable Compliance Method
Compliance shall be determined using the following calculation:

(0.0002 lb PE/hp-hr) * (300 hp) * (1,000,000 Btu/mmBtu) / (15.32 gals/hr) / 137,000 Btu/gal) = 0.0285 lb/mmBtu (heat input)

where:
0.0002 lb PE/hp-hr output is the engine manufacturer-provided emissions factor.

300 hp is the maximum engine power output.
15.32 gals/hr is the maximum rated fuel usage.
137,000 Btu/gal is the heat content of diesel fuel.

If required, compliance shall be demonstrated through emissions testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

b. Emissions Limitation
CO emissions shall not exceed 0.0006 lb/hp-hr.

Applicable Compliance Method
The emissions limitation is based upon the engine manufacturer-provided emissions factor of 0.0006 lb CO/hp-hr. Compliance with this emissions limitation is based on the emission factor of 0.0006 lb CO/hp-hr.

If required, compliance shall be demonstrated through emissions testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.

c. Emissions Limitation
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## F. Miscellaneous Requirements

1. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent no change in emissions for this emissions unit.

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**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P801) - Fugitive VOC Emissions (Leaks)**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV and BAT) | Volatile Organic Compound (VOC) emissions shall not exceed 8.85 tons per rolling 12-month period.<br><br>See Section A.2.b. |
| OAC rule 3745-21-09(DD) | See Section A.2.c and A.2.d below. |
| 40 CFR Part 60, Subpart VV | See Section F.3 below. |

### 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** Permit to Install 08-04773 for this air contaminant source takes into account the use of a Leak Detection and Repair (LDAR) program, whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee. This restriction allows the permittee to avoid Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

**2.c** The permittee shall include the appropriate process equipment and regulated components in a Leak Detection and Repair (LDAR) program. The LDAR program shall comply with the appropriate provisions (including operational restrictions, monitoring and recordkeeping, reporting, and testing) of OAC rule 3745-21-09(DD) (Leaks from Process Units that Produce Organic Chemicals) and 40 CFR Part 60, Subpart VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry). In the case of overlapping provisions, the permittee shall comply with the more stringent requirement.

**2.d** Within 180 days of the start up of this emissions unit, the permittee shall develop a facility LDAR program. 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, reporting, and testing) of OAC rule 3745-21-09(DD) and 40 CFR Part 60, Subpart VV.

## B. Operational Restrictions

1. See Section F.3 below for the requirements of 40 CFR Part 60, Subpart VV.

## C. Monitoring and/or Recordkeeping Requirements

1. See Section F.3 below for the requirements of 40 CFR Part 60, Subpart VV.

2. The permittee shall maintain monthly records of the rolling, 12-month summation of VOC emissions from this emissions unit, in tons.

## D. Reporting Requirements

1. See Section F.3 below for the requirements of 40 CFR Part 60, Subpart VV.

2. The permittee shall submit annual reports which specify the total VOC emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of the terms and conditions of this permit shall be determined in accordance with the following methods:

   a. Emissions Limitation
   VOC emissions shall not exceed 8.85 tons per rolling 12-month period.

   Applicable Compliance Method
   Compliance shall be based upon the record keeping requirements in Section C.2 above and shall be calculated using the estimated component count based on similar ethanol plants and emission factors from 'Protocol for Equipment Leak

Emission Estimates', EPA-453/R-95-017, Table 5-2. No testing is specifically required by this permit but, if appropriate, 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.

2. See Section F.3 below for the requirements of 40 CFR Part 60, Subpart VV.

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## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent no change in emissions for this emissions unit; there was no modification to this emissions unit.

3. 40 CFR Part 60, Subpart VV—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

**§ 60.480 Applicability and designation of affected facility.**

(a) (1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.

(2) The group of all equipment (defined in §60.481) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction or modification after January 5, 1981, shall be subject to the requirements of this subpart.

(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d) (1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the owner or operator shall maintain records as required in §60.486(i).

(2) Any affected facility that has the design capacity to produce less than 1,000 Mg/yr (1,102 ton/yr) is exempt from §60.482.

(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from §60.482.

(4) Any affected facility that produces beverage alcohol is exempt from §60.482.

(5) Any affected facility that has no equipment in VOC service is exempt from

§60.482.

(e) *Alternative means of compliance*—(1) *Option to comply with part 65.* Owners or operators may choose to comply with the provisions of 40 CFR part 65, subpart F, to satisfy the requirements of §§60.482 through 60.487 for an affected facility. When choosing to comply with 40 CFR part 65, subpart F, the requirements of §60.485(d), (e), and (f), and §60.486(i) and (j) still apply. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart F must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 65, subpart F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart F, must comply with 40 CFR part 65, subpart A.

**§ 60.481 Definitions.**

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of part 60, and the following terms shall have the specific meanings given them.

*Capital expenditure* means, in addition to the definition in 40 CFR 60.2, an expenditure for a physical or operational change to an existing facility that:

(a) Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation: P = R × A, where

(1) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, divided by 100 as reflected by the following equation:

A = Y × (B ÷ 100);

(2) The percent Y is determined from the following equation: Y = 1.0 −- 0.575 log X, where X is 1982 minus the year of construction; and

(3) The applicable basic annual asset guideline repair allowance, B, is selected from the following table consistent with the applicable subpart:

Table for Determining Applicable for B

| Subpart applicable to facility | Value of B to be used in equation |
|---|---|
| VV | 12.5 |
| DDD | 12.5 |
| GGG | 7.0 |
| KKK | 4.5 |

*Closed vent system* means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

*Connector* means flanged, screwed, welded, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment.

*Control device* means an enclosed combustion device, vapor recovery system, or flare.
*Distance piece* means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

*Double block and bleed system* means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

*Duct work* means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

*Equipment* means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart.

*First attempt at repair* means to take rapid action for the purpose of stopping or reducing leakage of organic material to atmosphere using best practices.

*Fuel gas* means gases that are combusted to derive useful work or heat.

*Fuel gas system* means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

*Hard-piping* means pipe or tubing that is manufactured and properly installed using good engineering judgement and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, PO Box 2900, Fairfield, NJ 07007–2900).

*In gas/vapor service* means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

*In heavy liquid service* means that the piece of equipment is not in gas/vapor service or in light liquid service.

*In light liquid service* means that the piece of equipment contains a liquid that meets the conditions specified in §60.485(e).

*In-situ sampling systems* means nonextractive samplers or in-line samplers.

*In vacuum service* means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa)(0.7 psia) below ambient pressure.

*In VOC service* means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of §60.485(d) specify how to determine that a piece of equipment is not in VOC service.)

*Liquids dripping* means any visible leakage from the seal including spraying, misting, clouding, and ice formation.

*Open-ended valve or line* means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

*Pressure release* means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

*Process improvement* means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.

*Process unit* means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in §60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

*Process unit shutdown* means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

*Quarter* means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.

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*Repaired* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.

*Replacement cost* means the capital needed to purchase all the depreciable components in a facility.

*Sampling connection system* means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

*Sensor* means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

*Synthetic organic chemicals manufacturing industry* means the industry that produces, as intermediates or final products, one or more of the chemicals listed in §60.489.

*Volatile organic compounds* or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in §60.2 Definitions.

**§ 60.482-1 Standards: General.**

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§60.482–1 through 60.482–10 or §60.480(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§60.482–1 to 60.482–10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485.

(c) (1) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482–2, 60.482–3, 60.482–5, 60.482–6, 60.482–7, 60.482–8, and 60.482–10 as provided in §60.484.
(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§60.482–2, 60.482–3, 60.482–5, 60.482–6, 60.482–7, 60.482–8, or 60.482–10, an owner or operator shall comply with the requirements of that determination.

(d) Equipment that is in vacuum service is excluded from the requirements of

§§60.482–2 to 60.482–10 if it is identified as required in §60.486(e)(5).

**§ 60.482-2 Standards: Pumps in light liquid service.**

**Issued: To be entered upon final issuance**

(a) (1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485(b), except as provided in §60.482–1(c) and paragraphs (d), (e), and (f) of this section.
(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b) (1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), *Provided* the following requirements are met:

(1) Each dual mechanical seal system is—
(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or
(ii) Equipment with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10; or
(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.
(2) The barrier fluid system is in heavy liquid service or is not in VOC service.
(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.
(4) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.
(5) (i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm, and
(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.
(6) (i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or

both based on the criterion determined in paragraph (d)(5)(ii), a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.

(iii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in §60.486(e)(1) and (2), for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:
(1) Has no externally actuated shaft penetrating the pump housing,
(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §60.485(c), and
(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §60.482–10, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in §60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:
(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and
(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

**§ 60.482-3 Standards: Compressors.**

**Issued: To be entered upon final issuance**

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in §60.482–1(c) and paragraph (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) shall be:
(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or
(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10; or
(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e) (1) Each sensor as required in paragraph (d) shall be checked daily or shall be equipped with an audible alarm.
(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.

(g) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §60.482–10, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in §60.486(e) (1) and (2), for

no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a)–(h) if the compressor:
(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in §60.485(c); and
(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of §60.14 or §60.15 is exempt from §60.482(a), (b), (c), (d), (e), and (h), provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.

**§ 60.482-4 Standards: Pressure relief devices in gas/vapor service.**

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485(c).

(b) (1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482–9.
(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482–10 is exempted from the requirements of paragraphs (a) and (b) of this section.

(d) (1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the

requirements in paragraph (d)(2) of this section.
(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §60.482–9.

**§ 60.482-5 Standards: Sampling connection systems.**

(a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in §60.482–1(c). Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section:
(1) Return the purged process fluid directly to the process line; or
(2) Collect and recycle the purged process fluid to a process; or
(3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of §60.482–10; or
(4) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(i) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to, and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;
(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or
(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

**§ 60.482-6 Standards: Open-ended valves or lines.**

(a) (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §60.482–1(c).
(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the

open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

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**§ 60.482-7 Standards: Valves in gas/vapor service and in light liquid service.**

(a) Each valve shall be monitored monthly to detect leaks by the methods specified in §60.485(b) and shall comply with paragraphs (b) through (e), except as provided in paragraphs (f), (g), and (h), §60.483–1, 2, and §60.482–1(c).

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) (1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.
(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d) (1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §60.482–9.
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:
(1) Tightening of bonnet bolts;
(2) Replacement of bonnet bolts;
(3) Tightening of packing gland nuts;
(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in §60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) if the valve:
(1) Has no external actuating mechanism in contact with the process fluid,
(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in §60.485(c), and
(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in §60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) if:
(1) The owner or operator of the valve demonstrates that the valve is unsafe to

monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and
(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in §60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) if:
(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.
(2) The process unit within which the valve is located either becomes an affected facility through §60.14 or §60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and
(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

**§ 60.482-8 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.**

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures:
(1) The owner or operator shall monitor the equipment within 5 days by the method specified in §60.485(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.
(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.
(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §60.482–7(e).

**§ 60.482-9 Standards: Delay of repair.**

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.

(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves will be allowed if:
(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and
(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482–10.

(d) Delay of repair for pumps will be allowed if:
(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and
(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

**§ 60.482-10 Standards: Closed vent systems and control devices.**

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.

(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of §60.18.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.
(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section:

(i) Conduct an initial inspection according to the procedures in §60.485(b); and
(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in §60.485(b); and
(ii) Conduct annual inspections according to the procedures in §60.485(b).

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.
(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.
(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (j)(2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and
(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (k)(3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and
(2) The process unit within which the closed vent system is located becomes an affected facility through §§60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and
(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (l)(5) of this section.
(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.
(3) For each inspection during which a leak is detected, a record of the information specified in §60.486(c).
(4) For each inspection conducted in accordance with §60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.
(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

**§ 60.483-1 Alternative standards for valves—allowable percentage of valves leaking.**

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:
(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in §60.487(d).
(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.
(3) If a valve leak is detected, it shall be repaired in accordance with §60.482–7(d) and (e).

(c) Performance tests shall be conducted in the following manner:
(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in §60.485(b).
(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent.

**§ 60.483-2 Alternative standards for valves—skip period leak detection and repair.**

(a) (1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.
(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in §60.487(d).

(b) (1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in §60.482–7.
(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light

liquid service.
(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in §60.482–7 but can again elect to use this section.
(5) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.
(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

**§ 60.484 Equivalence of means of emission limitation.**

(a) Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

(b) Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:
(1) Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.
(2) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.
(3) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:
(1) Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.
(2) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.
(3) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission

limitation shall be demonstrated.

(4) Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

(5) The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4).

(6) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

(e) (1) After a request for determination of equivalence is received, the Administrator will publish a notice in the Federal Register and provide the opportunity for public hearing if the Administrator judges that the request may be approved.
(2) After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the Federal Register.
(3) Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the Clean Air Act.

(f) (1) Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.
(2) The Administrator will make an equivalence determination according to the provisions of paragraphs (b), (c), (d), and (e) of this section.

**§ 60.485 Test methods and procedures.**

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§60.482, 60.483, and 60.484 as follows:
(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and
(ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

(c) The owner or operator shall determine compliance with the no detectable

emission standards in §§60.482–2(e), 60.482–3(i), 60.482–4, 60.482–7(f), and 60.482–10(e) as follows:

(1) The requirements of paragraph (b) shall apply.
(2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:
(1) Procedures that conform to the general methods in ASTM E260–73, 91, or 96, E168–67, 77, or 92, E169–63, 77, or 93 (incorporated by reference—see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.
(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.
(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d) (1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply:
(1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. $H_2O$ at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.
(2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. $H_2O$ at 68 °F) is equal to or greater than 20 percent by weight.
(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:
(1) Method 22 shall be used to determine visible emissions.
(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.
(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$$V_{max} = K_1 + K_2 H_T$$

Where:
$V_{max}$ = Maximum ermitted velocity, m/sec (ft/sec)
$H_T$ = Net heating value of the gas being combusted, MJ/scm (Btu/scf).
$K_1$ = 8.706 m/sec (metric units)
= 28.56 ft/sec (English units)
$K_2$ = 0.7084 $m^4$ /(MJ-sec) (metric units)
= 0.087 $ft^4$ /(Btu-sec) (English units)
(4) The net heating value (HT) of the gas being combusted in a flare shall be computed using the following equation:

$$H_r = K \sum_{i=1}^{n} C_i H_i$$

Where:
K = Conversion constant, 1.740 × $10^7$ (g-mole)(MJ)/ (ppm-scm-kcal) (metric units)
= 4.674 × $10^8$ [(g-mole)(Btu)/(ppm-scf-kcal)] (English units)
$C_i$ = Concentration of sample component "i," ppm
$H_i$ = net heat of combustion of sample component "i" at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole
(5) Method 18 and ASTM D2504–67, 77, or 88 (Reapproved 1993) (incorporated by reference—see §60.17) shall be used to determine the concentration of sample component "i."
(6) ASTM D2382–76 or 88 or D4809–95 (incorporated by reference—see §60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.
(7) Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

**§ 60.486 Recordkeeping requirements.**

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(a) (1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.
(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following requirements apply:
(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.
(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482–7(c) and no leak has been detected during those 2 months.
(3) The identification on equipment except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:
(1) The instrument and operator identification numbers and the equipment identification number.
(2) The date the leak was detected and the dates of each attempt to repair the leak.
(3) Repair methods applied in each attempt to repair the leak.
(4) "Above 10,000" if the maximum instrument reading measured by the methods specified in §60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.
(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.
(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.
(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.
(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in §60.482–10 shall be recorded and kept in a readily accessible location:
(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.
(2) The dates and descriptions of any changes in the design specifications.
(3) A description of the parameter or parameters monitored, as required in §60.482–10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.
(4) Periods when the closed vent systems and control devices required in §§60.482–2, 60.482–3, 60.482–4, and 60.482–5 are not operated as designed, including periods when a flare pilot light does not have a flame.
(5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§60.482–2, 60.482–3, 60.482–4, and 60.482–5.

(e) The following information pertaining to all equipment subject to the requirements in §§60.482–1 to 60.482–10 shall be recorded in a log that is kept in a readily accessible location:

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(1) A list of identification numbers for equipment subject to the requirements of this subpart.
(2) (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482–2(e), 60.482–3(i) and 60.482–7(f).

(ii) The designation of equipment as subject to the requirements of §60.482–2(e), §60.482–3(i), or §60.482–7(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482–4.
(4)(i) The dates of each compliance test as required in §§60.482–2(e), 60.482–3(i), 60.482–4, and 60.482–7(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(f) The following information pertaining to all valves subject to the requirements of §60.482–7(g) and (h) and to all pumps subject to the requirements of §60.482–2(g) shall be recorded in a log that is kept in a readily accessible location:
(1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump.
(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with §60.483–2:
(1) A schedule of monitoring.
(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:
(1) Design criterion required in §§60.482–2(d)(5) and 60.482–3(e)(2) and explanation of the design criterion; and
(2) Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in §60.480(d):

(1) An analysis demonstrating the design capacity of the affected facility,
(2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and
(3) An analysis demonstrating that equipment is not in VOC service.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of §60.7 (b) and (d) do not apply to affected facilities subject to this subpart.

**§ 60.487 Reporting requirements.**

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:
(1) Process unit identification.
(2) Number of valves subject to the requirements of §60.482–7, excluding those valves designated for no detectable emissions under the provisions of §60.482–7(f).
(3) Number of pumps subject to the requirements of §60.482–2, excluding those pumps designated for no detectable emissions under the provisions of §60.482–2(e) and those pumps complying with §60.482–2(f).
(4) Number of compressors subject to the requirements of §60.482–3, excluding those compressors designated for no detectable emissions under the provisions of §60.482–3(i) and those compressors complying with §60.482–3(h).

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in §60.486:
(1) Process unit identification.
(2) For each month during the semiannual reporting period,
(i) Number of valves for which leaks were detected as described in §60.482(7)(b) or §60.483–2,
(ii) Number of valves for which leaks were not repaired as required in §60.482–7(d)(1),

(iii) Number of pumps for which leaks were detected as described in §60.482–2(b) and (d)(6)(i),
(iv) Number of pumps for which leaks were not repaired as required in §60.482–2(c)(1) and (d)(6)(ii),
(v) Number of compressors for which leaks were detected as described in §60.482–3(f),
(vi) Number of compressors for which leaks were not repaired as required in §60.482–3(g)(1), and
(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.
(4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of §§60.483–1 or 60.483–2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with §60.8 of the General Provisions. The provisions of §60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the State.

**§ 60.488 Reconstruction.**

For the purposes of this subpart:
(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital costs that would be required to construct a comparable new facility" under §60.15: pump seals, nuts and bolts, rupture disks, and packings.
(b) Under §60.15, the "fixed capital cost of new components" includes the fixed capital

cost of all depreciable components (except components specified in §60.488 (a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the "Applicability and designation of affected facility" section of the appropriate subpart.) For purposes of this paragraph, "commenced" means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

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## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P901) - Grain Receiving (Truck and Rail), Handling and Storage controlled with a Baghouse**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | The baghouse for this emissions unit shall achieve an outlet emission rate of not greater than 0.005 grain of particulate emissions (PE) per dry standard cubic foot of exhaust gases (gr/dscf).<br><br>PE and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$) from the baghouse for this emissions unit shall not exceed 2.06 lbs/hr.<br><br>Fugitive PE shall not exceed 0.81 lb/hr.<br><br>Fugitive $PM_{10}$ emissions shall not exceed 0.21 lb/hr.<br><br>Visible PE from the baghouse stack serving this emissions unit shall not exceed 0% opacity, except as provided by 40 CFR 60 Subpart DD.<br><br>Visible PE of fugitive dust from grain handling operations shall not exceed 0% opacity, except as provided by 40 CFR 60 Subpart DD.<br><br>Visible PE of fugitive dust from truck and railcar unloading shall not exceed 5% opacity, except as provided by 40 CFR 60 Subpart DD.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(C). |

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| | |
|---|---|
| OAC rule 3745-17-07(A)(1); OAC rule 3745-17-11(B)(1); and 40 CFR 60 Subpart DD | The emissions limitation specified by these rules are less stringent than the emissions limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-17-07(B) | See Section A.2.b below. |
| OAC rule 3745-17-08(B) | See Section A.2.c below. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | PE shall not exceed 5.13 tons per rolling 12-month period.<br><br>$PM_{10}$ emissions shall not exceed 4.01 tons per rolling 12-month period. |

### 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

**2.c** The facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

**2.d** The short term limitations of 0.005 gr PE/dscf; 2.06 lbs PE and $PM_{10}$/hr from the baghouse; 0.81 lb fugitive PE/hr; and 0.21 lb fugitive $PM_{10}$/hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.e** The Best Available Technology (BAT) control requirements for this emissions unit has been determined to be the use of enclosures and the venting of all PE to a baghouse with a maximum grain loading of 0.005 gr/dscf. BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

## B. Operational Restrictions

1. The annual operating hours for this emissions unit shall not exceed 3,400, based upon

a rolling, 12-month summation of the operating hours.

To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the operating hour levels specified in the following table:

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| Month | Maximum Allowable Cumulative Operating Hours |
|---|---|
| 1 | 850 |
| 1-2 | 1700 |
| 1-3 | 2550 |
| 1-4 | 3400 |
| 1-5 | 3400 |
| 1-6 | 3400 |
| 1-7 | 3400 |
| 1-8 | 3400 |
| 1-9 | 3400 |
| 1-10 | 3400 |
| 1-11 | 3400 |
| 1-12 | 3400 |

After the first 12 calendar months of operation, compliance with the annual operating hour limitation shall be based upon the rolling, 12-month summation of the operating hours.

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop, in inches of water, across the baghouse on a daily basis.

   Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable range for the pressure drop across the baghouse shall be established during the most recent emissions test that demonstrated the emissions unit to be in compliance or the baghouse pressure drop range shall be 0.25 to 8 inches of water until such testing is completed.

This range is effective for the duration of this permit. In addition, approved revisions to the range 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 perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The date and time of the visible emissions check and 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 color of the emissions;

   b. the total duration of any visible emission incident; and

   c. any corrective actions taken to eliminate the visible emissions.

3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive emissions from the egress points (i.e. building windows, doors, roof monitors, etc.) serving this emissions unit. The date and time of the visible emissions check and the presence or absence of any visible emissions shall be noted in an operations log, including the date and time the daily check was performed. 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. the total duration of any visible emission incident; and

c. any corrective actions taken to eliminate the visible emissions.

4. The permittee shall maintain monthly records of the following information for this emissions unit:

a. the operating hours of the emissions unit;

b. the rolling, 12-month summation of PE and $PM_{10}$ emissions, in tons; and

c. beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the operating hours of the emissions unit.

During the first 12 calendar months of operation, the permittee shall record the cumulative operating hours of the emissions unit.

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

a. each period of time when the pressure drop across the baghouse was outside of the acceptable range;

b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

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2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e. hatches, doors, roof monitors, etc.) serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

4. The permittee shall submit annual reports which specify the total PE and $PM_{10}$ emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

5. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

   a. the rolling, 12-month operating hours limitation; and for the first 12 calendar months of operation, all exceedances of the allowable cumulative operating hours of the emissions unit; and

   b. the rolling, 12-month summation of PE and $PM_{10}$ emissions.

   These reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, Section A of this permit.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. <u>Emission Limitation</u>
   The baghouse for this emissions unit shall achieve an outlet emission rate of not greater than 0.005 gr PE/dscf.

Applicable Compliance Method
Compliance with the allowable gr PE/dscf shall be determined through the performance testing as described below in Section E.2.

b. Emission Limitation
PE and $PM_{10}$ emissions from the baghouse for this emissions unit shall not exceed 2.06 lbs/hr.

Applicable Compliance Method
Compliance with the allowable lb PE/hr and lb $PM_{10}$/hr shall be determined through the performance testing as described below in Section E.2.

c. Emission Limitation
Fugitive PE shall not exceed 0.81 lb/hr.

Applicable Compliance Method
Compliance shall be calculated using AP-42 Table 9.9.1-1 (March 2003) for the fugitive grain receiving emissions, WebFIRE (Factor Informational Retrieval System) database (SCC 3-02-007-43, Dry Corn Milling) for the grain scalper emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Receiving Emissions + Scalper Emissions

Receiving Emissions = (grain throughput) * (emission factor) * (1 - baghouse capture efficiency)
Receiving Emissions = (407 tons grain/hr) * (0.035 lb/ton grain) * (1 - 95%)
Receiving Emissions = 0.71 lb/hr

Scalper Emissions = (grain throughput) * (emission factor) * (1 - scalper enclosure control efficiency)
Scalper Emissions = (158 tons grain/hr) * (0.061 lb/ton grain) * (1 - 99%)
Scalper Emissions = 0.096 lb/hr

Emissions = 0.71 + 0.096 = 0.81 lb/hr

d. Emission Limitation
Fugitive $PM_{10}$ emissions shall not exceed 0.21 lb/hr.

Applicable Compliance Method
Compliance shall be calculated using AP-42 Table 9.9.1-1 (March 2003) for the

fugitive grain receiving emissions, WebFIRE (Factor Informational Retrieval System) database (SCC 3-02-007-43, Dry Corn Milling) for the grain scalper emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Receiving Emissions + Scalper Emissions

Receiving Emissions = (grain throughput) * (emission factor) * (1 - baghouse capture efficiency)
Receiving Emissions = (407 tons grain/hr) * (0.0078 lb/ton grain) * (1 - 95%)
Receiving Emissions = 0.16 lb/hr

Scalper Emissions = (grain throughput) * (emission factor) * (1 - scalper enclosure control efficiency)
Scalper Emissions = (158 tons grain/hr) * (0.034 lb/ton grain) * (1 - 99%)
Scalper Emissions = 0.054 lb/hr

Emissions = 0.16 + 0.054 = 0.21 lb/hr

e. Emission Limitation
PE shall not exceed 5.13 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated using the baghouse exhaust grain loading, AP-42 Table 9.9.1-1 (March 2003) for the fugitive grain receiving emissions, WebFIRE (Factor Informational Retrieval System) database (SCC 3-02-007-43, Dry Corn Milling) for the grain scalper emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Baghouse Emissions + Receiving Emissions + Scalper Emissions

Baghouse Emissions = (exhaust PE concentration) * (exhaust flow rate) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Baghouse Emissions = (0.005 gr/dscf) * (48,000 dscf/min) * (60 min/hr) * (3400 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Baghouse Emissions = 3.50 tons per rolling 12-month period

Receiving Emissions = (grain throughput) * (emission factor) * (1 - baghouse capture efficiency) / (2000 lbs/ton)
Receiving Emissions = (1,384,270 tons grains per rolling 12-month period) * (0.035 lb/ton grain) * (1 - 95%) / (2000 lbs/ton)

Receiving Emissions = 1.21 tons per rolling 12-month period

Scalper Emissions = (grain throughput) * (emission factor) * (1 - scalper enclosure control efficiency) / (2000 lbs/ton)
Scalper Emissions = (1,384,270 tons grains per rolling 12-month period) * (0.061 lb/ton grain) * (1 - 99%) / (2000 lbs/ton)
Scalper Emissions = 0.42 ton per rolling 12-month period

Emissions = 3.50 + 1.21 + 0.42 = 5.13 tons per rolling 12-month period

f. Emission Limitation

$PM_{10}$ emissions shall not exceed 4.01 tons per rolling 12-month period.

Applicable Compliance Method

Compliance shall be based upon the record keeping requirements in Section C.4 above and shall be calculated using the baghouse exhaust grain loading, AP-42 Table 9.9.1-1 (March 2003) for the fugitive grain receiving emissions, WebFIRE (Factor Informational Retrieval System) database (SCC 3-02-007-43, Dry Corn Milling) for the grain scalper emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Baghouse Emissions + Receiving Emissions + Scalper Emissions

Baghouse Emissions = (exhaust PE concentration) * (exhaust flow rate) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Baghouse Emissions = (0.005 gr/dscf) * (48,000 dscf/min) * (60 min/hr) * (3400 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Baghouse Emissions = 3.50 tons per rolling 12-month period

Receiving Emissions = (grain throughput) * (emission factor) * (1 - baghouse capture efficiency) / (2000 lbs/ton)
Receiving Emissions = (1,384,270 tons grains per rolling 12-month period) * (0.0078 lb/ton grain) * (1 - 95%) / (2000 lbs/ton)
Receiving Emissions = 0.27 tons per rolling 12-month period

Scalper Emissions = (grain throughput) * (emission factor) * (1 - scalper enclosure control efficiency) / (2000 lbs/ton)
Scalper Emissions = (1,384,270 tons grains per rolling 12-month period) * (0.034 lb/ton grain) * (1 - 99%) / (2000 lbs/ton)
Scalper Emissions = 0.24 ton per rolling 12-month period

Emissions = 3.50 + 0.27 + 0.24 = 4.01 tons per rolling 12-month period

g. Emission Limitation
Visible PE from the baghouse stack serving this emissions unit shall not exceed 0% opacity, except as provided by 40 CFR 60 Subpart DD.

Applicable Compliance Method
Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

h. Emission Limitation
Visible PE of fugitive dust from grain handling operations shall not exceed 0% opacity, except as provided by 40 CFR 60 Subpart DD.

Applicable Compliance Method
Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

i. Emission Limitation
Visible PE of fugitive dust from truck and railcar unloading shall not exceed 5% opacity, except as provided by 40 CFR 60 Subpart DD.

Applicable Compliance Method
Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the outlet concentration of 0.005 gr/dscf; and

ii. demonstrate compliance with the allowable emissions rate for PE and $PM_{10}$ of 2.06 lbs/hr.

c. The following test method shall be employed to demonstrate compliance with the above emissions limitations: for PE, Methods 1-5 of 40 CFR Part 60, Appendix A.
Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

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2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 5.31 tons/yr decrease in PE and a 5.44 tons/yr decrease in $PM_{10}$ emissions for this emissions unit.

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**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P902) - DDGS Handling and Cooling controlled with a Baghouse**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|

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| OAC rule 3745-31-05(A)(3) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>20.1 lbs/hr of carbon monoxide (CO);<br><br>21.2 lbs/hr of nitrogen oxides ($NO_X$);<br><br>21.9 lbs/hr of sulfur dioxide ($SO_2$);<br><br>2.6 lbs/hr of particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter ($PM_{10}$); and<br><br>5.3 lbs/hr of volatile organic compounds (VOC).<br><br>Visible particulate emissions from the stack serving B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 10% opacity, as a six-minute average.<br><br>Emissions exhausted through Stack S70 after control shall not exceed:<br><br>0.005 grain of PE per dry standard cubic foot of exhaust gases (gr/dscf);<br><br>0.74 lbs/hr of PE and $PM_{10}$;<br><br>2.40 lbs/hr of VOC; and |

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| OAC rule 3745-31-05(A)(3) | Visible particulate emissions from Stack S70 shall not exceed 5% opacity as a six-minute average.<br><br>Fugitive PE shall not exceed 0.19 lb/hr.<br><br>Fugitive $PM_{10}$ emissions shall not exceed 0.088 lb/hr.<br><br>Visible PE of fugitive dust shall not exceed 5% opacity as a three-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-08(B) and 3745-31-05(C). |
| OAC rule 3745-17-07(A)(1); and<br>OAC rule 3745-17-10(B)(1) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |
| OAC rule 3745-17-07(B) | See Section A.2.c below. |
| OAC rule 3745-17-08(B) | See Section A.2.d below. |
| OAC rule 3745-18-06 | See Section A.2.e below. |
| OAC rule 3745-21-08(B) | See Section A.2.f below. |
| ORC 3704.03(F) and<br>OAC rule 3745-114-01 | See C.7, C.8 and D.7 below. |
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Combined process and combustion emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) after control shall not exceed:<br><br>88.2 tons of CO per rolling 12-month period;<br><br>92.9 tons of $NO_X$ per rolling 12-month period;<br><br>95.7 tons of $SO_2$ per rolling 12-month period;<br><br>11.6 tons of PE and $PM_{10}$ per rolling 12-month period;<br><br>23.1 tons of VOC per rolling 12-month period;<br><br>3.34 tons of single HAP per rolling 12-month period; and<br><br>8.33 tons of combined HAPs per rolling 12-month period. |

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| OAC rule 3745-31-05(C) (synthetic minor to avoid TV) | Fugitive emissions and emissions exhausted through Stack S70 after control shall not exceed:<br><br>4.05 tons of PE per rolling 12-month period;<br><br>3.61 tons of $PM_{10}$ per rolling 12-month period; and<br><br>10.51 tons of VOC per rolling 12-month period. |

## 2. Additional Terms and Conditions

**2.a** A fraction of the emissions from this source are vented to B001 and/or B002. The remaining fraction of emissions are vented to Stack S70 associated with this emissions unit.

**2.b** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.c** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

**2.d** The facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

**2.e** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

**2.f** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating

practices" still exists as part of the federally-approved SIP for Ohio.

**2.g** The short term limitations of 21.2 lbs $NO_X$/hr, 20.1 lbs CO/hr, 5.3 lbs VOC/hr, 21.9 lb $SO_2$/hr, 2.6 lb PE and $PM_{10}$/hr, 0.005 gr PE/dscf, 0.74 lbs/hr of PE and $PM_{10}$/hr, 2.40 lbs VOC/hr, 0.19 lb fugitive PE/hr, and 0.088 lb fugitive $PM_{10}$/hr were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

**2.h** Best available technology (BAT) control requirements for this emissions unit has been determined to be the following:

i. the use of the natural gas-fired thermal oxidizers to control VOC emissions that are not vented to Stack S70, at 98% ;

ii. maintain enclosures and vent emissions not vented to Stack S70 to the thermal oxidizers to ensure compliance; and

iii. maintain enclosures and vent emissions to a baghouse with an outlet particulate emissions concentration of 0.005 gr/dscf.

BAT also includes compliance with the terms and conditions of this permit. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature, in degrees Fahrenheit, within the thermal oxidizer on a daily basis.

   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: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 to the acceptable value specified below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature reading immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable value for the average combustion temperature within the thermal oxidizer, for all 3-hour blocks of time, when the emissions unit was in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance or the minimum average combustion temperature within the thermal oxidizer recommended by the thermal oxidizer manufacturer until such testing is completed.

This value is effective for the duration of this permit. In addition, approved revisions to the value 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 monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop, in inches of water, across the baghouse on a daily basis.

Whenever the monitored value for the pressure drop deviates from the range specified

below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 below, 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 description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable range for the pressure drop across the baghouse shall be established during the most recent emissions test that demonstrated the emissions unit to be in compliance or the baghouse pressure drop range shall be 0.25 to 8 inches of water until such testing is completed.

This range is effective for the duration of this permit. In addition, approved revisions to the range 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.

3. 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 emissions units B001 and B002. The date and time of the visible emissions check and 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.

4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from Stack S70 serving this emissions unit. The date and time of the visible emissions check and 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 color of the emissions;

   b. the total duration of any visible emission incident; and

   c. any corrective actions taken to eliminate the visible emissions.

5. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive emissions from the egress points (i.e. building windows, doors, roof monitors, etc.) serving this emissions unit. The date and time of the visible emissions check and the presence or absence of any visible emissions shall be noted in an operations log, including the date and time the daily check was performed. 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 permittee shall maintain monthly records of the rolling, 12-month summation of CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions

vented to the flare) and P902, in tons.

7. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

   Pollutant: Acetaldehyde
   TLV (mg/$m^3$): 33.20
   Maximum Hourly Emission Rate (lbs/hr): 0.54
   Predicted 1-Hour Maximum Ground-Level Concentration (ug/$m^3$): 61.20 (entire facility)
   MAGLC (ug/$m^3$): 790

   Pollutant: Formaldehyde
   TLV (mg/$m^3$): 0.272
   Maximum Hourly Emission Rate (lbs/hr): 0.51
   Predicted 1-Hour Maximum Ground-Level Concentration (ug/$m^3$): 5.05 (entire facility)
   MAGLC (ug/$m^3$): 6.47

8. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the combustion temperature within the thermal oxidizer was not equal to the acceptable value;

   b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the pressure drop across the baghouse was outside of the acceptable range;

   b. an identification of each incident of deviation described in (a) where a prompt

investigation was not conducted;

c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving emissions units B001 and B002 and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from Stack S70 serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

5. The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e. hatches, doors, roof monitors, etc.) serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

6. The permittee shall submit annual reports which specify the total CO, NOx, $SO_2$, PE, $PM_{10}$, VOC, single HAP and combined HAP emissions in tons per rolling 12-month period from emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

7. The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation
   Combined CO emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 20.1 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

   b. Emissions Limitation
   Combined $NO_X$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.2 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through data recorded by the continuous emissions monitor and through performance testing as described in Sections E.2 and E.3 below.

   c. Emissions Limitation
   Combined $SO_2$ emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 21.9 lbs/hr.

   Applicable Compliance Method
   Compliance shall be demonstrated through performance testing as described in Section E.2 below.

Emissions Unit ID: **P902**

d. Emissions Limitation
Combined PE and emissions of $PM_{10}$ from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 2.6 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

e. Emissions Limitation
Combined VOC emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 5.3 lbs/hr.

Applicable Compliance Method
Compliance shall be demonstrated through performance testing as described in Section E.2 below.

f. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
88.2 tons of CO per rolling 12-month period;
92.9 tons of $NO_X$ per rolling 12-month period;
95.7 tons of $SO_2$ per rolling 12-month period;
11.6 tons of PE and $PM_{10}$ per rolling 12-month period;
23.1 tons of VOC per rolling 12-month period;

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.6 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

g. Emissions Limitation
Combined emissions from B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed:
3.34 tons per rolling 12-month period for any single HAP; and
8.33 tons per rolling 12-month period for combined HAPs.

Applicable Compliance Method

Compliance shall be based upon the record keeping requirements in Section C.6 above and shall be calculated by multiplying the hourly emission rate for each individual HAP by 8760 hours/year and dividing by 2,000 pounds/ton. The hourly emissions rate of each individual HAP shall be determined through performance testing as described in Section E.2 below.

To determine the annual emissions rate for combined HAPs, sum the annual emissions calculated above for each individual HAP.

h. Emissions Limitation

Visible PE from the stack serving B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

i. Emission Limitation

PE emissions from Stack S70 shall not exceed an outlet emission rate of not greater than 0.005 gr PE/dscf.

Applicable Compliance Method

Compliance with the allowable lb gr PE/dscf shall be determined through the performance testing as described below in Section E.2.

j. Emission Limitation

PE and $PM_{10}$ emissions from Stack S70 shall not exceed 0.74 lb/hr.

Applicable Compliance Method

Compliance with the allowable lb PE/hr and lb $PM_{10}$/hr shall be determined through the performance testing as described below in Section E.2.

k. Emission Limitation

VOC emissions from Stack S70 shall not exceed 2.40 lbs/hr.

Applicable Compliance Method

Compliance with the allowable lb VOC/hr shall be determined through the performance testing as described below in Section E.2.

Emissions Unit ID: **P902**

l. Emissions Limitation
Visible particulate emissions from Stack S70 shall not exceed 5% opacity as a six-minute average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

m. Emissions Limitation
Fugitive PE shall not exceed 0.19 lb/hr.

Applicable Compliance Method
Compliance shall be calculated using AP-42 Table 9.9.1-1 (March 2003) for the fugitive grain handling emissions, AP-42 Table 9.9.1-2 (March 2003) for the fugitive dried distillers grain (DDGS) stockpile loading handling emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = (grain throughput) * (handling emission factor + DDGS emission factor) * (1 - enclosure control efficiency)
Emissions = (48 tons/hr) * (0.061 lb/ton grain + 0.017 lb/ton grain) * (1 - 95%)
Emissions = 0.19 lb/hr

n. Emissions Limitation
Fugitive $PM_{10}$ emissions shall not exceed 0.088 lb/hr.

Applicable Compliance Method
Compliance shall be calculated using AP-42 Table 9.9.1-1 (March 2003) for the fugitive grain handling emissions, AP-42 Table 9.9.1-2 (March 2003) for the fugitive DDGS stockpile loading handling emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = (grain throughput) * (handling emission factor + DDGS emission factor) * (1 - enclosure control efficiency)

Emissions = (48 tons/hr) * (0.034 lb/ton grain + 0.0025 lb/ton grain) * (1 - 95%)
Emissions = 0.088 lb/hr

o. Emission Limitation
Visible PE of fugitive dust shall not exceed 5% opacity as a three-minute

average.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

p. Emission Limitation
Fugitive emissions and emissions exhausted through Stack S70 after control shall not exceed 4.05 tons of PE per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.6 above and shall be calculated using the baghouse exhaust grain loading from Stack S70, AP-42 Table 9.9.1-1 (March 2003) for the fugitive grain handling emissions, AP-42 Table 9.9.1-2 (March 2003) for the fugitive DDGS stockpile loading handling emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Stack S70 Emissions + Fugitive Emissions

Stack S70 Emissions = (exhaust PE concentration) * (exhaust flow rate) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Stack S70 Emissions = (0.005 gr/dscf) * (17,208 dscf/min) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Stack S70 Emissions = 3.23 tons per rolling 12-month period

Fugitive Emissions = (grain throughput) * (handling emission factor + DDGS emission factor) * (1 - enclosure control efficiency) / (2000 lbs/ton)
Fugitive Emissions = (420,225 tons per rolling 12-month period) * (0.061 lb/ton grain + 0.017 lb/ton grain) * (1 - 95%) / (2000 lbs/ton)
Fugitive Emissions = 0.82 tons per rolling 12-month period

Emissions = 3.23 + 0.82 = 4.05 tons per rolling 12-month period

q. Emission Limitation
Fugitive emissions and emissions exhausted through Stack S70 after control shall not exceed 3.61 tons of $PM_{10}$ per rolling 12-month period.

Applicable Compliance Method

Emissions Unit ID: **P902**

Compliance shall be based upon the record keeping requirements in Section C.6 above and shall be calculated using the baghouse exhaust grain loading from Stack S70, AP-42 Table 9.9.1-1 (March 2003) for the fugitive grain handling emissions, AP-42 Table 9.9.1-2 (March 2003) for the fugitive DDGS stockpile loading handling emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Stack S70 Emissions + Fugitive Emissions

Stack S70 Emissions = (exhaust PE concentration) * (exhaust flow rate) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Stack S70 Emissions = (0.005 gr/dscf) * (17,208 dscf/min) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Stack S70 Emissions = 3.23 tons per rolling 12-month period

Fugitive Emissions = (grain throughput) * (handling emission factor + DDGS emission factor) * (1 - enclosure control efficiency) / (2000 lbs/ton)
Fugitive Emissions = (420,225 tons per rolling 12-month period) * (0.034 lb/ton grain + 0.0025 lb/ton grain) * (1 - 95%) / (2000 lbs/ton)
Fugitive Emissions = 0.38 tons per rolling 12-month period

Emissions = 3.23 + 0.38 = 3.61 tons per rolling 12-month period

r. Emission Limitation
VOC emissions from Stack S70 shall not exceed 10.51 tons per rolling 12-month period.

Applicable Compliance Method
Compliance shall be based upon the record keeping requirements in Section C.6 above and shall be calculated by multiplying the hourly emission rate by 8760 hours/year and dividing by 2,000 pounds/ton.

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

b. The emission testing shall be conducted to:

i. demonstrate compliance with the allowable combined emissions rate for CO of 20.1 lbs/hr;

ii. demonstrate compliance with the allowable combined emissions rate for $NO_X$ of 21.2 lbs/hr;

iii. demonstrate compliance with the allowable combined emissions rate for $SO_2$ of 21.9 lbs/hr;

iv. demonstrate compliance with the allowable combined emissions rate for PE and $PM_{10}$ of 2.6 lbs/hr;

v. demonstrate compliance with the allowable combined emissions rate for VOC of 5.3 lbs/hr;

vi. demonstrate compliance with the allowable combined emission rate for single and combined HAPs; and

vii. demonstrate compliance with the outlet concentration of 0.005 gr/dscf from Stack S70;

viii. demonstrate compliance with the allowable emissions rate for PE and $PM_{10}$ of 0.74 lbs/hr from Stack S70;

ix. demonstrate compliance with the allowable emissions rate for VOC of 2.40 lbs/hr from Stack S70; and

x. verify the control efficiency (98% for VOC) of the thermal oxidizer.

c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content;
Method 5 from 40 CFR Part 60, Appendix A for PE/$PM_{10}$, total filterable particulate;
Method 202 as set forth in the most recent update of 40 CFR Part 51 Appendix M for condensibles;
Method 6c from 40 CFR Part 60, Appendix A for $SO_2$;
Method 7 from 40 CFR Part 60, Appendix A for $NO_X$;
Method 10 from 40 CFR Part 60, Appendix A for CO;
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); and
Method 25 or Method 25A from 40 CFR Part 60, Appendix A for total VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency. The test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency listed in term E.2.b.vii above of the control device.

e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C.1 through C.6, D.1 through D.6, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 2.1 tons/yr decrease in CO emissions, a 6.3 tons/yr increase in SO2 emissions, a 0.5 ton/yr decrease in VOC emissions, a 8 tons/yr decrease in PE and $PM_{10}$ emissions, and a 0.31 ton/yr increase in combined HAP emissions for emissions units B001, B002, P005, P007, P008, P009, P010, P011, P013 (except emissions vented to the flare) and P902 (except emissions vented to Stack S70) combined.

3. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 0.7 ton/yr increase in VOC emissions, a 0.05 ton/yr increase in PE, and a 0.02 ton/yr increase in $PM_{10}$ emissions for fugitive emissions and emissions exhausted through Stack S70 after control from this emissions unit.

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**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(P903) - DDGS Loadout to Truck and Rail controlled with a Baghouse**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(C) (synthetic minor to avoid TV and BAT) | Particulate emissions (PE) from this emissions unit shall not exceed 1.74 tons per rolling 12-month period.<br><br>Emissions of particulate matter less than 10 microns in diameter ($PM_{10}$) from this emissions unit shall not exceed 1.72 tons per rolling 12-month period.<br><br>See Section A.2.b. |
| OAC rule 3745-17-07(A) | Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity. |
| OAC rule 3745-17-07(B) | See Section A.2.c below. |
| OAC rule 3745-17-08(B) | See Section A.2.d below. |
| OAC rule 3745-17-11(B) | PE from the stack serving this emissions unit shall not exceed 2.18 lbs/hr. |

## 2. Additional Terms and Conditions

**2.a** The rolling 12-month allowable emission rates are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** Permit to Install 08-04773 for this air contaminant source takes into account the use of a baghouse, whenever this air contaminant source is in operation, with an outlet particulate emissions concentration of 0.005 gr/dscf, as a voluntary restriction as proposed by the permittee. This restriction allows the permittee to avoid Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

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**2.c** This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

**2.d** The facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

**2.e** The short term limitation of 2.18 lbs PE/hr was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, is it not necessary to develop additional monitoring, recordkeeping and reporting requirements to ensure compliance with these emissions limitations.

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop, in inches of water, across the baghouse on a daily basis.

   Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 below, 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 description of

the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. 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.

The acceptable range for the pressure drop across the baghouse shall be established during the most recent emissions test that demonstrated the emissions unit to be in compliance or the baghouse pressure drop range shall be 0.25 to 8 inches of water until such testing is completed.

This range is effective for the duration of this permit. In addition, approved revisions to the range 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 perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The date and time of the visible emissions check and 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 color of the emissions;

   b. the total duration of any visible emission incident; and

   c. any corrective actions taken to eliminate the visible emissions.

3. The permittee shall maintain monthly records of the rolling, 12-month summation of PE and $PM_{10}$ emissions from this emissions unit, in tons.

## D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

   a. each period of time when the pressure drop across the baghouse was outside of the acceptable range;

b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;

c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Regional Air Pollution Control Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit annual reports which specify the total PE and $PM_{10}$ emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation
   PE from the stack serving this emissions unit shall not exceed 2.18 lbs/hr.

   Applicable Compliance Method
   Compliance with the allowable lb PE/hr shall be determined through the performance testing as described below in Section E.2.

   b. Emission Limitation
   PE from this emissions unit shall not exceed 1.74 tons per rolling 12-month period.

   Applicable Compliance Method
   Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated using the baghouse exhaust grain loading, AP-42 Table 9.9.1-2 (March 2003) for the fugitive emissions and inputs representing the Potential To Emit (PTE), as follows:

   Emissions = Baghouse Emissions + Fugitive Emissions

Baghouse Emissions = (exhaust PE concentration) * (exhaust flow rate) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Baghouse Emissions = (0.005 gr/dscf) * (9,100 dscf/min) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Baghouse Emissions = 1.71 tons per rolling 12-month period

Fugitive Emissions = (grain throughput) * (emission factor) * (1 - enclosure control efficiency) / (2000 lbs/ton)
Fugitive Emissions = (420,225 tons per rolling 12-month period) * (0.0033 lb/ton grain) * (1 - 95%) / (2000 lbs/ton)

Fugitive Emissions = 0.035 tons per rolling 12-month period

Emissions = 1.71 + 0.035 = 1.74 tons per rolling 12-month period

The baghouse outlet PE and $PM_{10}$ concentrations shall be determined through the performance testing as described below in Section E.2.

c. Emission Limitation

$PM_{10}$ emissions from this emissions unit shall not exceed 1.72 tons per rolling 12-month period.

Applicable Compliance Method

Compliance shall be based upon the record keeping requirements in Section C.3 above and shall be calculated using the baghouse exhaust grain loading, AP-42 Table 9.9.1-2 (March 2003) for the fugitive emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Baghouse Emissions + Fugitive Emissions

Baghouse Emissions = (exhaust $PM_{10}$ concentration) * (exhaust flow rate) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Baghouse Emissions = (0.005 gr/dscf) * (9,100 dscf/min) * (60 min/hr) * (8760 hrs/yr) / (7000 gr/lb) / (2000 lbs/ton)
Baghouse Emissions = 1.71 tons per rolling 12-month period

Fugitive Emissions = (grain throughput) * (emission factor) * (1 - enclosure control efficiency) / (2000 lbs/ton)
Fugitive Emissions = (420,225 tons per rolling 12-month period) * (0.0008 lb/ton

grain) * (1 - 95%) / (2000 lbs/ton)
Fugitive Emissions = 0.0084 tons per rolling 12-month period

Emissions = 1.71 + 0.0084 = 1.72 tons per rolling 12-month period

The baghouse outlet PE and $PM_{10}$ concentrations shall be determined through the performance testing as described below in Section E.2.

d. Emission Limitation
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 60% opacity.

Applicable Compliance Method
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit. The specific emissions unit to be tested shall be selected by the Regional Air Pollution Control Agency.

   b. The emission testing shall be conducted to:

      i. demonstrate compliance with the outlet concentration of 0.005 gr/dscf; and

      ii. demonstrate compliance with the allowable emissions rate for PE of 2.18 lbs/hr.

   c. The following test method shall be employed to demonstrate compliance with the above emissions limitations: for PE, Methods 1-5 of 40 CFR Part 60, Appendix A.
   Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

   d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency.

   e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Regional Air Pollution Control 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 Regional Air Pollution Control Agency refusal to accept the results of the emission test(s).

f. Personnel from the Regional Air Pollution Control 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.

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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency.

## F. Miscellaneous Requirements

1. In accordance with OAC rule 3745-31-05, the following terms in this permit are federally enforceable: Sections A, B, C, D, E, and F.

2. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represents no change in emissions for this emissions unit.

Emissions Unit ID: **T001**

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment - (T001) - 200,000 gallon Above Ground Internal Floating Roof Storage Tank (190 Proof Ethanol Tank)**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3)(b) | See Section A.2.b below. |
| OAC rule 3745-21-09(L) | See Section A.2.c below. |
| 40 CFR Part 60, Subpart Kb | See Section C.1 below. |

### 2. Additional Terms and Conditions

**2.a** The potential emissions are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled emissions from this air contaminant source since the potential to emit is less than ten tons per year.

**2.c** OAC rule 3745-21-09(L) is not applicable because this tank does not store petroleum liquids as defined in OAC rule 3745-21-01(E)(13).

### B. Operational Restrictions

1. This above-ground storage tank shall only be used to store 190 proof ethanol.

### C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep the following records per 40 CFR Part 60, Subpart Kb:

   a. the dimension of the storage vessel and an analysis showing the capacity of the storage vessel, kept for the life of the source; and

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b. a record of the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period, kept for at least 2 years.

2. The permittee shall maintain monthly records of the rolling, 12-month summation of VOC emissions from this emissions unit, in tons.

## D. Reporting Requirements

1. The permittee shall submit annual reports which specify the total VOC emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

None

## F. Miscellaneous Requirements

1. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 0.04 ton/yr increase in VOC emissions for this emissions unit.

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**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment - (T002) - 200,000 gallon Above Ground Internal Floating Roof Storage Tank (200 Proof Ethanol Tank)**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3)(b) | See Section A.2.b below. |
| OAC rule 3745-21-09(L) | See Section A.2.c below. |
| 40 CFR Part 60, Subpart Kb | See Section C.1 below. |

### 2. Additional Terms and Conditions

**2.a** The potential emissions are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled emissions from this air contaminant source since the potential to emit is less than ten tons per year.

**2.c** OAC rule 3745-21-09(L) is not applicable because this tank does not store petroleum liquids as defined in OAC rule 3745-21-01(E)(13).

## B. Operational Restrictions

1. This above-ground storage tank shall only be used to store 200 proof ethanol.

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep the following records per 40 CFR Part 60, Subpart Kb:

   a. the dimension of the storage vessel and an analysis showing the capacity of the storage vessel, kept for the life of the source; and

Emissions Unit ID: **T002**

b. a record of the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period, kept for at least 2 years.

2. The permittee shall maintain monthly records of the rolling, 12-month summation of VOC emissions from this emissions unit, in tons.

## D. Reporting Requirements

1. The permittee shall submit annual reports which specify the total VOC emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

None

## F. Miscellaneous Requirements

1. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 0.04 ton/yr increase in VOC emissions for this emissions unit.

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**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(T003) - 200,000 gallon Above Ground Internal Floating Roof Storage Tank (Gasoline Denaturant Tank)**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3)(b) | See Section A.2.b below. |
| OAC rule 3745-21-09(L) | See Section A.2.c below. |
| 40 CFR Part 60, Subpart Kb | See Sections A.2.d; C.1 through C.6; and D.1 and D.2 below. |

### 2. Additional Terms and Conditions

**2.a** The potential emissions are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled emissions from this air contaminant source since the potential to emit is less than ten tons per year.

**2.c** The permittee shall install the following control equipment and shall maintain tank vents, seals, and or covers as follows:

i. The fixed roof storage tank shall be equipped with an internal floating roof.

ii. The automatic bleeder vents shall be closed at all times except when the roof is floated off or landed on the roof leg supports; and the rim vents, if present, shall be set to open or at the manufacturer's recommended setting when the roof is being floated off the roof leg supports.

iii. All openings, except stub drains, shall be equipped with a cover, seal, or lid which is to be in a closed position at all times, except when in actual

use for tank gauging or sampling.

**2.d** Per 40 CFR Part 60, Subpart Kb, the fixed-roof vessel, equipped with an internal floating roof, must meet the following specifications:

i. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

ii. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(a) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(b) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(c) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

iii. Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

iv. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

v. Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

vi. Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

vii. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

viii. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

ix. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

## B. Operational Restrictions

1. This above-ground storage tank shall only be used to store gasoline.

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain records of the following information in a readily accessible location for at least five years and shall make copies of the records available upon request:

   a. the types of petroleum liquids stored in the tank; and

   b. the maximum true vapor pressure (in pounds per square inch absolute), as stored, of each liquid that has a maximum true vapor pressure greater 1.0 pound

per square inch absolute.

2. The permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with the volatile organic liquid (VOL). If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

3. If the vessel is equipped with a liquid-mounted or mechanical shoe primary seal, the permittee shall visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days.

   If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Regional Air Pollution Control Agency in the inspection report required in Section D.2.c below. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

4. If the vessel is equipped with a double-seal system as specified in Section A.2.d.ii.(b) above, the permittee shall:

   a. visually inspect the vessel as specified in Section C.5 below at least every 5 years; or

   b. visually inspect the vessel as specified in Section C.3 above.

5. The permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall

repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in Section C.3 and C.4.b above and at intervals no greater than 5 years in the case of vessels specified in Section C.4.a above.

6. The permittee shall keep the following records per 40 CFR Part 60, Subpart Kb:

   a. the dimension of the storage vessel and an analysis showing the capacity of the storage vessel, kept for the life of the source; and

   b. a record of the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period, kept for at least 2 years.

   For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

7. The permittee shall maintain a record of any period of time in which the automatic bleeder vents, rim vents, and all openings other than stub drains were not maintained as required in this permit.

8. The permittee shall maintain monthly records of the rolling, 12-month summation of VOC emissions from this emissions unit, in tons.

## D. Reporting Requirements

1. The permittee shall notify the Regional Air Pollution Control Agency in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by Sections C.2 and C.5 above to afford the Regional Air Pollution Control Agency the opportunity to have an observer present. If the inspection required by Section C.5 above is not planned and the permittee could not have known about the inspection 30 days in advance or refilling the tank, the permittee shall notify the Regional Air Pollution Control Agency at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Regional Air Pollution Control Agency at least 7 days prior to the refilling.

2. After installation of this emissions unit with its associated control equipment (fixed roof and internal floating roof), the permittee shall meet the following requirements:

   a. furnish the Regional Air Pollution Control Agency with a report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR Part 60, Subpart Kb. This report shall be an attachment to the notification required by 40 CFR 60.7(a)(3);

   b. keep a record of each inspection performed as required in Sections C.2 through C.5 above. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings);

   c. if any of the conditions described in Section C.3 above are detected during the annual visual inspection required by Section C.3, a report shall be furnished to the Regional Air Pollution Control Agency within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made; and

   d. after each inspection required by Section C.4 above that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in Section C.4.b, a report shall be furnished to the Regional Air Pollution Control Agency within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of Section C.2 and C.4 above and list each repair made.

   The permittee shall keep copies of all reports and records required by Section D.2 for at least 2 years.

3. The permittee shall notify the Regional Air Pollution Control Agency within 30 days of the occurrence, of any period of time in which the automatic bleeder vents, rim vents, and all openings other than stub drains were not maintained as required in this permit.

4. The permittee shall submit annual reports which specify the total VOC emissions in tons per rolling 12-month period from this emissions unit for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

Emissions Unit ID: **T003**

## E. Testing Requirements

None

## F. Miscellaneous Requirements

1. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 0.03 ton/yr increase in VOC emissions for this emissions unit.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(T004) - 1,500,000 gallon Above Ground Internal Floating Roof Storage Tank (Denatured Ethanol Tank No. 1)**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3)(b) | See Section A.2.b below. |
| OAC rule 3745-21-09(L) | See Section A.2.c below. |
| 40 CFR Part 60, Subpart Kb | See Section C.1 below. |

### 2. Additional Terms and Conditions

**2.a** The potential emissions are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled emissions from this air contaminant source since the potential to emit is less than ten tons per year.

**2.c** OAC rule 3745-21-09(L) is not applicable because this tank does not store petroleum liquids as defined in OAC rule 3745-21-01(E)(13).

## B. Operational Restrictions

1. This above-ground storage tank shall only be used to store denatured ethanol (95% ethanol and 5% gasoline).

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep the following records per 40 CFR Part 60, Subpart Kb:

   a. the dimension of the storage vessel and an analysis showing the capacity of the

storage vessel, kept for the life of the source; and

b. a record of the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period, kept for at least 2 years.

2. The permittee shall maintain monthly records of the rolling, 12-month summation of VOC emissions from emissions units T004, T005 and T006, in tons.

## D. Reporting Requirements

1. The permittee shall submit annual reports which specify the total VOC emissions in tons per rolling 12-month period from emissions units T004, T005 and T006 for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

None

## F. Miscellaneous Requirements

1. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 0.01 ton/yr decrease in VOC emissions for this emissions unit.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(T005) - 1,500,000 gallon Above Ground Internal Floating Roof Storage Tank (Denatured Ethanol Tank No. 2)**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3)(b) | See Section A.2.b below. |
| OAC rule 3745-21-09(L) | See Section A.2.c below. |
| 40 CFR Part 60, Subpart Kb | See Section C.1 below. |

### 2. Additional Terms and Conditions

**2.a** The potential emissions are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled emissions from this air contaminant source since the potential to emit is less than ten tons per year.

**2.c** OAC rule 3745-21-09(L) is not applicable because this tank does not store petroleum liquids as defined in OAC rule 3745-21-01(E)(13).

## B. Operational Restrictions

1. This above-ground storage tank shall only be used to store denatured ethanol (95% ethanol and 5% gasoline).

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep the following records per 40 CFR Part 60, Subpart Kb:

   a. the dimension of the storage vessel and an analysis showing the capacity of the

storage vessel, kept for the life of the source; and

b. a record of the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period, kept for at least 2 years.

2. The permittee shall maintain monthly records of the rolling, 12-month summation of VOC emissions from emissions units T004, T005 and T006, in tons.

## D. Reporting Requirements

1. The permittee shall submit annual reports which specify the total VOC emissions in tons per rolling 12-month period from emissions units T004, T005 and T006 for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

None

## F. Miscellaneous Requirements

1. The requirements of this permit supercede the requirements of PTI 08-04773 issued November 14, 2006 and represent a 0.01 ton/yr decrease in VOC emissions for this emissions unit.

**Issued: To be entered upon final issuance**

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

## A. Applicable Emissions Limitations and/or Control Requirements

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

**Operations, Property, and/or Equipment -(T006) - 1,500,000 gallon Above Ground Internal Floating Roof Storage Tank (Denatured Ethanol Tank No. 3)**

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3)(b) | See Section A.2.b below. |
| OAC rule 3745-21-09(L) | See Section A.2.c below. |
| 40 CFR Part 60, Subpart Kb | See Section C.1 below. |

### 2. Additional Terms and Conditions

**2.a** The potential emissions are based on the annual production of 132,000,000 gallons of denatured ethanol.

**2.b** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled emissions from this air contaminant source since the potential to emit is less than ten tons per year.

**2.c** OAC rule 3745-21-09(L) is not applicable because this tank does not store petroleum liquids as defined in OAC rule 3745-21-01(E)(13).

## B. Operational Restrictions

1. This above-ground storage tank shall only be used to store denatured ethanol (95% ethanol and 5% gasoline).

## C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep the following records per 40 CFR Part 60, Subpart Kb:

   a. the dimension of the storage vessel and an analysis showing the capacity of the

storage vessel, kept for the life of the source; and

b. a record of the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period, kept for at least 2 years.

2. The permittee shall maintain monthly records of the rolling, 12-month summation of VOC emissions from emissions units T004, T005 and T006, in tons.

## D. Reporting Requirements

1. The permittee shall submit annual reports which specify the total VOC emissions in tons per rolling 12-month period from emissions units T004, T005 and T006 for the previous calendar year. This report shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emissions data from these emissions units in the annual Fee Emission Report.

## E. Testing Requirements

None

## F. Miscellaneous Requirements

None