



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL  
HARRISON COUNTY**

**CERTIFIED MAIL**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 06-07332**

**Fac ID: 0634000101**

**DATE: 3/15/2005**

Farmers Ethanol LLC  
Scott Feller  
1497 Shoup Mill Rd.  
Dayton, OH 45414

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

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.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, Ohio 43215

Sincerely,

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

CC: USEPA

SEDO



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

**Permit To Install  
Terms and Conditions**

**Issue Date: 3/15/2005  
Effective Date: 3/15/2005**

**FINAL PERMIT TO INSTALL 06-07332**

Application Number: 06-07332  
Facility ID: 0634000101  
Permit Fee: **\$20750**  
Name of Facility: Farmers Ethanol LLC  
Person to Contact: Scott Feller  
Address: 1497 Shoup Mill Rd.  
Dayton, OH 45414

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**Twp. Rd. 93  
Cadiz, Ohio**

Description of proposed emissions unit(s):  
**Denatured ethanol and dried distillers grain.**

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

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 quarterly, i.e., 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

**Farmers Ethanol LLC**  
**PTI Application: 06-07332**  
**Issued: 3/15/2005**

**Facility ID: 0634000101**

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.

Farmers Ethanol LLC  
 PTI Application: 06-07332  
 Issued: 3/15/2005

Facility ID: 0634000101

#### 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

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	68.2
SO <sub>2</sub>	1.9
NO <sub>x</sub>	83.0
VOC	61.2
CO	97.1

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B001 - 50 MMBTU/hr natural gas fired Process Boiler	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-10(B)(1)
	OAC rule 3745-18-06(D)
	40CFR 60, Subpart Dc

OAC rule 3745-23-06

Applicable Emissions  
Limitations/Control Measures

Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed:  
0.055 lb/MMBTU actual heat input, 2.75 lbs/hr, and 12.05 TPY from natural gas;

Carbon monoxide (CO) emissions shall not exceed:  
0.084 lb/MMBTU actual heat input, 4.2 lbs/hr, and 18.4 TPY from natural gas;

Particulate emissions (PE) shall not exceed:  
0.42 lb/hr, and 1.84 TPY from natural gas;

Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed:  
0.03 lb/hr, and 0.14 TPY from natural gas;

Volatile Organic Compound (VOC) emissions shall not exceed:  
0.30 lb/hr, and 1.32 TPY from natural gas;

Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning natural gas.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-23-06.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

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The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See A.2.a. below.

## **2. Additional Terms and Conditions**

- 2.a** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(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 February 14, 2005, OAC rule 3745-23-06 was rescinded; 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 U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

## **B. Operational Restrictions**

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

## **C. Monitoring and/or Recordkeeping Requirements**

1. Pursuant to 40 CFR Part 60 Subpart Dc, the permittee shall record and maintain records of the amount of natural gas combusted during each day. 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.

## **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 within 30 days after the deviation occurs.
2. The permittee shall submit deviation (excursion) reports that identify each day during which records were not maintained on the amount of natural gas combusted in the emissions unit. These reports shall be submitted within 30 days after the deviation occurs.
3. The following source is subject to the applicable provisions of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

**Farmers Ethanol LLC**  
**PTI Application: 06-07333**  
**Issued**

**Facility ID: 0634000101**

Emissions Unit ID: **B001**

<u>Source Number</u>	<u>Source Description</u>	<u>NSPS Regulation (Subpart)</u>
B001	50 MMBTU/hr natural gas fired boiler.	Subpart Dc

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

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. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
- c. actual start-up date (within 15 days after such date); and
- d. date of performance testing (If required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency  
DAPC - Air Quality Modeling and Planning  
P.O. Box 1049  
Columbus, OH 43216-1049

and

Ohio EPA  
Southeast District Office  
Division of Air Pollution Control  
2195 Front Street  
Logan, OH 43138

## **E. Testing Requirements**

1. Emission Limitations:  
NO<sub>x</sub> emissions shall not exceed:  
0.055 lb/MMBTU actual heat input,  
2.75 lbs/hour and,  
12.05 TPY when firing natural gas.

Compliance Methods:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU and the lb/hr emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

2. Emission Limitation:

CO emissions shall not exceed:  
0.084 lb/MMBTU actual heat input,  
4.2 lbs/hour and,  
18.4 TPY when firing natural gas.

Compliance Method:  
The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU and the lb/hr emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

3. Emission Limitation:  
PE shall not exceed:  
0.42 lb/hr and,  
1.84 TPY from natural gas.

Compliance Method:  
The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (50 MMBTU/hour) by 0.00840 lb PE per MMBTU natural gas burned (emission factor from AP-42, Table 1.4-2, July 1998 ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

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.

4. Emission Limitation:  
SO<sub>2</sub> emissions shall not exceed:  
0.03 lb/hour and,  
0.14 TPY from natural gas.

Compliance Method:  
The lb/MMBTU and lb/hr limits were established using AP-42, Table 1.4-2, July 1998.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (50 MMBTU/hour) by 0.0006 lb SO<sub>2</sub> per MMBTU natural gas burned (emission factor from AP-42, Table 1.4-2, July 1998 ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 6C, or an alternative U.S. EPA approved method.

5. Emission Limitation:  
VOC emissions shall not exceed:  
0.30 lb/hr and,  
1.32 TPY from natural gas.

Compliance Method:

The lb/MMBTU and lb/hr limits were established using AP-42, Table 1.4-2, July 1998.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (50 MMBTU/hour) by  $5.5 \times 10^{-6}$  lb VOC per cf (emission factor from AP-42, Table 1.4-2, July 1998 ) and then by (1 cf/1000 BTU).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 25, or an alternative U.S. EPA approved method.

6. Emission Limitation:  
Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning natural gas.

Compliance Method:

If required, compliance shall be demonstrated through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 .

7. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

Emissions Unit ID: **B001**

- 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 Ohio EPA Southeast District Office.
- b. The emission testing shall be conducted to demonstrate compliance with the lb/MMBTU and lb/hr limitations for NO<sub>x</sub> and CO from the combustion of natural gas.
- c. The following test method(s) 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 7E from 40 CFR Part 60, Appendix A for NO<sub>x</sub>;  
Method 10 from 40 CFR Part 60, Appendix A for CO; and  
Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- 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 Ohio EPA, Southeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

**Farmers Ethanol LLC**  
**PTI Application: 06 07332**  
**Issued**

**Facility ID: 0634000101**

**Emissions Unit ID: B001**

**F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B002 - 50 MMBTU/hr natural gas fired Process Boiler	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-10(B)(1)
	OAC rule 3745-18-06(D)
	40CFR 60, Subpart Dc

OAC rule 3745-23-06

Applicable Emissions  
Limitations/Control Measures

Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed:  
0.055 lb/MMBTU actual heat input, 2.75 lbs/hr, and 12.05 TPY from natural gas;

Carbon monoxide (CO) emissions shall not exceed:  
0.084 lb/MMBTU actual heat input, 4.2 lbs/hr, and 18.4 TPY from natural gas;

Particulate emissions (PE) shall not exceed:  
0.42 lb/hr, and 1.84 TPY from natural gas;

Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed:  
0.03 lb/hr, and 0.14 TPY from natural gas;

Volatile Organic Compound (VOC) emissions shall not exceed:  
0.30 lb/hr, and 1.32 TPY from natural gas;

Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning natural gas.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-23-06.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See a.2.a. below.

## **2. Additional Terms and Conditions**

- 2.a** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(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 February 14, 2005, OAC rule 3745-23-06 was rescinded; 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 U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

## **B. Operational Restrictions**

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

## **C. Monitoring and/or Recordkeeping Requirements**

1. Pursuant to 40 CFR Part 60 Subpart Dc, the permittee shall record and maintain records of the amount of natural gas combusted during each day. 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.

## **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 within 30 days after the deviation occurs.
2. The permittee shall submit deviation (excursion) reports that identify each day during which records were not maintained on the amount of natural gas combusted in the emissions unit. These reports shall be submitted within 30 days after the deviation occurs.
3. The following source is subject to the applicable provisions of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

**Farmers Ethanol LLC**  
**PTI Application: 06-07333**  
**Issued**

**Facility ID: 0634000101**

Emissions Unit ID: **B002**

<u>Source Number</u>	<u>Source Description</u>	<u>NSPS Regulation (Subpart)</u>
B002	50 MMBTU/hr natural gas fired boiler.	Subpart Dc

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

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. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
- c. actual start-up date (within 15 days after such date); and
- d. date of performance testing (If required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency  
DAPC - Air Quality Modeling and Planning  
P.O. Box 1049  
Columbus, OH 43216-1049

and

Ohio EPA  
Southeast District Office  
Division of Air Pollution Control  
2195 Front Street  
Logan, OH 43138

## **E. Testing Requirements**

1. Emission Limitations:  
NO<sub>x</sub> emissions shall not exceed:  
0.055 lb/MMBTU actual heat input,  
2.75 lbs/hour and,  
12.05 TPY when firing natural gas.

Compliance Methods:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU and the lb/hr emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

2. Emission Limitation:

CO emissions shall not exceed:  
0.084 lb/MMBTU actual heat input,  
4.2 lbs/hour and,  
18.4 TPY when firing natural gas.

Compliance Method:  
The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU and the lb/hr emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

3. Emission Limitation:  
PE shall not exceed:  
0.42 lb/hr and,  
1.84 TPY from natural gas.

Compliance Method:  
The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (50 MMBTU/hour) by 0.00840 lb PE per MMBTU natural gas burned (emission factor from AP-42, Table 1.4-2, July 1998 ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

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.

4. Emission Limitation:  
SO<sub>2</sub> emissions shall not exceed:  
0.03 lb/hour and,  
0.14 TPY from natural gas.

Compliance Method:  
The lb/MMBTU and lb/hr limits were established using AP-42, Table 1.4-2, July 1998.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (50 MMBTU/hour) by 0.0006 lb SO<sub>2</sub> per MMBTU natural gas burned (emission factor from AP-42, Table 1.4-2, July 1998 ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 6C, or an alternative U.S. EPA approved method.

5. Emission Limitation:  
VOC emissions shall not exceed:  
0.30 lb/hr and,  
1.32 TPY from natural gas.

Compliance Method:

The lb/MMBTU and lb/hr limits were established using AP-42, Table 1.4-2, July 1998.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (50 MMBTU/hour) by  $5.5 \times 10^{-6}$  lb VOC per cf (emission factor from AP-42, Table 1.4-2, July 1998 ) and then by (1 cf/1000 BTU).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 25, or an alternative U.S. EPA approved method.

6. Emission Limitation:  
Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning natural gas.

Compliance Method:

If required, compliance shall be demonstrated through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 .

7. 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

Emissions Unit ID: **B002**

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 Ohio EPA Southeast District Office.

- b. The emission testing shall be conducted to demonstrate compliance with the lb/MMBTU and lb/hr limitations for NO<sub>x</sub> and CO from the combustion of natural gas.
- c. The following test method(s) 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 7E from 40 CFR Part 60, Appendix A for NO<sub>x</sub>;  
Method 10 from 40 CFR Part 60, Appendix A for CO; and  
Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- 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 Ohio EPA, Southeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

24

**Farm**

**PTI A**

**Issued: 3/15/2005**

Emissions Unit ID: **B002**

**F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F001 - paved Roadways and Parking Areas	OAC rule 3745-31-05(A)(3)	There shall be no visible particulate emissions except for one minute during any 60-minute period.  Particulate emissions (PE) shall not exceed 17.53 TPY.  The permittee shall implement best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see Sections A.2.b through A.2.f).
	OAC rule 3745-17-07 (B)	see Section A.2.g
	OAC rule 3745-17-08 (B)	see Section A.2.h

**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:

- Section 1 - SE Road
- Section 2 - Truck Loadout Road

**Farmers Ethanol LLC**  
**PTI Application: 06 07332**  
**Issued**

**Facility ID: 0634000101**

**Emissions Unit ID: F001**

Section 3 - South Cross Road  
Section 4 - NW Road  
Section 5 - Exit Road

paved parking areas:

Section 6 - Parking Areas

- 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 permittee's permit application, the permittee has committed to treat the paved roadways and parking areas by implementing sweeping and 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).

28

**Farm**

**PTI A**

**Issued: 3/15/2005**

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:

<u>paved roadways</u>	<u>minimum inspection frequency</u>
each Section	once per day

<u>paved parking areas</u>	<u>minimum inspection frequency</u>
each Section	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:
- 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;
  - the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - the dates the control measures were implemented; and
  - 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.

**Farmers Ethanol LLC**  
**PTI Application: 06 07332**  
**Issued**

**Facility ID: 0634000101**

Emissions Unit ID: **F001**

The information required in 3.d. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

#### **D. Reporting Requirements**

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

#### **E. Testing Requirements**

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

**Compliance Method:**

If required, compliance with the emission limitation for the paved roadways and parking areas identified above shall be demonstrated 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.

2. Emission Limitation:  
Total particulate emissions (PE) shall not exceed 17.53 TPY.

**Compliance Method:**

Compliance for paved roadways and parking areas TPY shall be demonstrated by calculations in AP-42 section 13.2.1-2 (December, 2003). Compliance has been demonstrated using inputs representing Potential To Emit (PTE) conditions as follows:

$$E = K (SL/2)^{0.65} (W/3)^{1.5} (1-P/4N)$$

Where

E = size-specific emission factor (lb/VMT)

K = particle size multiplier = 0.082

32

**Farm**

**PTI A**

**Issued: 3/15/2005**

Emissions Unit ID: **F001**

SL = silt content of road surface material (g/m<sup>2</sup>) = 3.0 g/m<sup>2</sup>

W = mean vehicle weight (tons) = 29

P = number of wet days per averaging period with at least 0.01 inches of precipitation = 130

N = number of days per averaging period = 365

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

E (paved) = 2.92 lb/VMT

Now, to calculate the actual emissions, multiply the emission factor by VMT/yr, to obtain the annual PE rates:

Annual: PE (TPY) = (2.92 lb/VMT) (12,000 VMT/yr) / (2000lbs/ton)  
Total PE (TPY) = 17.53

#### **F. Miscellaneous Requirements**

None.

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

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
J001 - LOADING RACK for 26.0 million gallons per year 200 proof Ethanol and 1.35 million gallons per year gasoline as denaturant	OAC rule 3745-31-05(A)(3)	<p>The Best Available Technology (BAT) control requirements for this emissions unit will be a flare with a design efficiency for VOCs of at least 98%. See Section A.2.a. - A.2.d.</p> <p>Volatile Organic Compounds (VOC) emissions shall not exceed 12.6 lbs/hr and 1.8 TPY</p> <p>Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed: 7.39 lbs/hr, and 1.05 TPY</p> <p>Carbon monoxide (CO) emissions shall not exceed: 12.38 lbs/hr, and 1.76 TPY</p> <p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).</p>
	OAC rule 3745-21-07 (E)	

35

**Farmers Ethanol LLC**  
**PTI Application: 06 07332**  
**Issued**

**Facility ID: 0634000101**

**Emissions Unit ID: J001**

## **2. Additional Terms and Conditions**

- 2.a** During any transfer of material through the loading rack, 95%, by weight, of the vapors displaced from the delivery vessel shall be controlled with a flare
- 2.b** The loading rack shall utilize top submerged filling or bottom filling for the transfer of materials.
- 2.c** All material loading lines, unloading lines and vapor lines shall be equipped with fittings which are vapor tight.
- 2.d** The annual allowable emission rate is based on the annual grain throughput of 285,600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5 %) with 1.35 million gallons of gasoline. Since the facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.
- 2.e** A vapor tight lid shall be placed onto trucks' fill point before loading operations.
- 2.f** The vapor head space in the trucks' tank shall be evacuated through a solid vapor line then routed to the flare.

## **B. Operational Restrictions**

- 1. A pilot flame shall be maintained at all times in the flare's pilot light burner.

## **C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall maintain a record, on a monthly basis, of the total number of gallons of 200 proof ethanol throughput for each month and for each 12-month period in this emissions unit
- 2. The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall record the following information each day:

- a. All periods during which there was no pilot flame.
- b. The operating times for the flare, monitoring equipment, and the associated emissions unit.

#### **D. Reporting Requirements**

1. The permittee shall submit annual reports which identify any exceedances of the rolling, 12-month summation of the gallons 200 proof ethanol throughput limitation, as well as the corrective actions that were taken to achieve compliance. If no deviations occurred during the calendar year, the permittee shall submit an annual report, which states that no deviations occurred during that calendar year. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.
2. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following requirements for the vapor recovery system:
  - a. exceedances of all monitored parameters;
  - b. periods of time when the recovery stream is diverted from system control devices;
  - c. all periods of time when the vapor control system was not operational, which shall include the date, time, and duration and,
  - d. all periods of time when required monitoring data was not collected.

#### **E. Testing Requirements**

1. Emission Limitation:  
VOC emissions shall not exceed:  
shall be reduced by at least 98 % with a flare  
12.6 lbs/hr and,  
1.8 TPY.

##### Compliance Method:

The lb/hr limits were established using manufacturers data derived from estimated losses of 6.5861 lb/1000 gal throughput multiplied by the maximum hourly throughput rate of 96,000 gallons and multiplied by 0.02 for 98% control.

The annual emission rate was derived by multiplying the manufacturers estimated losses of 6.5861 lb/ 1000 gal throughput by 26.0 million gallons of 200 proof ethanol and 1.3 million gallons of denaturant fuel (27.3 million gallons total) and multiplied by 0.02 for 98% control.

Compliance with the annual limitation shall be demonstrated by the requirements in section A.2.d.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 25, or an alternative U.S. EPA approved method. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined by calculating the percent reduction in mass emissions between the inlet and outlet of the control system.

2. Emission Limitation:  
NO<sub>x</sub> emissions shall not exceed:  
7.39 lbs/hr and,  
1.05 TPY.

**Compliance Method:**

The lb/hr limits were established using manufacturers data of  $7.70 \times 10^{-5}$  lb/ gal throughput multiplied by the maximum hourly throughput rate of 96,000 gallons .

The annual emission rate was derived by multiplying the manufacturers data of  $7.70 \times 10^{-5}$  lb/gal throughput by 26.0 million gallons of 200 proof ethanol and 1.3 million gallons of denaturant fuel (27.3 million gallons per year total).

3. Emission Limitation:  
CO emissions shall not exceed:  
12.38 lbs/hr and,  
1.76 TPY.

**Compliance Method:**

The lb/hr limits were established using manufacturers data of  $1.29 \times 10^{-4}$  lb/ gal throughput multiplied by the maximum hourly throughput rate of 96,000 gallons .

The annual emission rate was derived by multiplying the manufacturers data of  $1.29 \times 10^{-4}$  lb/gal throughput by 26.0 million gallons of 200 proof ethanol and 1.3 million gallons of denaturant fuel (27.3 million gallons per year total).

Compliance with the annual limitation shall be demonstrated by the requirements in section A.2.d.

## **F. Miscellaneous Requirements**

None.



compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- 2.b** Implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05.
  
- 2.c** The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

## **B. Operational Restrictions**

- 1. The permittee shall operate the baghouse at all times when this emissions unit is in operation.

## **C. Monitoring and/or Recordkeeping Requirements**

- 1. 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 each of the baghouse stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the 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 semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack(s) serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

## **E. Testing Requirements**

**Farmers Ethanol LLC**  
**PTI Application: 06-07332**  
**Issued**

**Facility ID: 0634000101**

**Emissions Unit ID: P001**

1. Emission Limitation:  
Each of the baghouses shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.

Compliance Method:

If required, the permittee shall demonstrate compliance with the mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, or an alternative U.S. EPA approved method.

2. Emission Limitation:

Particulate emissions from the baghouse stack shall not exceed 1.62 TPY.

Compliance Method:

Compliance with the tons/yr emission limitations shall be demonstrated by the following calculation based on the emission factor in the application,(emission factor from AP-42, Chapter 9.9.1., March 2003 ) and the annual grain throughput limitation.

$((1.132\text{lb/ton} \times 285600 \text{ tpy}) + (0.025 \text{ lb/ton} \times 22950 \text{ tpy germ})) \times 0.0005 \text{ ton/lb} \times (0.01 \text{ (99\% control)}) = 1.62 \text{ TPY of Particulate emission.}$

3. Emission Limitation:

Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

Compliance Method:

If required, compliance shall be demonstrated through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

**F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P002 - 51.5 tph Hammermills vented to a baghouse	OAC rule 3745-31-05(A)(3)	The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.  Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.  Particulate emissions (PE) shall not exceed: 1.71 TPY  See A.2.a - c below.
	OAC rule 3745-17-07(A) OAC 3745-17-11(B)	The emission limitation specified by these rules are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

**2. Additional Terms and Conditions**

- 2.a The permittee shall employ best available control measures for the emissions unit for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to

maintain enclosures and vent all the particulate emissions to a baghouse to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- 2.b** Implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05.
- 2.c** The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

## **B. Operational Restrictions**

- 1. The permittee shall operate the baghouse at all times when this emissions unit is in operation.

## **C. Monitoring and/or Recordkeeping Requirements**

- 1. 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 baghouse stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the 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 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 Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

## E. Testing Requirements

1. Emission Limitation:  
The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.  
  
Compliance Method:  
If required, the permittee shall demonstrate compliance with the mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, or an alternative U.S. EPA approved method.
2. Emission Limitation:  
Particulate emissions from the baghouse stack shall not exceed 1.71 TPY.  
  
Compliance Method:  
Compliance with the tons/yr emission limitations shall be demonstrated by the following calculation based on the emission factor in the application, (emission factor from AP-42, Chapter 9.9.1., March 2003 ) and the annual grain throughput limitation.  
  
$$1.2 \text{ lb/ton} \times 285600 \text{ tpy} \times 0.0005 \text{ ton/lb} \times (0.01 \text{ (99\% control)}) = 1.71 \text{ TPY of Particulate emission.}$$
3. Emission Limitation:  
Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.  
  
Compliance Method:  
If required, compliance shall be demonstrated through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

## F. Miscellaneous Requirements

None.



Emissions Unit ID: P003

maintain enclosures and vent all the particulate emissions to a baghouse to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- 2.b** Implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05.
- 2.c** The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

## **B. Operational Restrictions**

1. The permittee shall operate the baghouse at all times when this emissions unit is in operation.

## **C. Monitoring and/or Recordkeeping Requirements**

1. 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 baghouse stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the 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 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 Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

## **E. Testing Requirements**

1. Emission Limitation:  
The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.  
  
Compliance Method:  
If required, the permittee shall demonstrate compliance with the mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, or an alternative U.S. EPA approved method.
2. Emission Limitation:  
Particulate emissions from the baghouse stack shall not exceed 0.03 TPY.  
  
Compliance Method:  
Compliance with the TPY emission limitations shall be demonstrated by the following calculation based on the emission factor in the application, (emission factor from AP-42, Chapter 9.9.1., March 2003 ) and the annual grain throughput limitation.  
  
$$0.025 \text{ lb/ton} \times 262650 \text{ tpy (the quantity of meal from 285600 tons of corn)} \times 0.0005 \text{ ton/lb} \times (0.01 \text{ (99\% control)}) = 0.03 \text{ TPY of Particulate emission.}$$
3. Emission Limitation:  
Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.  
  
Compliance Method:  
If required, compliance shall be demonstrated through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

**F. Miscellaneous Requirements**

None.

## 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P004 - Mash and yeast operations controlled with wet scrubber	OAC rule 3745-31-05(A)(3)	This emissions unit shall be vented to a wet scrubber with a design efficiency for VOCs of at least 95%.
	OAC rule 3745-21-09(DD)	Volatile Organic Compounds (VOC) emissions shall not exceed: 0.45 lbs/hr and, 1.97 TPY See A.2.a. below.
	40 CFR 60 Subpart VV	The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(DD) and 40 CFR 60 Subpart VV.  See the requirements for Emission Unit P801.  See the requirements for Emission Unit P801.

### 2. Additional Terms and Conditions

- 2.a The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the

facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

**B. Operational Restrictions**

1. The permittee shall maintain a water flow rate of not less than 5 gallons per minute for the scrubber while the emissions unit is in operation:

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall properly operate and maintain equipment to monitor the water flow rate of the scrubber while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

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

- a. the water flow rate, in gpm.

**D. Reporting Requirements**

1. The permittee shall submit semi-annual deviation (excursion) reports that identify all periods of time during which the water flow rate did not comply with the allowable values specified above for this emissions unit. The reports shall identify the cause(s) (if known) of each excursion, duration of the excursion, applicable operating rates during the excursion, and the corrective actions which were taken for each excursion. These reports shall be submitted to the Ohio EPA Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

If an exceedance did not occur during the reporting period, then a report stating that fact is required.

**E. Testing Requirements**

1. Emission Limitation:  
The scrubber shall achieve an outlet emission rate of not greater than 0.45 lb/hr of VOC emissions.

**Compliance Method:**

If required, the permittee shall demonstrate compliance with the mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 25A, or an alternative U.S. EPA approved method.

2. **Emission Limitation:**  
VOC emissions shall not exceed 1.97 TPY.

**Compliance Method:**

Compliance with the tons/yr emission limitations shall be demonstrated by the following calculation based on the emission factor from the application, which is based on stack test data from similar facilities, and the maximum possible operation schedule.

$0.45 \text{ lb/hr} \times 8760 \text{ hrs/yr} \times 0.0005 \text{ ton/lb} = 1.97 \text{ TPY of VOC emission.}$

**F. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.



facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

**B. Operational Restrictions**

1. The permittee shall maintain a water flow rate of not less than 20 gallons per minute for the scrubber while the emissions unit is in operation:

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall properly operate and maintain equipment to monitor the water flow rate of the scrubber while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

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

- a. the water flow rate, in gpm.

**D. Reporting Requirements**

1. The permittee shall submit semi-annual deviation (excursion) reports that identify all periods of time during which the water flow rate did not comply with the allowable values specified above for this emissions unit. The reports shall identify the cause(s) (if known) of each excursion, duration of the excursion, applicable operating rates during the excursion, and the corrective actions which were taken for each excursion. These reports shall be submitted to the Ohio EPA Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

If an exceedance did not occur during the reporting period, then a report stating that fact is required.

**E. Testing Requirements**

1. Emission Limitation:  
The scrubber shall achieve an outlet emission rate of not greater than 4.13 lb/hr of VOC emissions.

Compliance Method:

Compliance with the lb/hr emission rate shall be demonstrated by stack testing as specified in section E.3.

2. Emission Limitation:  
 VOC emissions shall not exceed 18.10 TPY.

Compliance Method:

Compliance with the tons/yr emission limitations shall be demonstrated by the following calculation based on the emission factor from the application, which is based on stack test data from similar facilities, and the maximum possible operation schedule.

$4.13 \text{ lb/hr} \times 8760 \text{ hrs/yr} \times 0.0005 \text{ ton/lb} = 18.10 \text{ TPY of VOC emission.}$

3. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

Compliance Methods:

- 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 demonstrate compliance with the lb/hr limitations for VOC and the control efficiency of the wet scrubber.
- c. The following test method(s) 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 18 & 25 or 25A (as indicated by the Midwest Scaling Protocol) from 40 CFR Part 60, Appendix A for VOC.

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

- 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 Ohio EPA, Southeast District Office.
- e. The hourly VOC emission limitation shall be determined in accordance with the test

methods and procedures specified in the Midwest Scaling Protocol or, or an alternative U.S. EPA approved method. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office refusal to accept the results of the emission test(s).
- g. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- h. 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 Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

## **F. Miscellaneous Requirements**

- 1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P006 - Distillation process controlled with a wet scrubber	OAC rule 3745-31-05(A)(3)	This emissions unit shall be vented to a wet scrubber with a design efficiency for VOCs of at least 95%.  Volatile Organic Compounds (VOC) emissions shall not exceed: 0.45 lbs/hr and, 1.97 TPY See A.2.a. below.
	OAC rule 3745-21-09(DD)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(DD) and 40 CFR 60 Subpart VV.
	40 CFR 60 Subpart VV	See the requirements for Emission Unit P801  See the requirements for Emission Unit P801

**2. Additional Terms and Conditions**

- 2.a The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the

facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

**B. Operational Restrictions**

1. The permittee shall maintain a water flow rate of not less than 5 gallons per minute for the scrubber while the emissions unit is in operation:

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall properly operate and maintain equipment to monitor the water flow rate of the scrubber while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

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

- a. the water flow rate, in gpm.

**D. Reporting Requirements**

1. The permittee shall submit semi-annual deviation (excursion) reports that identify all periods of time during which the water flow rate did not comply with the allowable values specified above for this emissions unit. The reports shall identify the cause(s) (if known) of each excursion, duration of the excursion, applicable operating rates during the excursion, and the corrective actions which were taken for each excursion. These reports shall be submitted to the Ohio EPA Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

If an exceedance did not occur during the reporting period, then a report stating that fact is required.

**E. Testing Requirements**

1. Emission Limitation:  
The scrubber shall achieve an outlet emission rate of not greater than 0.45 lb/hr of VOC emissions.

Compliance Method:

If required, the permittee shall demonstrate compliance with the mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 25A, or an alternative U.S. EPA approved method.

2. Emission Limitation:  
VOC emissions shall not exceed 1.97 TPY.

Compliance Method:

Compliance with the tons/yr emission limitations shall be demonstrated by the following calculation based on the emission factor from the application, which is based on stack test data from similar facilities, and the maximum possible operation schedule.

$0.45 \text{ lb/hr} \times 8760 \text{ hrs/yr} \times 0.0005 \text{ ton/lb} = 1.97 \text{ TPY of VOC emission.}$

**F. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P007 - Dried Distiller Grains with solubles (DDGS) controlled with a 55MMBTU/hr Multiclone natural gas fired (LPG backup) Dryer and 20 MMBTU/hr natural gas fired (LPG backup) Regenerative Thermal Oxidizer	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)

OAC rule 3745-17-11	<u>Applicable Emissions Limitations/Control Measures</u>	3.0 lb/hr and, 13.14 TPY
OAC rule 3745-18-06(D)	Nitrogen oxide (NO <sub>x</sub> ) emissions shall not exceed: 0.05 lb/MMBTU actual heat input, 3.75 lbs/hr and, 16.43 TPY from natural gas and, 0.21 lb/MMBTU actual heat input, 15.75 lbs/hr and, 7.87 TPY from LPG	Visible particulate emissions from the stack shall not exceed 5 % opacity as a six-minute average .  The requirements of this rule also include compliance with the requirements of OAC rule 3745-23-06, and OAC rule 3745-35-07(B).
OAC rule 3745-23-06	Carbon monoxide (CO) emissions shall not exceed: 0.084 lb/MMBTU actual heat input, 6.3 lbs/hr and, 27.6 TPY from natural gas and;	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-31-05(C)	0.035 lb/MMBTU actual heat input, 2.65 lbs/hr and, 1.32 TPY from LPG  Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed: 5.3x10 <sup>-4</sup> lb/MMBTU actual heat input, 0.04 lb/hr and, 0.19 TPY from natural gas and; 1.1x10 <sup>-3</sup> lb/MMBTU actual heat input, 0.08 lbs/hr and, 0.04 TPY from LPG	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).  The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions (PE) shall not exceed: 5.0 lb/hr and, 21.9 TPY	See A.2.a. below.
	Volatile Organic Compounds (VOC) shall not exceed:	When burning LPG fuel in this emissions unit: NO <sub>x</sub> emissions shall not exceed 7.87

**Farm**  
**PTI A**  
**Issued: 3/15/2005**

Emissions Unit ID: **P007**

Tons per rolling 12-month period.  
CO emissions shall not exceed 1.32  
Tons per rolling 12-month period.  
SO2 emissions shall not exceed  
0.04 Tons per rolling 12-month  
period.  
See II.B.1. and II.B.2. below.

## **2. Additional Terms and Conditions**

- 2.a** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(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 February 14, 2005, OAC rule 3745-23-06 was rescinded; 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 U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

## **B. Operational Restrictions**

1. The permittee shall burn only natural gas and/or LPG in this emissions unit.
2. The maximum annual gallons LPG combusted in this emissions unit shall not exceed 828,000 gallons (equivalent to 1000 hours at maximum rate), based upon a rolling, 12-month summation.

To ensure enforceability during the first 12 calendar months of operation following issuance of this permit, the permittee shall not exceed the gallon LPG combusted levels specified in the following table:

<u>Months</u>	<u>Maximum Allowable Cumulative gallons LPG combusted</u>
1	597000
1-2	828000
1-3	828000
1-4	828000
1-5	828000

**Farmers Ethanol LLC**  
**PTI Application: 06-07333**  
**Issued**

**Facility ID: 0634000101**

Emissions Unit ID: **P007**

1-6	828000
1-7	828000
1-8	828000
1-9	828000
1-10	828000
1-11	828000
1-12	828000

After the first 12 calendar months of operation following issuance of this permit, compliance with the maximum annual gallons LPG usage limitation shall be based upon a rolling, 12-month summation of the gallons LPG combusted.

3. The average combustion temperature within the regenerative thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

### **C. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than natural gas or LPG, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall maintain a monthly record of gallons of LPG combusted in this emissions unit.
3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the regenerative thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

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

63

**Farm**

**PTI A**

**Issued: 3/15/2005**

Emissions Unit ID: **P007**

#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or LPG was burned in the emissions unit. These reports shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit deviation (excursion) reports which identify any exceedances of the rolling, 12-month hours of operation limitation, while burning LPG. (For the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative hours of operation while burning LPG limitation as required in Section A.II.3. These reports shall be submitted within 30 days after the exceedance of the hourly restriction occurs.
3. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the regenerative thermal oxidizer does not comply with the temperature limitation specified above.

#### E. Testing Requirements

1. Emission Limitation:  
Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed:  
0.05 lb/MMBTU actual heat input, 3.75 lbs/hr, and 16.43 TPY from natural gas, and;  
0.21 lb/MMBTU actual heat input, 15.75 lbs/hr, and 7.87 TPY from LPG

##### Compliance Method:

Compliance with the LPG emission limitations shall be demonstrated through the Monitoring Requirement C.2. and Reporting Requirement D.3 above.

Compliance with the lb/MMBTU emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the lbs/hr emission limitations shall be demonstrated by multiplying the respective tested lb/MMBTU emission factor by 75 MMBTU/hr (the maximum BTU output of the multiclone and the regenerative thermal oxidizer) to arrive at the lbs/hr.

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

2. Emission Limitation:

**Farmers Ethanol LLC**  
**PTI Application: 06-07333**  
**Issued**

**Facility ID: 0634000101**

Emissions Unit ID: **P007**

Carbon monoxide (CO) emissions shall not exceed:  
0.084 lb/MMBTU actual heat input, 6.3 lbs/hr, and 27.6 TPY from natural gas, and;  
0.035 lb/MMBTU actual heat input, 2.65 lbs/hr, and 1.32 TPY from LPG

Compliance Method:

Compliance with the LPG emission limitations shall be demonstrated through the Monitoring Requirement C.2. and Reporting Requirement D.3 above.

Compliance with the lb/MMBTU emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the lbs/hr emission limitations shall be demonstrated by multiplying the respective tested lb/MMBTU emission factor by 75 MMBTU/hr (the maximum BTU output of the multiclone and the regenerative thermal oxidizer) to arrive at the lbs/hr.

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

3. Emission Limitation:

Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed:

5.3x10<sup>-4</sup> lb/MMBTU actual heat input, 0.04 lbs/hr, and 0.19 TPY from natural gas, and;  
1.1x10<sup>-3</sup> lb/MMBTU actual heat input, 0.08 lbs/hr, and 0.04 TPY from LPG

Compliance Method:

Compliance with the LPG emission limitations shall be demonstrated through the Monitoring Requirement C.2. and Reporting Requirement D.3 above.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (75 MMBTU/hour) by 0.0006 lb SO<sub>2</sub> per MMBTU natural gas burned (emission factor from AP-42, Chapter 1.4.1, July 1998).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 6C.

4. Emission Limitation:

Particulate emissions (PE) shall not exceed:

5.0 lb/hr and,  
21.9 TPY

Compliance Method:

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with the lb/hr emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 5, or an alternative U.S. EPA approved method.

5. Emission Limitation:  
VOC emissions shall not exceed:  
3.0 lb/hr and,  
13.14 TPY

Compliance Method:

Compliance with the lb/hr emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

6. Emission Limitation:  
Visible particulate emissions from the stack shall not exceed 20% opacity as a six-minute average, while burning natural gas.

Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

7. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

Compliance Methods:

- 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 Ohio EPA Southeast District Office.
- b. The emission testing shall be conducted to demonstrate compliance with the lb/MMBTU limitations for NO<sub>x</sub>, CO and lb/hr limitation for VOC.

- c. The following test method(s) 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 7E from 40 CFR Part 60, Appendix A for NO<sub>x</sub>;  
Method 10 from 40 CFR Part 60, Appendix A for CO; and  
Method 18 & 25 or 25A (as indicated by the Midwest Scaling Protocol) from 40 CFR Part 60, Appendix A for VOC.  
Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- 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 Ohio EPA, Southeast District Office.
- e. The hourly VOC emission limitation shall be determined in accordance with the test methods and procedures specified in the Midwest Scaling Protocol or, or an alternative U.S. EPA approved method. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.
- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office refusal to accept the results of the emission test(s).
- g. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- h. 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 Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior

69

**Farm**

**PTI A**

**Issued: 3/15/2005**

Emissions Unit ID: **P007**

approval from the Ohio EPA, Southeast District Office.

**F. Miscellaneous Requirements**

None.

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

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P008 - Dried Distiller Grains with solubles cooling process vented to a baghouse	OAC rule 3745-31-05(A)(3)	<p>The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.</p> <p>Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.</p> <p>Particulate emissions (PE) shall not exceed: 1.2 lbs/hr and, 5.3 TPY</p> <p>Volatile Organic Compounds (VOC) emissions shall not exceed : 10.8 TPY</p> <p>See A.2.a - c below.</p>
	OAC rule 3745-17-07(A) OAC 3745-17-11(B)	The emission limitation specified by these rules are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

71

**Farm**

**PTI A**

**Issued: 3/15/2005**

Emissions Unit ID: **P008**

## 2. Additional Terms and Conditions

- 2.a** The permittee shall employ best available control measures for the emissions unit for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to maintain enclosures and vent all the particulate emissions to a baghouse to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.b** Implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05.
- 2.c** The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

## B. Operational Restrictions

1. The permittee shall operate the baghouse at all times when this emissions unit is in operation.

## C. Monitoring and/or Recordkeeping Requirements

1. 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 baghouse stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the 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 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)

Emissions Unit ID: **P008**

describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

**E. Testing Requirements**

1. Emission Limitation:  
The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.

Compliance Method:

If required, the permittee shall demonstrate compliance with the particulate mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, or an alternative U.S. EPA approved method.

2. Emission Limitation:  
PE from the baghouse stack shall not exceed :  
1.2 lbs/hr and,  
5.3 TPY.

Compliance Method:

Compliance with the lb/hr and the tons/yr emission limitations shall be demonstrated by the following calculation based on the allowable emission rate (0.010 gr/dscf) multiplied by the baghouse design cfm.

$$0.010 \text{ gr/dscf} \times 12000 \text{ cfm} \times 1 \text{ lb/7000 gr} \times 60 \text{ min/hr} = 1.2 \text{ lb/hr PE}$$

$$1.2 \text{ lb/hr PE} \times 8760 \text{ hr/yr} \times 0.0005 \text{ ton/lb} = 5.3 \text{ TPY of PE.}$$

3. Emission Limitation:  
Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

Compliance Method:

If required, compliance shall be demonstrated through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

4. Emission Limitation:  
Volatile Organic Compounds (VOC) emissions shall not exceed 10.8 TPY

Compliance Method:

Compliance with the tons/yr emission limitations shall be demonstrated by the following

Farm  
PTI A  
Issued: 3/15/2005

Emissions Unit ID: P009

calculation based on the emission factor from the application, which is based on stack test data from similar facilities, and the maximum possible operation schedule.

$12000\text{cfm} \times 30 \text{ cf VOC}/1,000,000 \text{ cf exhaust} \times 0.11 \text{ lb}/\text{cf VOC} \times 60 \text{ min}/\text{hr} \times 8760 \text{ hr}/\text{yr} \times 0.0005 \text{ ton}/\text{lb} = 10.8 \text{ TPY of VOC emission.}$

#### F. Miscellaneous Requirements

None.

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

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P009 - 20.3 tph Dried Distiller Grains with solubles Storage Silo vented to a baghouse	OAC rule 3745-31-05(A)(3)	<p>Each of the baghouses shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.</p> <p>Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.</p> <p>Particulate emissions (PE) shall not exceed: 0.01 TPY</p> <p>See A.2.a - c below.</p>
	OAC rule 3745-17-07(A) OAC 3745-17-11(B)	The emission limitation specified by these rules are less stringent than the

emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

## **2. Additional Terms and Conditions**

- 2.a** The permittee shall employ best available control measures for the emissions unit for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to maintain enclosures and vent all the particulate emissions to a baghouse to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.b** Implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05.
- 2.c** The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

## **B. Operational Restrictions**

- 1. The permittee shall operate the baghouse at all times when this emissions unit is in operation.

## **C. Monitoring and/or Recordkeeping Requirements**

- 1. 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 each of the baghouse stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the 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 semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack(s) serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

**E. Testing Requirements**

1. Emission Limitation:  
Each of the baghouses shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.

**Farmers Ethanol LLC**  
**PTI Application: 06-07333**  
**Issued**

**Facility ID: 0634000101**

Emissions Unit ID: **P009**

**Compliance Method:**

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, or an alternative U.S. EPA approved method.

2. **Emission Limitation:**

Particulate emissions from the baghouse stack shall not exceed 0.01 TPY.

**Compliance Method:**

Compliance with the tons/yr emission limitations shall be demonstrated by the following calculation based on the emission factor from the application, which is based on stack test data from similar facilities, and the maximum possible operation schedule.

$0.025 \text{ lb/ton} \times 103340 \text{ tpy DDGS} \times 0.0005 \text{ ton/lb} \times (0.01 \text{ (99\% control)}) = 0.01 \text{ TPY of Particulate emission.}$

3. **Emission Limitation:**

Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

**Compliance Method:**

If required, compliance shall be demonstrated through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

**F. Miscellaneous Requirements**

None.

## 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P010 - 4 Cooling Towers	OAC rule 3745-31-05(A)(3)	Particulate emissions (PE) shall not exceed: 2.13 lbs/hr and, 9.4 TPY.  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(4)	The emissions limit based on this applicable rule is less stringent than the limit established pursuant to OAC rule 3745-31-05(A)(3).

### 2. Additional Terms and Conditions

- 2.a None.

### B. Operational Restrictions

1. The permittee shall maintain a 12-month average total dissolved solids content of 2,500 ppm or less in the circulating cooling water.

### C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform the following monitoring requirements on a monthly basis:
  - a. test and record the total dissolved solids content of the circulating cooling water, in ppm; and
  - b. determine the average total dissolved solids content based on a rolling, 12-month average.

### D. Reporting Requirements

1. The permittee shall submit deviation reports that identify any exceedances of the average total dissolved solids content requirement. Each report shall be submitted within 30 days after a deviation occurs.

### E. Testing Requirements

1. Emission Limitation:  
PE emissions shall not exceed:  
2.13 lbs/hr and,  
9.4 TPY.

#### Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the AP-42, Table 13.4-1 (1/95) emission factor\* (0.019 lb/thousand gallons water flow) by the maximum circulating water flow rate (540,000 gallons per hour for all four cooling towers).

Compliance with the average total dissolved solids content (ppm) limitations shall be demonstrated through the Monitoring Requirement C.1. and Reporting Requirement D.1 above.

\* The assumed average total dissolved solids content (ppm) of the cooling water for this emission factor is 12,000 ppm. Since PE is directly related to total dissolved solids content and the actual total dissolved solids content is 2,500 ppm, the listed emission factor has been multiplied by this ratio.

$$(0.019 \text{ lb}/10^3 \text{ gal}) (540 \cdot 10^3 \text{ gal/hr total}) (2500 \text{ ppm} / 12000\text{ppm}) = 2.13 \text{ lb/hr}$$

Compliance with the annual limitation shall be assumed as long as compliance with the average total dissolved solids content limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation (derived from the average total dissolved solids content, above)

by 8760, and then dividing by 2000).

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.

2. Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

#### **F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P011 - 3.6 MMBTU/hr ( 375 kW ) Bio-gas generator	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-10(B)(1)
	OAC rule 3745-18-06(D)
	OAC rule 3745-23-06

**Farm**  
**PTI A**  
**Issued: 3/15/2005**

Emissions Unit ID: **P011**

Applicable Emissions  
 Limitations/Control Measures

Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed:  
 0.77 lb/MMBTU actual heat input,  
 2.77 lbs/hr, and  
 12.14 TPY from bio-gas;

Carbon monoxide (CO) emissions shall not exceed:  
 0.66 lb/MMBTU actual heat input,  
 2.36 lbs/hr, and  
 10.32 TPY from bio-gas;

Particulate emissions (PE) shall not exceed:  
 0.17 lb/hr, and  
 0.76 TPY from bio-gas;

Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed:  
 0.10 lb/hr, and  
 0.46 TPY from bio-gas;

Volatile Organic Compound (VOC) emissions shall not exceed:  
 0.115 lb/MMBTU actual heat input,  
 0.42 lb/hr, and  
 1.82 TPY from bio- gas;

Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning bio-gas.

The requirements of this rule also include compliance with the

requirements of OAC rule 3745-23-06.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 31-05.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See A.2.a. below.

## 2. Additional Terms and Conditions

- 2.a The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(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 February 14, 2005, OAC rule 3745-23-06 was rescinded; 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 U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

## B. Operational Restrictions

1. The permittee shall burn only bio-gas in this emissions unit.
2. The permittee shall operate and maintain the bio-gas desulfurization system in a manner that will prevent the combustion of bio-gas that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 50 parts per million.

## C. Monitoring and/or Recordkeeping Requirements

1. Pursuant to 40 CFR Part 60 Subpart Dc, the permittee shall record and maintain records of the amount of bio-gas combusted during each day. 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 bio-gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. The permittee shall continuously operate the H<sub>2</sub>S monitoring system to determine the concentration of H<sub>2</sub>S in the bio-gas produced at the digester. The permittee shall calculate and record two consecutive 12-hour averages (midnight to noon and noon to midnight) each day from the hourly H<sub>2</sub>S concentrations recorded by the continuous emission monitoring system. These 12-hour averages shall be the basis of determining compliance with sulfur fuel content.

## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other

Emissions Unit ID: **P011**

than bio-gas was burned in the emissions unit. These reports shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit deviation (excursion) reports that identify each day during which records were not maintained on the amount of bio-gas combusted in the emissions unit. These reports shall be submitted within 30 days after the deviation occurs.
3. The permittee shall notify the Ohio EPA, Southeast District Office, in writing of any record which shows a deviation of the allowable H<sub>2</sub>S concentration based upon the monitored sulfur concentration from Section C.3. above. The notification shall include a copy of such record and shall be sent to the Ohio EPA, Southeast District Office within 30 days after the deviation occurs.

## **E. Testing Requirements**

1. Emission Limitations:  
 NO<sub>x</sub> emissions shall not exceed:  
 0.77 lb/MMBTU actual heat input,  
 2.77 lb/hr and,  
 12.14 TPY from bio-gas.

### Compliance Methods:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

2. Emission Limitation:  
 CO emissions shall not exceed:  
 0.66 lb/MMBTU actual heat input,  
 2.36 lb/hr and,  
 10.32 TPY from bio-gas.

### Compliance Method:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

3. Emission Limitation:  
PE shall not exceed:  
0.17 lb/hr and,  
0.76 TPY from bio-gas.

**Compliance Method:**

Compliance shall be determined by multiplying the maximum hourly gas burning capacity of the emissions unit (3.6 MMBTU/hour) by 0.0483 lb PE per MMBTU bio-gas burned (emission factor from AP-42, Chapter 3.2, July 2000 ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

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.

4. Emission Limitation:  
SO<sub>2</sub> emissions shall not exceed:  
0.10 lb/hr and,  
0.46 TPY from bio-gas.

Compliance Method:

Compliance with the SO<sub>2</sub> emission limitations shall be demonstrated by monitoring the hydrogen sulfide (H<sub>2</sub>S) concentration, in excess of 50 parts per million, through the Monitoring Requirement C.3. and Reporting Requirement D.3 above.

Compliance shall be determined by multiplying the maximum hourly gas burning capacity of the emissions unit (3.6 MMBTU/hour) by 0.029 lb SO<sub>2</sub> per MMBTU bio-gas burned (emission factor is based on H<sub>2</sub>S concentration of 50 ppm at the engine inlet).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 6C, or an alternative U.S. EPA approved method.

5. Emission Limitation:

VOC emissions shall not exceed:

0.115 lb/MMBTU actual heat input,  
0.42 lb/hr and,  
1.82 TPY from bio-gas.

Compliance Method:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (3.6 MMBTU/hour) by 0.115 lb VOC per MMBTU bio-gas burned (emission factor is based on manufacturers data ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25A, or an alternative U.S. EPA approved method.

6. Emission Limitation:

Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning bio-gas.

Emissions Unit ID: P011

## Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

7. The permittee shall conduct, or have conducted, emission testing for one of the following emission units, P011, P012, or P013 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 Ohio EPA Southeast District Office.
  - b. The emission testing shall be conducted to demonstrate compliance with the lb/MMBTU limitations for NO<sub>x</sub> and CO from the combustion of bio-gas.
  - c. The following test method(s) 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 7E from 40 CFR Part 60, Appendix A for NO<sub>x</sub>;  
Method 10 from 40 CFR Part 60, Appendix A for CO; and  
Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
  - 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 Ohio EPA, Southeast District Office.
  - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office refusal to accept the results of the emission test(s).
  - f. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the

control equipment.

- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

**F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P012 - 3.6 MMBTU/hr ( 375 kW ) Bio-gas generator	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-10(B)(1)
	OAC rule 3745-18-06(D)
	OAC rule 3745-23-06

Applicable Emissions  
Limitations/Control Measures

Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed:  
0.77 lb/MMBTU actual heat input,  
2.77 lb/hr, and  
12.14 TPY from bio-gas;

Carbon monoxide (CO) emissions shall not exceed:  
0.66 lb/MMBTU actual heat input,  
2.36 lb/hr, and  
10.32 TPY from bio-gas;

Particulate emissions (PE) shall not exceed:  
0.17 lb/hr, and  
0.76 TPY from bio-gas;

Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed:  
0.10 lb/hr, and  
0.46 TPY from bio-gas;

Volatile Organic Compound (VOC) emissions shall not exceed:  
0.115 lb/MMBTU actual heat input,  
0.42 lb/hr, and  
1.82 TPY from bio- gas;

Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning bio-gas.

The requirements of this rule also include compliance with the

requirements of OAC rule 3745-23-06.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 31-05.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See A.2.a. below.

## **2. Additional Terms and Conditions**

- 2.a** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(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 February 14, 2005, OAC rule 3745-23-06 was rescinded; 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 U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

## **B. Operational Restrictions**

1. The permittee shall burn only bio-gas in this emissions unit.
2. The permittee shall operate and maintain the bio-gas desulfurization system in a manner that will prevent the combustion of bio-gas that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 50 parts per million.

## **C. Monitoring and/or Recordkeeping Requirements**

1. Pursuant to 40 CFR Part 60 Subpart Dc, the permittee shall record and maintain records of the amount of bio-gas combusted during each day. 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 bio-gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. The permittee shall continuously operate the H<sub>2</sub>S monitoring system to determine the concentration of H<sub>2</sub>S in the bio-gas produced at the digester. The permittee shall calculate and record two consecutive 12-hour averages (midnight to noon and noon to midnight) each day from the hourly H<sub>2</sub>S concentrations recorded by the continuous emission monitoring system. These 12-hour averages shall be the basis of determining compliance with sulfur fuel content.

## **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other

Emissions Unit ID: **P012**

than bio-gas was burned in the emissions unit. These reports shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit deviation (excursion) reports that identify each day during which records were not maintained on the amount of bio-gas combusted in the emissions unit. These reports shall be submitted within 30 days after the deviation occurs.
3. The permittee shall notify the Ohio EPA, Southeast District Office, in writing of any record which shows a deviation of the allowable H<sub>2</sub>S concentration based upon the monitored sulfur concentration from Section C.3. above. The notification shall include a copy of such record and shall be sent to the Ohio EPA, Southeast District Office within 30 days after the deviation occurs.

#### **E. Testing Requirements**

1. Emission Limitations:  
NO<sub>x</sub> emissions shall not exceed:  
0.77 lb/MMBTU actual heat input,  
2.77 lb/hr and,  
12.14 TPY from bio-gas.

Compliance Methods:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

2. Emission Limitation:  
CO emissions shall not exceed:  
0.66 lb/MMBTU actual heat input,  
2.36 lb/hr and,  
10.32 TPY from bio-gas.

Compliance Method:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

3. Emission Limitation:  
PE shall not exceed:  
0.17 lb/hr and,  
0.76 TPY from bio-gas.

Compliance Method:

Compliance shall be determined by multiplying the maximum hourly gas burning capacity of the emissions unit (3.6 MMBTU/hour) by 0.0483 lb PE per MMBTU bio-gas burned (emission factor from AP-42, Chapter 3.2, July 2000 ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

95

**Farm**

**PTI A**

**Issued: 3/15/2005**

Emissions Unit ID: **P012**

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.

4. Emission Limitation:  
SO<sub>2</sub> emissions shall not exceed:  
0.10 lb/hr and,  
0.46 TPY from bio-gas.

Compliance Method:

Compliance with the SO<sub>2</sub> emission limitations shall be demonstrated by monitoring the hydrogen sulfide (H<sub>2</sub>S) concentration, in excess of 50 parts per million, through the Monitoring Requirement C.3. and Reporting Requirement D.3 above.

Compliance shall be determined by multiplying the maximum hourly gas burning capacity of the emissions unit (3.6 MMBTU/hour) by 0.029 lb SO<sub>2</sub> per MMBTU bio-gas burned (emission factor is based on H<sub>2</sub>S concentration of 50 ppm at the engine inlet).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 6C, or an alternative U.S. EPA approved method.

5. Emission Limitation:  
VOC emissions shall not exceed:  
0.115 lb/MMBTU actual heat input,  
0.42 lb/hr and,  
1.82 TPY from bio-gas.

Compliance Method:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (3.6 MMBTU/hour) by 0.115 lb VOC per MMBTU bio-gas burned (emission factor is based on manufacturers data ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25A, or an alternative U.S. EPA approved

method.

6. Emission Limitation:  
Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning bio-gas.

Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

7. The permittee shall conduct, or have conducted, emission testing for one of the following emission units, P011, P012, or P013 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 Ohio EPA Southeast District Office.
  - b. The emission testing shall be conducted to demonstrate compliance with the lb/MMBTU limitations for NO<sub>x</sub> and CO from the combustion of bio-gas.
  - c. The following test method(s) 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 7E from 40 CFR Part 60, Appendix A for NO<sub>x</sub>;  
Method 10 from 40 CFR Part 60, Appendix A for CO; and  
Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
  - 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 Ohio EPA, Southeast District Office.
  - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District

Office refusal to accept the results of the emission test(s).

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

**F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P013 - 3.6 MMBTU/hr ( 375 kW ) Bio-gas generator	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-10(B)(1)
	OAC rule 3745-18-06(D)

OAC rule 3745-23-06

Applicable Emissions  
Limitations/Control Measures

Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed:

0.77 lb/MMBTU actual heat input,  
2.77 lb/hr, and  
12.14 TPY from bio-gas;

Carbon monoxide (CO) emissions shall not exceed:

0.66 lb/MMBTU actual heat input,  
2.36 lb/hr, and  
10.32 TPY from bio-gas;

Particulate emissions (PE) shall not exceed:

0.17 lb/hr, and  
0.76 TPY from bio-gas;

Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed:

0.10 lb/hr, and  
0.46 TPY from bio-gas;

Volatile Organic Compound (VOC) emissions shall not exceed:

0.115 lb/MMBTU actual heat input,  
0.42 lb/hr, and  
1.82 TPY from bio- gas;

Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning bio-gas.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-23-06.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 31-05.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See A.2.a. below.

## 2. Additional Terms and Conditions

- 2.a The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(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 February 14, 2005, OAC rule 3745-23-06 was rescinded; 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 U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

## B. Operational Restrictions

1. The permittee shall burn only bio-gas in this emissions unit.
2. The permittee shall operate and maintain the bio-gas desulfurization system in a manner that will prevent the combustion of bio-gas that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 50 parts per million.

## C. Monitoring and/or Recordkeeping Requirements

1. Pursuant to 40 CFR Part 60 Subpart Dc, the permittee shall record and maintain records of the amount of bio-gas combusted during each day. 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 bio-gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. The permittee shall continuously operate the H<sub>2</sub>S monitoring system to determine the concentration of H<sub>2</sub>S in the bio-gas produced at the digester. The permittee shall calculate and record two consecutive 12-hour averages (midnight to noon and noon to midnight) each day from the hourly H<sub>2</sub>S concentrations recorded by the continuous emission monitoring system. These 12-hour averages shall be the basis of determining compliance with sulfur fuel content.

## D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other

than bio-gas was burned in the emissions unit. These reports shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit deviation (excursion) reports that identify each day during which records were not maintained on the amount of bio-gas combusted in the emissions unit. These reports shall be submitted within 30 days after the deviation occurs.
3. The permittee shall notify the Ohio EPA, Southeast District Office, in writing of any record which shows a deviation of the allowable H<sub>2</sub>S concentration based upon the monitored sulfur concentration from Section C.3. above. The notification shall include a copy of such record and shall be sent to the Ohio EPA, Southeast District Office within 30 days after the deviation occurs.

#### **E. Testing Requirements**

1. Emission Limitations:  
NO<sub>x</sub> emissions shall not exceed:  
0.77 lb/MMBTU actual heat input,  
2.77 lb/hr and,  
12.14 TPY from bio-gas.

##### Compliance Methods:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

2. Emission Limitation:  
CO emissions shall not exceed:  
0.66 lb/MMBTU actual heat input,  
2.36 lb/hr and,  
10.32 TPY from bio-gas.

##### Compliance Method:

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance with the lb/MMBTU emission rate shall be demonstrated by stack testing as specified in section E.7.

Compliance with the annual limitation shall be assumed as long as compliance with the lb/hour

**Farmers Ethanol LLC**  
**PTI Application: 06-07333**  
**Issued**

**Facility ID: 0634000101**

Emissions Unit ID: **P013**

limitation is maintained (the annual limitation was calculated by multiplying the lb/hour limitation by 8760, and then dividing by 2000).

3. Emission Limitation:  
PE shall not exceed:  
0.17 lb/hr and,  
0.76 TPY from bio-gas.

**Compliance Method:**

Compliance shall be determined by multiplying the maximum hourly gas burning capacity of the emissions unit (3.6 MMBTU/hour) by 0.0483 lb PE per MMBTU bio-gas burned (emission factor from AP-42, Chapter 3.2, July 2000 ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

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.

4. Emission Limitation:  
SO<sub>2</sub> emissions shall not exceed:  
0.10 lb/hr and,  
0.46 TPY from bio-gas.

**Compliance Method:**

Compliance with the SO<sub>2</sub> emission limitations shall be demonstrated by monitoring the hydrogen sulfide (H<sub>2</sub>S) concentration, in excess of 50 parts per million, through the Monitoring Requirement C.3. and Reporting Requirement D.3 above.

Compliance shall be determined by multiplying the maximum hourly gas burning capacity of the emissions unit (3.6 MMBTU/hour) by 0.029 lb SO<sub>2</sub> per MMBTU bio-gas burned (emission factor is based on H<sub>2</sub>S concentration of 50 ppm at the engine inlet).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 6C, or an alternative U.S. EPA approved method.

5. **Emission Limitation:**

VOC emissions shall not exceed:

0.115 lb/MMBTU actual heat input,

0.42 lb/hr and,

1.82 TPY from bio-gas.

**Compliance Method:**

The lb/MMBTU and lb/hr limits were established using manufacturers data.

Compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (3.6 MMBTU/hour) by 0.115 lb VOC per MMBTU bio-gas burned (emission factor is based on manufacturers data ).

Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25A, or an alternative U.S. EPA approved method.

6. **Emission Limitation:**

Visible particulate emissions from the boiler stack shall not exceed 20% opacity as a six-minute average, while burning bio-gas.

Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

7. The permittee shall conduct, or have conducted, emission testing for one of the following emission units, P011, P012, or P013 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 Ohio EPA Southeast District Office.
  - b. The emission testing shall be conducted to demonstrate compliance with the lb/MMBTU limitations for NO<sub>x</sub> and CO from the combustion of bio-gas.
  - c. The following test method(s) 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 7E from 40 CFR Part 60, Appendix A for NO<sub>x</sub>;  
Method 10 from 40 CFR Part 60, Appendix A for CO; and  
Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
  - 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 Ohio EPA, Southeast District Office.
  - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office refusal to accept the results of the emission test(s).
  - f. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid

**Farmers Ethanol LLC**  
**PTI Application: 06-07333**  
**Issued**

**Facility ID: 0634000101**

Emissions Unit ID: **P013**

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

**F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P801 - Fugitive VOC emission Leaks	OAC rule 3745-31-05(A)(3)	Volatile Organic Compounds (VOC) shall not exceed: 5.16 TPY See A.2.e. and F.3. below.  The requirements of this rule also include compliance with the requirements of 40 CFR 60.480 through 60.489 (NSPS subpart VV)
	OAC rule 3745-21-09(DD)	The requirements of this rule are less stringent than those of NSPS subpart V V.
	40 CFR 60.480 through 60.489 (NSPS subpart VV)	See sections below which contain rule citations from the NSPS.

**2. Additional Terms and Conditions**

- 2.a 60.482-1(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.

- 2.b** 60.482-1(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.
- 2.c** 60.482-1(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.
- 2.d** 60.482-1(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).
- 2.e** The permittee shall employ best available control measures for the emissions unit for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to implementing a LDAR program to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance. The permittee shall include the appropriate process equipment and regulated components in a site fugitive 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

- 1.a** 60.482-2(a) **Pumps in light liquid service.**  
 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.
- 1.b** 60.482-2(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.
- 1.c 60.482-2(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.
- 1.d 60.482-2(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.

- 1.e 60.482-2(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.
- 1.f 60.482-2(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.
- 1.g 60.482-2(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.
- 1.h 60.482-2(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.
- 2.a 60.482-3(a) **Compressors.**  
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.

2.b 60.482-3(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.

2.c 60.482-3(c)

The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

2.d 60.482-3(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.

2.e 60.482-3(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.

2.f 60.482-3(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.

2.g 60.482-3(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.

- 2.h 60.482-3(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.
- 2.i 60.482-3(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.
- 2.j 60.482-3(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.
- 3.a 60.482-4(a) **Pressure relief devices in gas/vapor service.**  
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).
- 3.b 60.482-4(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).
- 3.c 60.482-4(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.

3.d 60.482-4(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.

4.a 60.482-5(a) **Sampling connection systems.**

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.

4.b 60.482-5(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.

4.c 60.482-5(c)

In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

- 5.a 60.482-6(a) **Open-ended valves or lines.**
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.
- 5.b 60.482-6(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.
- 5.c 60.482-6(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.
- 5.d 60.482-6(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.
- 5.e 60.482-6(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.
- 6.a 60.482-7(a) **Valves in gas/vapor service and in light liquid service.**  
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).
- 6.b 60.482-7(b)  
If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- 6.c 60.482-7(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.
- 6.d 60.482-7(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.
- 6.e 60.482-7(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.
- 6.f 60.482-7(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.

- 6.g 60.482-7(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.
- 6.h 60.482-7(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.
- 7.a 60.482-8(a) **Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.**  
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.
- 7.b 60.482-8(b)  
If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- 7.c 60.482-8(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.
- 7.d 60.482-8(d)  
First attempts at repair include, but are not limited to, the best practices described under 60.482-7(e).
- 8.a 60.482-9(a) **Delay of repair.**  
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.
- 8.b 60.482-9(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.
- 8.c 60.482-9(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.
- 8.d 60.482-9(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.
- 8.e 60.482-9(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.

9.a **60.482-10(a) 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.

- 9.b 60.482-10(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.
- 9.c 60.482-10(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.
- 9.d 60.482-10(d)  
Flares used to comply with this subpart shall comply with the requirements of 60.18.
- 9.e 60.482-10(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.
- 9.f 60.482-10(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).

- 9.g 60.482-10(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.
- 9.h 60.482-10(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.
- 9.j 60.482-10(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.
- 9.k 60.482-10(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

Emissions Unit ID: P801

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.
- 9.1 60.482-10(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.
- 9.m 60.482-10(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.
- 10.a 60.483-1(a) **Alternative standards for valves -- allowable percentage of valves leaking.**  
 An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.
- 10.b 60.483-1(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).

10.c 60.483-1(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.

10.d 60.483-1(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.

11.a 60.483-2(a) **Alternative standards for valves -- skip period leak detection and repair.**

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).

11.b 60.483-2(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.

### C. Monitoring and/or Recordkeeping Requirements

#### 1.a 60.486 Recordkeeping requirements.

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.

#### 1.b 60.486(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.

#### 1.c 60.486(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.

1.d 60.486(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.

1.e 60.486(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:

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.

1.f 60.486(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.

- 1.g 60.486(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.
- 1.h 60.486(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.
- 1.i 60.486(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.
- 1.j 60.486(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.
- 1.k 60.486(k)  
The provisions of 60.7 (b) and (d) do not apply to affected facilities subject to this subpart.

#### **D. Reporting Requirements**

- 1.a 60.487(a) **Reporting requirements.**  
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.

1.b 60.487(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).

1.c 60.487(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.

1.d 60.487(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.

1.e 60.487(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.

1.f 60.487(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.

## E. Testing Requirements

1.a 60.485 **Test methods and procedures.**

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).

1.b 60.485(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.

1.c 60.485(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.

1.d 60.485(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.

1.e 60.485(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<sub>2</sub>O 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<sub>2</sub>O at 68 °F) is equal to or greater than 20 percent by weight.
3. The fluid is a liquid at operating conditions.

1.f 60.485(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.

1.g 60.485(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:



Where:

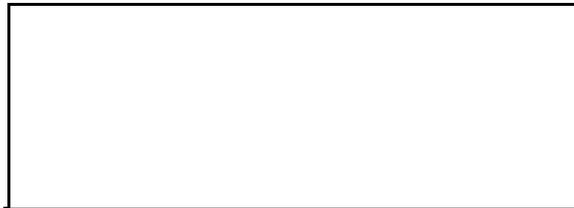
$V_{max}$  = Maximum permitted velocity, m/sec (ft/sec)

HT = 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)

$K_2$  =  $0.7084 \text{ m}^4/(\text{MJ-sec})$  (metric units) =  $0.087 \text{ ft}^4/(\text{Btu-sec})$  (English units)

4. The net heating value (HT) of the gas being combusted in a flare shall be computed using the following equation:



Where:

$K$  = Conversion constant,  $1.740 \times 10^7 \text{ (g-mole)(MJ) / (ppm-scm-kcal)}$  (metric units) =  $4.674 \times 10^8 \text{ [(g-mole)(BTU) / (ppm-scf-kcal)]}$  (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.
2. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:

Volatile Organic Compounds (VOC) shall not exceed: 5.16 TPY

Compliance Method:

Compliance with the annual VOC emission Leak rate has been determined by the permittee through computer modeling, 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 done by the facility. 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 organic compounds.

## F. Miscellaneous Requirements

- 1.a **60.484(a) Equivalence of means of emission limitation.**  
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.
- 1.b 60.484(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.

1.c 60.484(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.

1.d 60.484(d)

An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

1.e 60.484(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.

- 1.f 60.484(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.
- 2.a 60.488(a) **Reconstruction.**  
For the purposes of this subpart:  
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.
- 2.b 60.488(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

**Farmers Ethanol LLC**  
**PTI Application: 06-07333**  
**Issued**

**Facility ID: 0634000101**

**Emissions Unit ID: P801**

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.

3. Within 180 days of the start up of this emissions unit, the permittee shall develop an onsite fugitive leak detection and repair (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 (includes operational restrictions, monitoring and recordkeeping, reporting, and testing) of OAC rule 3745-21-09 (DD), and 40 CFR 60 Subpart VV.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-08(A)
P901 - Grain Receiving (truck and rail) transferring and conveying with enclosures and vented to a baghouse.	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11 (B)
		OAC rule 3745-17-07 (A)

OAC rule 3745-17-07 (B)

40 CFR Part 60 Subpart DD

Applicable Emissions  
Limitations/Control Measures

Stack Emissions:

The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.

Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

Particulate emissions (PE) from the baghouse stack shall not exceed: 0.28 TPY

See A.2.a. and A.2.b. below.

Fugitive Emissions:

Fugitive PE shall not exceed: 1.91 TPY

Visible fugitive PE shall not exceed 5% opacity, as a 6-minute average, from any truck and rail unloading.

Visible fugitive PE shall not exceed 0% opacity, as a 6-minute average, from any grain handling operation.

This facility is located in Harrison County, which is not identified in Appendix A of OAC rule 3745-17-08.

Therefore, the fugitive dust emissions from this emissions unit are exempt from the fugitive dust control requirements and visible emission limitation established in OAC rules 3745-17-08(B) and 3745-17-07(B), respectively

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

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).

See A.2.c. below.

## 2. Additional Terms and Conditions

2.a The "Best Available Technology" (BAT) control requirements for this emissions unit has been determined to be the following:

- i. for grain receiving, the use of a two-sided enclosure, aspirated to a baghouse; and,
- ii. for transferring/conveying, the use of a total enclosure.

2.b The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

2.c 40 CFR Part 60.301(c) (Subpart DD - Standards of Performance for Grain Elevators) is applicable to elevators with a permanent storage capacity greater than 2.5 million U.S. bushels. This facilities total storage capacity is approximately 500,000 U.S. bushels and therefore, is not subject NSPS Subpart DD.

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. 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 baghouse stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the color of the emissions;
  - b. the total duration of any visible emission incident; and
  - c. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any *visible fugitive particulate emissions* from the egress points

Emissions Unit ID: P901

(i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive 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 minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

#### D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any *visible particulate emissions* were observed from the baghouse 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 Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. 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., building windows, doors, roof monitors, etc.) serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

#### E. Testing Requirements

1. Emission Limitation:  
The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.

**Compliance Method:**

If required, the permittee shall demonstrate compliance with the allowable mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, or an alternative U.S. EPA approved method.

2. **Emission Limitation:**

Visible PE from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

Visible fugitive PE shall not exceed 5% opacity, as a 6-minute average, from any truck and rail unloading.

Visible fugitive PE shall not exceed 0% opacity, as a 6-minute average, from any grain handling operation.

**Compliance Method:**

Compliance with the visible emission rate shall be demonstrated by stack testing as specified in section E.5.

3. **Emission Limitation:**

Particulate emissions (PE) from the baghouse stack shall not exceed: 0.28 TPY

**Compliance Method:**

Compliance with the TPY emission limitations shall be demonstrated by the following calculation based on the emission factor in the application, ( emission factor from AP-42, Chapter 9.9.1, March 2003 ) and the annual grain throughput limitation.

$$[((0.035 \text{ lb/ton} + 0.032 \text{ lb/ton})(0.8 \{ 80\% \text{ captured } \})) + (0.061 \text{ lb/ton} + 0.061 \text{ lb/ton})] (285600 \text{ tons grain/yr}) (0.0005 \text{ ton/lb}) (0.01 (99\% \text{ control})) = 0.28 \text{ TPY of Particulate emission.}$$

4. **Emission Limitation:**

1.91 TPY fugitive PE

**Compliance Method:**

Compliance with the TPY fugitive PE limitation shall be demonstrated by the following calculation based on the emission factor in the application, (emission factor from AP-42, Chapter 9.9.1., March 2003 ) of 0.035 lbs PE/ton grain for grain handling and 0.032 lbs PE/ton for grain receiving and multiplying by the maximum annual grain throughput of 285,600 tons grain/yr, and applying a 80% control efficiency (ie. 20% is fugitive loss component) for use of a two sided

enclosure with aspiration:

$(0.035 \text{ lb/ton} + 0.032 \text{ lb/ton})(0.8 \{ 80\% \text{ captured} \}) (285600 \text{ tons grain/yr})(0.0005 \text{ ton/lb}) = 1.91 \text{ TPY of fugitive Particulate emission.}$

5. The permittee shall conduct, or have conducted, initial emission testing for this emissions unit in accordance with the following requirements:

Compliance Methods:

- 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 demonstrate compliance with the visible emission limitation for :

Visible PE from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

Visible fugitive PE shall not exceed 5% opacity, as a 6-minute average, from any truck and rail unloading.

Visible fugitive PE shall not exceed 0% opacity, as a 6-minute average, from any grain handling operation.

- c. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations:

Method 9 of 40 CFR 60, Appendix A.

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

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

- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District

Office's refusal to accept the results of the emission test(s).

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

**F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07 (A)
P902 - Grain Handling, Storage and Cleaning with enclosure and vented to a baghouse	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-07 (B)
	OAC rule 3745-17-08(A)	40 CFR Part 60 Subpart DD
	OAC rule 3745-17-11 (B)	

Applicable Emissions  
Limitations/Control Measures

Stack Emissions:

The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.

Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

Particulate emissions (PE) from the baghouse stack shall not exceed: 1.63 TPY

See A.2.a. and A.2.b. below.

This facility is located in Harrison County, which is not identified in Appendix A of OAC rule 3745-17-08. Therefore, the fugitive dust emissions from this emissions unit are exempt from the fugitive dust control requirements and visible emission limitation established in OAC rules 3745-17-08(B) and 3745-17-07(B), respectively

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the

emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

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).

See A.2.c. below.

## 2. Additional Terms and Conditions

- 2.a** The "Best Available Technology" (BAT) control requirements for this emissions unit has been determined to be the following:
- i. for transferring/conveying, the use of a total enclosure with no fugitive emissions.
- 2.b** The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.
- 2.c** 40 CFR Part 60.301(c) (Subpart DD - Standards of Performance for Grain Elevators) is applicable to elevators with a permanent storage capacity greater than 2.5 million U.S. bushels. This facilities total storage capacity is approximately 500,000 U.S. bushels and therefore, is not subject NSPS Subpart DD.

## B. Operational Restrictions

None

### C. Monitoring and/or Recordkeeping Requirements

1. 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 baghouse stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the 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 semiannual written reports that (a) identify all days during which any *visible particulate emissions* were observed from the baghouse 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 Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

### E. Testing Requirements

1. Emission Limitation:  
The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.

Compliance Method:

If required, the permittee shall demonstrate compliance with the allowable mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, or an alternative U.S. EPA approved method.

2. Emission Limitation:  
Visible PE from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

Compliance Method:

Compliance with the visible emission rate shall be demonstrated by stack testing as specified in section E.4.

3. Emission Limitation:

146

**Farmers Ethanol LLC**  
**PTI Application: 06-07332**  
**Issued**

**Facility ID: 0634000101**

Emissions Unit ID: **P902**

Particulate emissions (PE) from the baghouse stack shall not exceed: 1.63 TPY

Compliance Method:

Compliance with the TPY emission limitations shall be demonstrated by the following calculation based on the emission factor in the application, (emission factor from AP-42, Chapter 9.9.1., March 2003 ) and the annual grain throughput limitation.

1.141 lb/ton (285,600 tons grain/yr) (0.0005 ton/lb) (0.01 (99% control)) = 1.63 TPY of Particulate emission.

4. The permittee shall conduct, or have conducted, initial emission testing for this emissions unit in accordance with the following requirements:

Compliance Methods:

- 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 demonstrate compliance with the visible emission limitation for :  
  
Visible PE from the baghouse stack shall not exceed 0% opacity as a 3-minute average.
- c. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations:  
  
Method 9 of 40 CFR 60, Appendix A.  
Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Southeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District

Office's refusal to accept the results of the emission test(s).

- f. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to

ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

**F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P903 - DDGS Loadout vented to a baghouse	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-08(A)
		OAC rule 3745-17-11 (B)
		OAC rule 3745-17-07 (A)
		OAC rule 3745-17-07 (B)

Emissions Unit ID: P903

Applicable Emissions  
Limitations/Control Measures

Stack Emissions:

The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.

Visible particulate emissions from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

Particulate emissions (PE) from the baghouse stack shall not exceed:  
0.04 TPY

See A.2.a. and A.2.b. below.

Fugitive Emissions:

Fugitive PE shall not exceed:  
0.89 TPY

Visible fugitive PE shall not exceed 5% opacity, as a 6-minute average, from any truck or rail loading.

This facility is located in Harrison County, which is not identified in Appendix A of OAC rule 3745-17-08. Therefore, the fugitive dust emissions from this emissions unit are exempt from the fugitive dust control requirements and visible emission limitation established in

OAC rules 3745-17-08(B) and 3745-17-07(B), respectively

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

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. Additional Terms and Conditions

- 2.a** The "Best Available Technology" (BAT) control requirements for this emissions unit has been determined to be the following:
- i. for DDGS loadout, the use of a enclosed conveying system, aspirated to a baghouse;
- 2.b** The annual allowable emission rate is based on the annual grain throughput of 285600 tons or based on the annual production of ethanol equivalent to 26 million gallons of 200 proof ethanol which is denatured (at 5%) with 1.35 million gallons of gasoline. Since the facility annual production rate is equivalent to the maximum capacity of emissions unit P006 (Distillation Process) no operational restrictions, monitoring, recordkeeping or reporting requirements are necessary to ensure this emission unit does not exceed its annual allowable emission rates.

## B. Operational Restrictions

None

## C. Monitoring and/or Recordkeeping Requirements

1. 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 baghouse stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the color of the emissions;
  - b. the total duration of any visible emission incident; and
  - c. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any *visible fugitive particulate emissions* from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive 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 visible emissions.

#### D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any *visible particulate emissions* were observed from the baghouse 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 Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. 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., building windows, 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 Ohio EPA, Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

#### E. Testing Requirements

1. Emission Limitation:  
The baghouse shall achieve an outlet emission rate of not greater than 0.010 grain of particulate emissions per dry standard cubic foot of exhaust gases.

Compliance Method:

If required, the permittee shall demonstrate compliance with the allowable mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, or an alternative U.S. EPA approved method.

2. Emission Limitation:  
Visible PE from the baghouse stack shall not exceed 0% opacity as a 3-minute average.

Visible fugitive PE shall not exceed 5% opacity, as a 6-minute average, from any DDGS truck and rail loading.

Compliance Method:

If required, compliance shall be demonstrated through visible emission observations performed in

accordance with 40 CFR Part 60, Appendix A, Method 9.

3. Emission Limitation:

Particulate emissions (PE) from the baghouse stack shall not exceed: 0.04 TPY

Compliance Method:

Compliance with the TPY emission limitations shall be demonstrated by the following calculation based on the emission factor in the application, ( emission factor from AP-42, Chapter 9.9.1, March 2003 ) and the annual grain throughput limitation.

$0.086 \text{ lb/ton} ( 0.8 \{ 80\% \text{ captured } \} ) ( 103340 \text{ tons DDGS/yr } ) ( 0.0005 \text{ ton/lb } ) ( 0.01 ( 99\% \text{ control} ) ) = 0.04 \text{ tons/yr of PE.}$

4. Emission Limitation:  
0.89 TPY fugitive PE

Compliance Method:

Compliance with the TPY fugitive PE limitation shall be demonstrated by the following calculation based on the emission factor in the application,(emission factor from AP-42, Chapter 9.9.1., March 2003 ) of 0.086 lbs PE/ton grain for DDGS loading and multiplying by the maximum annual DDGS throughput of 103,340 tons DDGS/yr, and applying a 80% control efficiency (ie. 20% is fugitive loss component) for use of a two sided enclosure with aspiration:  $( 0.086 \text{ lb/ton} ) ( 0.2 \{ 20\% \text{ uncaptured } \} ) ( 103,340 \text{ tons DDGS/yr } ) ( 0.0005 \text{ ton/lb } ) = 0.89 \text{ TPY of fugitive PE.}$

**F. Miscellaneous Requirements**

None.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
T001 - 268000 gallon above ground internal floating roof Denatured Ethanol storage tank	OAC rule 3745-31-05(A)(3)	Emissions of volatile organic compounds (VOC) shall not exceed 0.14 TPY.
	OAC rule 3745-21-09(L)	The requirements of this rule also include compliance with the requirements of 40 CFR Part 60 Subpart Kb. See A.2.a.below.
	40 CFR Subpart Kb	See A.2.b. below.
		See A.2.c through A.2.m, C.1. through C.7., and D.1. through D.5. below.

**2. Additional Terms and Conditions**

- 2.a The Best Available Technology (BAT) requirement for this emissions unit has been determined to be the use of an internal floating roof.
- 2.b 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).

- 2.c** The fixed roof storage tank shall be equipped with an internal floating roof.
- 2.d** 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.
- 2.e** 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:
- i. 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.
  - ii. 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.
  - iii. 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.
- 2.f** Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
- 2.g** Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid 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.
- 2.h** 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.

- 2.i** 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.
- 2.j** 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.
- 2.k** 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.
- 2.l** Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
- 2.m.** The maximum true vapor pressure of ethanol, as stored, shall be no greater than 11.11 pound per square inch absolute (psia) (76.6 kPa).

## **B. Operational Restrictions**

None

## **C. Monitoring and/or Recordkeeping Requirements**

- 1.** 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 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.
- 2.** For vessels 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 Ohio EPA Southeast District Office in the inspection report required in Section D.4. 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.

3. For vessels equipped with a double-seal system as specified in Section A.2.e.ii.:
  - a. the permittee shall visually inspect the vessel as specified in Section C.4. at least every 5 years; or
  - b. the permittee shall visually inspect the vessel as specified in Section C.2.
4. 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.2. and Section C.3.b. and at intervals no greater than 5 years in the case of vessels specified in Section C.3.a.
5. The owner or operator shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be maintained for the life of the source.
6. The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.
7. The permittee shall keep a record of each inspection performed as required by Sections C.1. through C.4. 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).

#### **D. Reporting Requirements**

**Farmers Ethanol LLC**  
**PTI Application: 06 07333**  
**Issued**

**Facility ID: 0634000101**

**Emissions Unit ID: T001**

1. This emissions unit is subject to the applicable provisions of Subpart Kb of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.
  - a. Pursuant to 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:
    - i. Construction date (no later than 30 days after such date);
    - ii. Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
    - iii. Actual start-up date (within 15 days after such date); and
    - iv. If required, date of performance testing (at least 30 days prior to testing).
  - b. The permittee shall notify the Ohio EPA of any material, added to this tank, that has a vapor pressure greater than 0.754 psia (5.2 kPa). This notification shall be made within 30 days of the fill.
  - c. Reports are to be sent to:

Ohio Environmental Protection Agency  
DAPC - Permit Management Unit  
P. O. Box 163669  
Columbus, Ohio 43216-3669

and

Ohio Environmental Protection Agency  
Southeast District Office  
Division of Air Pollution Control  
2195 Front Street  
Logan, Ohio 43138
2. The permittee shall notify the Ohio EPA Southeast District Office, 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.1. and C.4. to afford the Ohio EPA the opportunity to have an observer present. If the inspection required by Section C.4. is not planned and the owner or operator could not have

known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Ohio EPA Southeast District Office 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 Ohio EPA Southeast District Office at least 7 days prior to the refilling.

3. The permittee shall furnish the Ohio EPA Southeast District Office with a report that describes the control equipment and certifies that the control equipment meets the specifications of Sections A.2.d through A.2.l and C.1. This report shall be an attachment to the notification of the actual date of initial startup of an affected facility required by Section D.1.iii. and shall be postmarked within 15 days after such date.

**Farmers Ethanol LLC**  
**PTI Application: 06-07222**  
**Issued**

**Facility ID: 0634000101**

**Emissions Unit ID: T001**

4. If any of the conditions described in Section C.2. are detected during the annual visual inspection required by Section C.2., a report shall be furnished to the Ohio EPA Southeast District Office 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.
5. After each inspection required by C.3. 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 C.3.b., a report shall be furnished to the Ohio EPA Southeast District Office within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of Sections A.2.d through A.2.1 or C.3. and list each repair made.
6. The permittee shall notify the Ohio Environmental Protection Agency Southeast District Office of any material other than denatured ethanol is being added to the tank and/or if any organic liquid with a true vapor pressure greater than 11.1 psia is stored in this emissions unit. This notification shall be made within 30 days of the fill.

#### **E. Testing Requirements**

1. Emissions Limitation:

Emissions of VOCs shall not exceed 0.14 TPY

Compliance Method:

Compliance shall be determined by a one time calculation using the TANKS Program 4.0 or other method acceptable to the Ohio EPA Southeast District Office.

#### **F. Miscellaneous Requirements**

None.