



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
(800) 451-6027  
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TO: Interested Parties / Applicant  
DATE: MARCH 23, 2006  
RE: PUTNAM ETHANOL, LLC / 133-22480-00003  
FROM: Nisha Sizemore  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FNPER.dot 1/10/05



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Robert DeBlois  
Putnam Ethanol, LLC  
700 East Ogden, Suite 308  
Westmont, Illinois 60559

March 23, 2006

Re: 133-22480-00003  
First Significant Revision to  
FESOP 133-19163-00003

Dear Mr. DeBlois:

Putnam Ethanol, LLC was issued a Federally Enforceable State Operating Permit (FESOP) permit on October 4, 2004 for the construction and operation of an ethanol production plant. A letter requesting changes to this permit was received on January 9, 2006. Pursuant to the provisions of 326 IAC 2-8-11.1(f), a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document.

This source has not started the construction of this new plant and requested to modify the plant design permitted in FESOP #113-19163-00003, issued on October 4, 2004. The revision consists of converting the permitted wet mill operation to a dry mill operation, increasing the maximum production rate from 63 million gallons of denatured ethanol per year to 88.2 million gallons of denatured ethanol per year, and updating the general conditions in the permit.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions  
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please find attached a copy of the revised permit.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Yu-Lien Chu, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 386-1024 to speak directly to Ms. Chu. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204-2251, or call (800) 451-6027 and ask for Duane Van Laningham or extension 3-6878, or dial (317) 233-6878.

Sincerely,  
Original signed by Nisha Sizemore for

Paul Dubenetzky  
Assistant Commissioner  
Office of Air Quality

Attachments  
ERG/YC

cc: File – Putnam County  
Putnam County Health Department  
Air Compliance Section Inspector – Jim Thorpe  
Compliance Data Section  
Administrative and Development  
Technical Support and Modeling - Michele Boner



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## FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR QUALITY

**Putnam Ethanol, LLC  
7816 South US 231  
Cloverdale, Indiana 46120**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

**The Permittee must comply with all conditions of this permit. Noncompliance with any provision of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; and denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses new source review requirements and is intended to fulfill the new source review procedures and permit revision requirements pursuant to 326 IAC 2-8-11.1, applicable to those conditions.

Operation Permit No.: F133-19163-00003	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: October 4, 2004  Expiration Date: October 4, 2009
First Significant Permit Revision No.: F133-22480-00003	Pages Affected: Whole Permit
Original signed by Nisha Sizemore for by: Paul Dubenetzky, Assistant Commissioner Office of Air Quality	Issuance Date: March 23, 2006  Expiration Date: October 4, 2009

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- D.2.2 Federally Enforceable State Operating Permit [326 IAC 2-8]

**Effective Date of the Permit**

- D.2.3 Effective Date of the Permit [IC13-15-5-3]
- D.2.4 Modification to Construction Conditions [326 IAC 2]

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**Effective Date of the Permit**

- D.3.3 Effective Date of the Permit [IC13-15-5-3]
- D.3.4 Modification to Construction Conditions [326 IAC 2]

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- D.4.2 Federally Enforceable State Operating Permit [326 IAC 2-8]

#### **Effective Date of the Permit**

- D.4.3 Effective Date of the Permit [IC13-15-5-3]
- D.4.4 Modification to Construction Conditions [326 IAC 2]

### **Operation Conditions**

#### **Emission Limitations and Standards [326 IAC 2-8-4(1)]**

- D.4.5 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]
- D.4.6 VOC Emissions [326 IAC 8-1-6]
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- D.4.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

#### **Compliance Determination Requirements**

- D.4.10 VOC Control
- D.4.11 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11] [326 IAC 2-2]

#### **Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

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#### **Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

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#### Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

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E.1.3 Standards: Pressure Relief Devices in Gas/Vapor Service [326 IAC 12][40 CFR 60,  
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E.1.4 Standards: Sampling Connection Systems [326 IAC 12][40 CFR 60, Subpart VV]

E.1.5 Standards: Open-Ended Valves or Lines [326 IAC 12][40 CFR 60, Subpart VV]

E.1.6 Standards: Valves in Gas/Vapor Service and in Light Liquid Service [326 IAC 12][40 CFR  
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VV]

E.1.9 Standards: Delay of Repair [326 IAC 12][40 CFR 60, Subpart VV]

#### Compliance Determination Requirements

E.1.10 Test Methods and Procedures [326 IAC 12][40 CFR 60, Subpart VV]

#### Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

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## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-8-3(b)]

---

The Permittee owns and operates a stationary ethanol production plant.

Authorized individual:	President
Source Address:	7816 South US 231, Cloverdale, Indiana 46120
Mailing Address:	700 East Ogden, Suite 308, Westmont, Illinois 60559
General Source Phone:	(603) 920-9990
SIC Code:	2869
Source Location Status:	Putnam
Source Status:	Attainment for all criteria pollutants Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD; Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) truck dump pit, identified as EU01, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE01, and exhausting through stack EP001.
- (b) One (1) rail dump pit, identified as EU02, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE01, and exhausting through stack EP001.
- (c) One (1) grain handling operation, constructed in 2006, controlled by baghouse CE01, exhausting through stack EP001, and consisting of the following:
  - (1) One (1) grain conveying system, identified as EU03, with a maximum throughput rate of 840 tons per hour.
  - (2) One (1) grain elevator, identified as EU04, with a maximum throughput rate of 840 tons per hour.
  - (3) One (1) grain storage silo, identified as EU05, with a maximum capacity of 800,000 bushels and maximum throughput rate of 840 tons per hour.
- (d) Three (3) hammermills, identified as EU06, EU07, and EU08, constructed in 2006, each with a maximum throughput rate of 280 tons of corn per hour, controlled by baghouses CE02, CE03, and CE04, respectively, and exhausting through stacks EP002, EP003, and EP004, respectively.
- (e) One (1) mill surge hammermill bin, identified as EU09, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE05, and exhausting through stack EP005.

- (f) One (1) fermentation process, constructed in 2006, with a maximum throughput rate of 20,000 gallons per hour, using wet scrubber CE07 for VOC control, and exhausting through stack EP007. This process consists of the following:
  - (1) Six (6) fermenters, identified as EU16 through EU21.
  - (2) One (1) beer well, identified as EU22.
- (g) Two (2) thermal oxidizers with heat recovery steam generator (TO/HRSG) systems, identified as CE09 and CE16, constructed in 2006, each with a maximum heat input capacity of 130 MMBtu/hr, using natural gas as fuel, with emissions exhausted through stacks EP008 and EP014, respectively.
- (h) One (1) distillation process, constructed in 2006, with a maximum throughput rate of 14,000 gallons of ethanol per hour, controlled by one of the TO/HRSG systems (CE09 or CE16), with emissions exhausted through stack EP008 or EP014. This process consists of the following:
  - (1) Mix tanks, identified as EU10.
  - (2) Flash tanks, identified as EU11.
  - (3) Two (2) liquefaction tanks, identified as EU12 and EU13, each with a maximum capacity of 7,000 gallons per hour.
  - (4) One (1) rectifier column, identified as EU23.
  - (5) One (1) side stripper, identified as EU24.
  - (6) One (1) beer stripper, identified as EU25.
  - (7) One (1) molecular sieve, identified as EU26.
  - (8) One (1) whole stillage tank, identified as EU27.
  - (9) One (1) centrifuge, identified as EU28.
  - (10) One (1) centrate still tank, identified as EU29.
- (i) Two (2) natural gas fired DDGS dryers, identified as EU34 and EU37, constructed in 2006, each with a maximum heat input rate of 90 MMBtu/hr, with a total maximum throughput rate of 34 tons of DDGS per hour, controlled by multiclones CE08 and CE14, respectively, with emissions venting to TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.
- (j) Two (2) DDGS coolers, identified as EU35 and EU38, constructed in 2006, each with a maximum throughput rate of 34 tons/hr of DDGS, controlled by TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.
- (k) One (1) DDGS handling and loadout operation, constructed in 2006, with a maximum throughput rate of 120 tons/hr of DDGS, controlled by baghouse CE10, with emissions exhausted to stack EP010, and consisting of the following:
  - (1) One (1) DDGS storage bin, identified as EU31.
  - (2) One (1) DDGS conveyor, identified as EU32.
  - (3) One (1) DDGS truck loadout spout, identified as EU33.

- (l) One (1) ethanol loading rack for trucks, identified as EU40A, constructed in 2006, with a maximum throughput rate of 48,000 gallons per hour. This unit is controlled by enclosed flare CE012, which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu/hr, and exhausting through stack EP012.
- (m) One (1) ethanol loading rack for railcars, identified as EU40B, constructed in 2006, with a maximum throughput rate of 60,000 gallons per hour.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Solvent recycling systems with batch capacity less than or equal to 100 gallons.
- (b) Forced and induced draft cooling tower system not regulated under a NESHAP.
- (c) Replacement or repair of bags in baghouses and filters in other air filtration equipment.
- (d) Paved roads and parking lots with public access. [326 IAC 6-4]
- (e) Underground conveyors, including underground grain and product transfer conveyors.
- (f) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (g) Stationary fire pumps, including one (1) diesel fire pump, identified as EU41, constructed in 2006, with a maximum power output rate of 275 horsepower, and exhausting to stack EP015. [326 IAC 2-8-4]
- (h) Other emission units, not regulated by a NESHAP, with PM<sub>10</sub>, NO<sub>x</sub>, and SO<sub>2</sub> emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:
  - (1) One (1) off spec tank for 190-proof ethanol, identified as T001, constructed in 2006, with a maximum capacity of 270,000 gallons. [40 CFR 60, Subpart Kb]
  - (2) One (1) shift tank for 200-proof ethanol, identified as T002, constructed in 2006, with a maximum capacity of 1,000,000 gallons of 200-proof ethanol. [40 CFR 60, Subpart Kb]
  - (3) One (1) denaturant tank, identified as T003, constructed in 2006, with a maximum capacity of 125,000 gallons of natural gasoline. [326 IAC 8-9] [40 CFR 60, Subpart Kb]
  - (4) One (1) denatured ethanol tank, identified as TK004, constructed in 2006, with a maximum capacity of 1,000,000 gallons of denatured ethanol. [40 CFR 60, Subpart Kb]
  - (5) One (1) diesel storage tank, identified as T005, constructed in 2006, with a maximum storage capacity less than 1,000 gallons.

- (6) One (1) biomethanator, identified as EU42, constructed in 2006, controlled by 3.48 MMBtu/hr biomethanator flare CE13, and exhausting to stack EP013. [326 IAC 2-8-4]

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either
  - (1) incorporated as originally stated,
  - (2) revised, or
  - (3) deletedby this permit.
- (b) All previous registrations and permits are superseded by this permit.

## **SECTION B GENERAL CONDITIONS**

### **B.1 Permit No Defense [IC 13]**

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

### **B.2 Definitions [326 IAC 2-8-1]**

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2, and 326 IAC 2-7) shall prevail.

### **B.3 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5]**

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

### **B.4 Enforceability [326 IAC 2-8-6]**

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

### **B.5 Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]**

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

### **B.6 Severability [326 IAC 2-8-4(4)]**

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

### **B.7 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]**

This permit does not convey any property rights of any sort, or any exclusive privilege.

### **B.8 Duty to Provide Information [326 IAC 2-8-4(5)(E)]**

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1 when furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

### **B.9 Compliance Order Issuance [326 IAC 2-8-5(b)]**

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

### **B.10 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]**

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an authorized individual of truth, accuracy, and completeness. This

certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One certification may cover multiple forms in one (1) submittal.
- (c) An authorized individual is defined at 326 IAC 2-1.1-1(1).

**B.11 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]**

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- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of initial start-up through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
  - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
  - (2) The compliance status;
  - (3) Whether compliance was continuous or intermittent;
  - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
  - (5) Such other facts as specified in Sections D of this permit, IDEM, OAQ, may require to determine the compliance status of the source.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**B.12 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]**

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.13 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
  - (2) The permitted facility was at the time being properly operated;
  - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
  - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section) or,  
Telephone No.: 317-233-5674 (ask for Compliance Section)  
Facsimile No.: 317-233-5967

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
  - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
    - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
    - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of

capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

**B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]**

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- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provision), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

**B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8]**

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- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a FESOP modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
  - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
  - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty

(30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

**B.16 Permit Renewal [326 IAC 2-8-3(h)]**

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, IN 46204-2251

- (b) Timely Submittal of Permit Renewal [326 IAC 2-8-3]

(1) A timely renewal application is one that is:

- (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
- (B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(2) If IDEM, OAQ upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

- (c) Right to Operate After Application for Renewal [326 IAC 2-8-9]

If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as needed to process the application.

**B.17 Permit Amendment or Revision [326 IAC 2-8-10] [326 IAC 2-8-11.1]**

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- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

Any such application shall be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

**B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]**

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- (a) The Permittee may make any change or changes at this source that are described in 326 IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V  
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, to public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ, in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) **Emission Trades [326 IAC 2-8-15(c)]**  
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) **Alternative Operating Scenarios [326 IAC 2-8-15(d)]**  
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.

- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

**B.19 Permit Revision Requirement [326 IAC 2-8-11.1]**

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A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

**B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC13-30-3-1]**

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

**B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]**

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- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:  
  
Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
  
The application which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action, or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4320 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.23 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

### Emissions Limitations and Standards [326 IAC 2-8-4(1)]

#### C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

#### C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable;
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(c) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

#### C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

#### C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in

accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

**C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]**

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The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and in 326 IAC 9-1-2.

**C.6 Fugitive Dust Emissions [326 IAC 6-4]**

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The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

**C.7 Stack Height [326 IAC 1-7]**

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The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

**C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]**

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- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
  - (2) If there is a change in the following:
    - (A) Asbestos removal or demolition start date;
    - (B) Removal or demolition contractor; or
    - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1 emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

### **Testing Requirements [326 IAC 2-8-4(3)]**

#### **C.9 Performance Testing [326 IAC 3-6]**

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- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

### **Compliance Requirements [326 IAC 2-1.1-11]**

#### **C.10 Compliance Requirements [326 IAC 2-1.1-11]**

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The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

### **Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

#### **C.11 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]**

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Unless otherwise specified in this permit, all monitoring and record keeping requirements shall be implemented when operation begins. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

Unless otherwise specified in the approval for the new emissions unit, compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

#### **C.12 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]**

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- (a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment.
- (b) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.
- (c) Whenever a continuous emission monitor other than an opacity monitor is malfunctioning or will be down for calibration, maintenance, or repairs for a period of four (4) hours or more, a calibrated backup CEMS shall be brought online within four (4) hours of shutdown of the primary CEMS, and shall be operated until such time as the primary CEMS is back in operation.
- (d) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 40 CFR 60, Subpart Db.

#### **C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

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Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63 or other approved methods as specified in this permit.

#### **C.14 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]**

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- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

### **Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

#### **C.15 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]**

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If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

#### **C.16 Response to Excursions and Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]**

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- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit(s) (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; and
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
  - (1) monitoring data;
  - (2) monitor performance data, if applicable; and
  - (3) corrective actions taken.

C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## **Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

### **C.18 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

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- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements shall be implemented when operation begins.

### **C.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]**

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- (a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) The first report shall cover the period commencing on the date of initial start-up and ending on the last day of the reporting period. All subsequent reporting periods shall be based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

## **Stratospheric Ozone Protection**

### **C.20 Compliance with 40 CFR 82 and 326 IAC 22-1**

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Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to 40 CFR 82.156

- (b) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

**SECTION D.1 FACILITY OPERATION CONDITIONS – Grain and DDGS Handling Processes**

**Facility Description [326 IAC 2-8-4(10)] :**

- (a) One (1) truck dump pit, identified as EU01, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE01, and exhausting through stack EP001.
- (b) One (1) rail dump pit, identified as EU02, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE01, and exhausting through stack EP001.
- (c) One (1) grain handling operation, constructed in 2006, controlled by baghouse CE01, exhausting through stack EP001, and consisting of the following:
  - (1) One (1) grain conveying system, identified as EU03, with a maximum throughput rate of 840 tons per hour.
  - (2) One (1) grain elevator, identified as EU04, with a maximum throughput rate of 840 tons per hour.
  - (3) One (1) grain storage silo, identified as EU05, with a maximum capacity of 800,000 bushels and maximum throughput rate of 840 tons per hour.
- (d) Three (3) hammermills, identified as EU06, EU07, and EU08, constructed in 2006, each with a maximum throughput rate of 280 tons of corn per hour, controlled by baghouses CE02, CE03, and CE04, respectively, and exhausting through stacks EP002, EP003, and EP004, respectively.
- (e) One (1) mill surge hammermill bin, identified as EU09, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE05, and exhausting through stack EP005.

**Insignificant Activity:**

- (d) Paved roads and parking lots with public access. [326 IAC 6-4]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-8-11.1, WITH CONDITIONS LISTED BELOW.

***Construction Conditions***

**General Construction Conditions**

**D.1.1 Permit No Defense**

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

**D.1.2 Federally Enforceable State Operating Permit [326 IAC 2-8]**

The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application.

### Effective Date of the Permit

#### D.1.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

#### D.1.4 Modification to Construction Conditions [326 IAC 2]

All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.

### Operation Conditions

#### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### D.1.5 PM and PM10 Emissions [326 IAC 2-2] [326 IAC 2-8-4]

(a) The PM and PM10 emissions from the following units shall not exceed the emission limits listed in the table below.

Unit ID	Unit Description	Baghouse ID	PM/PM10 Emission Limit (lbs/hr)
EU01 – EU05	Grain Receiving and Handling Operations	CE01	1.41
EU06	Hammermill	CE02	0.28
EU07	Hammermill	CE03	0.28
EU08	Hammermill	CE04	0.28
EU09	Mill Surge Hammermill Bin	CE05	0.34
EU31 – EU33	DDGS Handling and Loadout Operations	CE10	0.17

- (b) The total grain received shall not exceed 904,615 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (c) The total DDGS produced shall not exceed 294,589 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (d) The Permittee shall use periodic sweeping to control PM and PM10 emissions from the paved roads. The sweeping shall be applied in a manner and at a frequency sufficient to ensure compliance with 326 IAC 2-2.

Combined with the PM/PM10 emissions from other emission units, the PM/PM10 emissions from the entire source are limited to less than 100 tons/yr. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.

#### D.1.6 Particulate Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from each of following operations shall not exceed the pound per hour limits listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU01	Truck Dump Pit	840	75.4
EU02	Rail Dump Pit	840	75.4
EU03	Grain Conveying System	840	75.4
EU04	Grain Elevator	840	75.4
EU05	Grain Storage Silo	840	75.4
EU06	Hammermill	280	62.2
EU07	Hammermill	280	62.2
EU08	Hammermill	280	62.2
EU09	Mill Surge Hammermill Bin	840	75.4
EU31	DDGS Storage	120	53.1
EU32	DDGS Conveyor	120	53.1
EU33	DDGS Loadout	120	53.1

The pounds per hour limitations were calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Pursuant to 326 IAC 6-3-2(e)(3), when the process weight exceeds 200 tons per hour, the maximum allowable emission may exceed the emission limits shown in the table above, provided the concentration of particulate matter in the gas discharged to the atmosphere is less than 0.10 pounds per 1,000 pounds of gases.

**D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

**Compliance Determination Requirements**

**D.1.8 Particulate Control**

(a) In order to comply with Conditions D.1.5(a) and D.1.6, each of the following emission units shall be controlled by the associated baghouse, as listed in the table below, when these units are in operation:

Unit ID	Unit Description	Baghouse ID
EU01-EU05	Grain Receiving and Handling Operations	CE01
EU06	Hammermill	CE02
EU07	Hammermill	CE03
EU08	Hammermill	CE04
EU09	Mill Surge Hammermill Bin	CE05
EU31-EU33	DDGS Handling and Loadout Operations	CE10

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

**D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]**

In order to demonstrate compliance with Conditions D.1.5(a) and D.1.6, the Permittee shall perform PM and PM10 testing for baghouses CE01 through CE05, and CE10 within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup, utilizing methods

as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

### **Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

#### **D.1.10 Visible Emissions Notations**

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- (a) Visible emission notations of the baghouse stack exhausts (stacks EP001 through EP005, and EP010) shall be performed once per day during normal daylight operations. A trained employee or a trained contractor shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee or contractor is a person who has worked or trained at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

#### **D.1.11 Parametric Monitoring**

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The Permittee shall record the pressure drop across the baghouses used in conjunction with the grain receiving and handling operations (EU01 through EU05), the hammermills (EU06 through EU08), the mill surge hammermill bin (EU09), and the DDGS handling and loadout operations (EU31 through EU33), at least once per day when these units are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 to 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

#### **D.1.12 Broken or Failed Bag Detection**

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- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse=s pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

### **Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

#### **D.1.13 Record Keeping Requirements**

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- (a) To document compliance with Condition D.1.5(b), the Permittee shall maintain monthly records of the amount of grain received at this plant.
- (b) To document compliance with Condition D.1.5(c), the Permittee shall maintain monthly records of the amount of DDGS produced.
- (c) To document compliance with Condition D.1.10, the Permittee shall maintain records of daily visible emission notations of the baghouse stack exhausts.
- (d) To document compliance with Condition D.1.11, the Permittee shall maintain daily records of pressure drop for baghouses during normal operation.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### **D.1.14 Reporting Requirements**

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A quarterly summary of the information to document compliance with Conditions D.1.5(b) and D.1.5(c) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## SECTION D.2

## FACILITY OPERATION CONDITIONS – Fermentation Process

### Facility Description [326 IAC 2-8-4(10)]:

- (f) One (1) fermentation process, constructed in 2006, with a maximum throughput rate of 20,000 gallons per hour, using wet scrubber CE07 for VOC control, and exhausting through stack EP007. This process consisted of the following:
- (1) Six (6) fermenters, identified as EU16 through EU21.
  - (2) One (1) beer well, identified as EU22.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-8-11.1, WITH CONDITIONS LISTED BELOW.

### ***Construction Conditions***

#### **General Construction Conditions**

##### D.2.1 Permit No Defense

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

##### D.2.2 Federally Enforceable State Operating Permit [326 IAC 2-8]

The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application.

#### **Effective Date of the Permit**

##### D.2.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

##### D.2.4 Modification to Construction Conditions [326 IAC 2]

All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.

### ***Operation Conditions***

#### **Emission Limitations and Standards [326 IAC 2-8-4(1)]**

##### D.2.5 VOC and HAP Emissions [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4 (FESOP), the VOC and HAP emissions from scrubber CE07 controlling the fermentation process shall not exceed the following:

- (a) 5.85 lbs/hr for VOC.
- (b) 0.812 lbs/hr for Acetaldehyde.
- (c) 0.85 lbs/hr for total HAPs.

Combined with the VOC emissions from other units, the VOC emissions from the entire source are limited to less than 100 tons/yr. Combined with the HAP emissions from other units, the HAP emissions from the entire source are limited to less than 10 tons/yr for a single HAP and less than 25 tons/yr for total HAPs. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program), 326 IAC 2-2 (PSD), and 326 IAC 2-4.1 (MACT) are not applicable.

#### D.2.6 VOC Emissions [326 IAC 8-1-6]

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Pursuant to 326 IAC 8-1-6 (BACT), the Permittee shall control the VOC emissions from the fermentation process with a Best Available Control Technology (BACT), which has been determined to be the following:

- (a) The VOC emissions from the fermentation process (FP) shall be controlled by wet scrubber CE07.
- (b) The overall control efficiency for the wet scrubber CE07 (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.
- (c) The VOC emissions from wet scrubber CE07 shall not exceed 5.85 lbs/hr.

#### D.2.7 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

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The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facility described in Condition D.2.8 except when otherwise specified in 40 CFR 60, Subpart VV.

#### D.2.8 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VV]

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Pursuant to 40 CFR 60, Subpart VV, the Permittee shall comply with the requirement of Section E.1 for pumps; pressure relief devices in gas/vapor service; sampling connection systems; open-ended valves or lines; and valves.

#### D.2.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control device.

### **Compliance Determination Requirements**

#### D.2.10 VOC and HAP Control

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In order to comply with Conditions D.2.5 and D.2.6, wet scrubber CE07 shall be in operation and control emissions from the fermentation process at all times that this process is in operation.

#### D.2.11 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

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In order to demonstrate compliance with Conditions D.2.5 and D.2.6, the Permittee shall perform VOC (including emission rate, adsorption efficiency, and capture efficiency) and Acetaldehyde testing for scrubber CE07, within 60 days after achieving the maximum production, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

### **Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

#### D.2.12 Parametric Monitoring

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The Permittee shall monitor and record the pressure drop and the flow rate of scrubber CE07 at least once per day when the fermentation process is in operation. When for any one reading, the pressure drop across the scrubber is outside the normal range of 1.0 and 6.0 inches of water, or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. When for any one reading, the flow rate of the scrubber is less than the normal minimum of 40 gallons per

minute, or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range or a flow rate that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

The instruments used for determining the pressure drop and flow rate shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

#### D.2.13 Scrubber Detection

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In the event that a scrubber malfunction has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

### **Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

#### D.2.14 Record Keeping Requirements

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- (a) To document compliance with Condition D.2.12, the Permittee shall maintain daily records of pressure drop and flow rate for scrubber CE07 during normal operation.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**SECTION D.3**

**FACILITY OPERATION CONDITIONS - TO/HRSG Systems, DDGS  
Drying, and DDGS Cooling**

**Facility Description [326 IAC 2-8-4(10)]:**

- (g) Two (2) thermal oxidizers with heat recovery steam generator (TO/HRSG) systems, identified as CE09 and CE16, constructed in 2006, each with a maximum heat input capacity of 130 MMBtu/hr, using natural gas as fuel, with emissions exhausted through stacks EP008 and EP014, respectively.
- (h) One (1) distillation process, constructed in 2006, with a maximum throughput rate of 14,000 gallons of ethanol per hour, controlled by one of the TO/HRSG systems (CE09 or CE16), with emissions exhausted through stack EP008 or EP014. This process consists of the following:
  - (1) Mix tanks, identified as EU10.
  - (2) Flash tanks, identified as EU11.
  - (3) Two (2) liquefaction tanks, identified as EU12 and EU13, each with a maximum capacity of 7,000 gallons per hour.
  - (4) One (1) rectifier column, identified as EU23.
  - (5) One (1) side stripper, identified as EU24.
  - (6) One (1) beer stripper, identified as EU25.
  - (7) One (1) molecular sieve, identified as EU26.
  - (8) One (1) whole stillage tank, identified as EU27.
  - (9) One (1) centrifuge, identified as EU28.
  - (10) One (1) centrate still tank, identified as EU29.
- (i) Two (2) natural gas fired DDGS dryers, identified as EU34 and EU37, constructed in 2006, each with a maximum heat input rate of 90 MMBtu/hr, with a total maximum throughput rate of 34 tons of DDGS per hour, controlled by multiclones CE08 and CE14, respectively, with emissions venting to TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.
- (j) Two (2) DDGS coolers, identified as EU35 and EU38, constructed in 2006, each with a maximum throughput rate of 34 tons/hr of DDGS, controlled by TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-8-11.1, WITH CONDITIONS LISTED BELOW.

***Construction Conditions***

**General Construction Conditions**

**D.3.1 Permit No Defense**

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22

through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

**D.3.2 Federally Enforceable State Operating Permit [326 IAC 2-8]**

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The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application.

**Effective Date of the Permit**

**D.3.3 Effective Date of the Permit [IC13-15-5-3]**

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Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

**D.3.4 Modification to Construction Conditions [326 IAC 2]**

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All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.

***Operation Conditions***

**Emission Limitations and Standards [326 IAC 2-8-4(1)]**

**D.3.5 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]**

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Pursuant to 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following emission limits for the TO/HRSG systems (CE09 and CE16), which are used to control the emissions from the distillation process, the DDGS dryers (EU34 and EU37), and the DDGS coolers (EU35 and EU38). Since the exhausts from these units will vent to one of the TO/HRSG systems (CE09 and CE16), the total emissions from both the TO/HRSG systems stacks (EP008 and EP014) combined shall comply with the following:

- (a) PM/PM10 emissions shall not exceed 8.24 lbs/hr.
- (b) VOC emissions shall not exceed 10.5 lbs/hr.
- (c) CO emissions shall not exceed 21.0 lbs/hr.
- (d) SO<sub>2</sub> emissions shall not exceed 9.84 lbs/hr.
- (e) NO<sub>x</sub> emissions shall not exceed 20.2 lbs/hr.
- (f) Acetaldehyde emissions shall not exceed 0.58 lbs/hr.
- (g) Total HAP emissions shall not exceed 2.22 lbs/hr.

Combined with the PM/PM10, VOC, SO<sub>2</sub>, CO, and NO<sub>x</sub> emissions from other units, the PM/PM10, SO<sub>2</sub>, VOC, CO, NO<sub>x</sub> emissions from the entire source are each limited to less than 100 tons/yr. Combined with the HAP emissions from other units, the HAP emissions from the entire source are limited to less than 10 tons/yr for a single HAP and less than 25 tons/yr for total HAPs. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program), 326 IAC 2-2 (PSD), and 326 IAC 2-4.1 (MACT) are not applicable.

**D.3.6 VOC Emissions [326 IAC 8-1-6]**

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Pursuant to 326 IAC 8-1-6 (BACT), the Permittee shall control the VOC emissions from the distillation process and the DDGS dryers (EU34 and EU37) with a Best Available Control Technology (BACT), which has been determined to be the following:

- (a) The VOC emissions from the distillation process and the DDGS dryers (EU34 and EU37) shall be controlled by TO/HRSG system CE09 or CE16.

- (b) The overall efficiency for each of the TO/HRSG systems CE09 and CE16 (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.
- (c) The total VOC emissions from the TO/HRSG systems stacks (EP008 and EP014) combined shall not exceed 10.5 lbs/hr.

D.3.7 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the TO/HRSG systems CE09 and CE16 except when otherwise specified in 40 CFR Part 60, Subpart Db.

D.3.8 NOx Emissions [326 IAC 12-1][40 CFR 60, Subpart Db]

- (a) Pursuant to 40 CFR 60.44b, the NOx emissions from each of the TO/HRSG systems (CE09 and CE16) shall not exceed 0.1 lbs/MMBtu.
- (b) Pursuant to 40 CFR 60.48b(b), except for 40 CFR 60.48b(g), (h), and (i), the Permittee shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere.

D.3.9 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facility described in Condition D.3.10 except when otherwise specified in 40 CFR 60, Subpart VV.

D.3.10 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VV]

Pursuant to 40 CFR 60, Subpart VV, the Permittee shall comply with the requirement of Section E.1 for pumps; compressors; pressure relief devices in gas/vapor service; sampling connection systems; open-ended valves or lines; and valves.

D.3.11 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from each of the 130 MMBtu/hr TO/HRSG systems (CE09 and CE16) shall be limited to 0.26 pounds per MMBtu heat input.

The limit was calculated using the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where Pt = emission rate limit (lbs/MMBtu)  
 Q = total source heat input capacity (MMBtu/hr)

D.3.12 Particulate Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from each of following operations shall not exceed the pound per hour limit listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU34	DDGS Dryer	34	41.1
EU37	DDGS Dryer	34	41.1
EU35	DDGS Cooler	34	41.1
EU38	DDGS Cooler	34	41.1

The pounds per hour limitations were calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

#### D.3.13 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

### Compliance Determination Requirements

#### D.3.14 VOC and HAP Control

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In order to comply with Conditions D.3.5 and D.3.6, the TO/HRSG systems (CE09 and CE16) shall be in operation and control emissions from the distillation process, the DDGS dryers (EU34 and EU37), and the DDGS coolers (EU35 and EU38) at all times that these units are in operation.

#### D.3.15 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11] [40 CFR 60, Subpart Db] [326 IAC 2-2]

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- (a) In order to demonstrate compliance with Conditions D.3.5, D.3.6, D.3.11, and D.3.12, the Permittee shall perform PM, PM10, VOC (including emission rate, destruction efficiency, and capture efficiency), NO<sub>x</sub>, SO<sub>2</sub>, CO, and Acetaldehyde testing for the TO/HRSG systems stacks (EP008 and EP014) within 60 days after achieving maximum capacity, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. PM10 includes filterable and condensable PM10. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.
- (b) In order to demonstrate compliance with Condition D.3.8(a) and pursuant to 40 CFR 60.46b(e), the Permittee shall conduct the performance test as required under 40 CFR 60.8 using the continuous system for monitoring nitrogen oxides under 40 CFR 60.48(b). For the initial compliance test, nitrogen oxides from the TO/HRSG systems stacks (EP008 and EP014) are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the nitrogen oxides emission standards under 40 CFR 60.44b. Following the date on which the initial performance test is completed, the Permittee shall upon request determine compliance with the nitrogen oxides standards under 40 CFR 60.44b through the use of a 30-day performance test.

### Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

#### D.3.16 Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 12] [40 CFR 60, Subpart Db]

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- (a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 40 CFR 60.47b and 60.48b, a continuous monitoring system shall be calibrated, maintained, and operated for measuring NO<sub>x</sub>, which meets the performance specifications of 326 IAC 3-5-2.
- (b) Pursuant to 326 IAC 3-5-4, if revisions are made to the continuous monitoring standard operating procedures (SOP), the Permittee shall submit updates to the department biennially.
- (c) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5, or 40 CFR 60.

#### D.3.17 Visible Emissions Notations

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- (a) Visible emission notations of the stack exhaust from the TO/HRSG system stacks (EP008 and EP014) shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

#### D.3.18 Thermal Oxidizer Temperature

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- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the TO/HRSG systems (CE09 and CE16) for measuring operating temperature. For the purpose of this condition, continuous means no less than once per minute. The output of this system shall be recorded as 3-hour average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1,400°F.
- (b) The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in Conditions D.3.5 and D.3.6, as approved by IDEM.
- (c) On and after the date the approved stack test results are available, the Permittee shall operate the thermal oxidizers at or above the hourly average temperature as observed during the compliant stack test.

#### D.3.19 Parametric Monitoring

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- (a) The Permittee shall determine the appropriate duct pressure or fan amperage from the most recent valid stack test that demonstrates compliance with limits in Conditions D.3.5 and D.3.6, as approved by IDEM.
- (b) The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizer/heat recovery steam generator is in operation. On and after the date the approved stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in most recent compliant stack test.

### **Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

#### D.3.20 Record Keeping Requirements

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- (a) To document compliance with Conditions D.3.5(e), D.3.8(a), and D.3.16, the Permittee shall maintain records of the NOx emissions in accordance with 40 CFR 60.49b.
- (b) To document compliance with Condition D.3.17, the Permittee shall maintain records of once per day visible emission notations of the stacks EP008 and EP014.

- (c) To document compliance with Condition D.3.18, the Permittee shall maintain continuous temperature records for the thermal oxidizer and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.
- (d) To document compliance with Condition D.3.19, the Permittee shall maintain daily records of the duct pressure or fan amperage for the TO/HRSG systems (CE09 and CE16).
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.21 Recordkeeping Requirements [40 CFR 60, Subpart Db] [326 IAC 12]

- (a) Pursuant to 40 CFR 60.49b(d), the Permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for natural gas for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.
- (b) Pursuant to 40 CFR 60.49b(g), the Permittee shall maintain records of the following information for each steam generating unit operating day:
  - (1) Calendar date.
  - (2) The average hourly nitrogen oxides emission rates (expressed as NO<sub>2</sub>) (ng/J or lb/million Btu heat input) measured or predicted.
  - (3) The 30-day average nitrogen oxides emission rates (ng/J or lb/million Btu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.
  - (4) Identification of the steam generating unit operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards under 40 CFR 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken.
  - (5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.
  - (6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.
  - (7) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.
  - (8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.
  - (9) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.
  - (10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.
- (c) All records shall be maintained in accordance with Section C – General Recordkeeping Requirements, of this permit.

D.3.22 Reporting Requirements [40 CFR 60, Subpart Db] [326 IAC 12]

- (a) Pursuant to 40 CFR 60.49b(a), the Permittee shall submit notification of the date of initial startup, as provided by 40 CFR 60.7. This notification shall include the information specified in 40 CFR 60.49b(a)(1) through (4).
- (b) Pursuant to 40 CFR 60.49b(b), the Permittee shall submit the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The Permittee shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.
- (c) Pursuant to 40 CFR 60.49b(h), the Permittee shall submit excess emission reports for any excess emissions which occurred during the reporting period.
- (d) Pursuant to 40 CFR 60.49b(i), the Permittee shall submit reports containing the information recorded under 40 CFR 60.49b(g) and Condition D.3.21(b).
- (e) Pursuant to 40 CFR 60.49b(v), the Permittee may submit electronic quarterly reports for NO<sub>x</sub> in lieu of submitting the written reports required. The format of each quarterly electronic report shall be coordinated with IDEM, OAQ. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the Permittee shall coordinate with IDEM, OAQ to obtain their agreement to submit reports in this alternative format.
- (f) Pursuant to 40 CFR 60.49b(w), the Permittee is required to submit the above reports each six (6) month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

## SECTION D.4

## FACILITY OPERATION CONDITIONS – Ethanol Loading Racks

### Facility Description [326 IAC 2-8-4(10)]:

- (l) One (1) ethanol loading rack for trucks, identified as EU40A, constructed in 2006, with a maximum throughput rate of 48,000 gallons per hour. This unit is controlled by enclosed flare CE012, which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu/hr, and exhausting through stack EP012.
- (m) One (1) ethanol loading rack for railcars, identified as EU40B, constructed in 2006, with a maximum throughput rate of 60,000 gallons per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-8-11.1, WITH CONDITIONS LISTED BELOW.

### ***Construction Conditions***

#### **General Construction Conditions**

##### D.4.1 Permit No Defense

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

##### D.4.2 Federally Enforceable State Operating Permit [326 IAC 2-8]

The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application.

#### **Effective Date of the Permit**

##### D.4.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

##### D.4.4 Modification to Construction Conditions [326 IAC 2]

All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.

### ***Operation Conditions***

#### **Emission Limitations and Standards [326 IAC 2-8-4(1)]**

##### D.4.5 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following emission limits for the ethanol loading racks:

- (a) The total denatured ethanol load-out from loading racks EU40A and EU40B shall not exceed 88,200,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The Permittee shall use flare CE12 to control the emissions from the ethanol loading rack for trucks (EU40A).

- (c) CO emissions from flare CE12 shall not exceed 0.129 lbs/kgal.
- (d) NOx emissions from flare CE12 shall not exceed 0.077 lbs/kgal.
- (e) The ethanol loading racks (EU40A and EU40B) shall utilize submerged loading method.
- (f) The railcars and trucks shall not use vapor balance services.

Combined with the VOC, CO, NOx and HAP emissions from other units, the VOC, CO, and NOx emissions from the entire source are each limited to less than 100 tons/yr and the HAP emissions from the entire source are limited to less than 10 tons/yr for a single HAP and less than 25 tons/yr for total HAPs. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.

#### D.4.6 VOC Emissions [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (BACT), and the Permittee shall collect and control the VOC emissions from the ethanol loading rack for trucks (EU40A) with a Best Available Control Technology (BACT). The BACT for this unit has been determined to be the following:

- (a) The VOC emissions from the ethanol loading rack for trucks (EU40A) shall be collected and controlled by enclosed flare CE12.
- (b) The overall control efficiency for the vapor collection system and enclosed flare CE12 (including the capture efficiency and destruction efficiency) shall be at least 98%.
- (c) The VOC emissions from enclosed flare CE12 shall not exceed 0.92 lbs/hr.

#### D.4.7 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facilities described in Condition D.4.8 except when otherwise specified in 40 CFR 60, Subpart VV.

#### D.4.8 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VV]

Pursuant to 40 CFR 60, Subpart VV, the Permittee shall comply with the requirement of Section E.1 for pumps; compressors; pressure relief devices in gas/vapor service; sampling connection systems; open-ended valves or lines; and valves.

#### D.4.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

### **Compliance Determination Requirements**

#### D.4.10 VOC Control

In order to comply with Conditions D.4.5 and D.4.6, enclosed flare CE12 shall be in operation and control emissions from the ethanol loading rack for trucks (EU40A) at all times when this unit is in operation.

#### D.4.11 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11] [326 IAC 2-2]

In order to demonstrate compliance with Conditions D.4.5 and D.4.6, the Permittee shall perform VOC (including emission rate, destruction efficiency, and capture efficiency), CO, and NOx testing for enclosed flare CE12, within 60 days after achieving the maximum production, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

## **Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

### **D.4.12 Flare Pilot Flame**

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In order to comply with Conditions D.4.5 and D.4.6, the Permittee shall monitor the presence of a flare pilot flame for flare CE12 using a thermocouple or any other equivalent device to detect the presence of a flame when ethanol loading rack EU40A is in operation.

## **Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

### **D.4.13 Record Keeping Requirements**

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- (a) To document compliance with Condition D.4.5(a), the Permittee shall maintain monthly records of the total amount of denatured ethanol loaded out from loading racks EU40A and EU40B.
- (b) To document compliance with Condition D.4.12, the Permittee shall maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when loading rack EU40A is in operation.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### **D.4.14 Reporting Requirements**

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A quarterly summary of the information to document compliance with Condition D.4.5(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## SECTION D.5 FACILITY OPERATION CONDITIONS – Fire Pump and Biomethanator

### Facility Description [326 IAC 2-8-4(10)]: Insignificant Activities

- (g) Stationary fire pumps, including one (1) diesel fire pump, identified as EU41, constructed in 2006, with a maximum power output rate of 275 horsepower, and exhausting to stack EP015. [326 IAC 2-8-4]
- (h) Other emission units, not regulated by a NESHAP, with PM<sub>10</sub>, NO<sub>x</sub>, and SO<sub>2</sub> emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:
  - (6) One (1) biomethanator, identified as EU42, constructed in 2006, controlled by 3.48 MMBtu/hr biomethanator flare CE13, and exhausting to stack EP013. [326 IAC 2-8-4]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### D.5.1 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following:

- (a) The operating hours for the diesel fire pump (EU41) shall not exceed 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The biomethanator flare (CE13) shall not operate when any of the DDGS dryers (EU34 and EU37) are in operation.

Combined with the CO and NO<sub>x</sub> emissions from other emission units, the CO and NO<sub>x</sub> emissions from the entire source are each limited to less than 100 tons/yr. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.

### Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

#### D.5.2 Record Keeping Requirements

- (a) To document compliance with Condition D.5.1(a), the Permittee shall maintain monthly records of the operating hours for the diesel fire pump (EU41).
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.5.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.5.1(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## SECTION D.6

## FACILITY OPERATION CONDITIONS – Storage Tanks

### Facility Description [326 IAC 2-8-4(10)]:

#### Insignificant Activities

- (h) Other emission units, not regulated by a NESHAP, with PM<sub>10</sub>, NO<sub>x</sub>, and SO<sub>2</sub> emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:
- (1) One (1) off spec tank for 190-proof ethanol, identified as T001, constructed in 2006, with a maximum capacity of 270,000 gallons. [40 CFR 60, Subpart Kb]
  - (2) One (1) shift tanks for 200-proof ethanol, identified as T002, constructed in 2006, with a maximum capacity of 1,000,000 gallons of 200-proof ethanol. [40 CFR 60, Subpart Kb]
  - (3) One (1) denaturant tank, identified as T003, constructed in 2006, with a maximum capacity of 125,000 gallons of natural gasoline. [326 IAC 8-9] [40 CFR 60, Subpart Kb]
  - (4) One (1) denatured ethanol tanks, identified as TK004, constructed in 2006, each with a maximum capacity of 1,000,000 gallons of denatured ethanol. [40 CFR 60, Subpart Kb]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### D.6.1 Volatile Organic Compounds (VOC) [326 IAC 8-9]

Pursuant to 326 IAC 8-4-3(d) (Petroleum Liquid Storage Facilities), the Permittee shall maintain the following records for a period of two (2) years for tank T003:

- (a) The types of volatile petroleum liquid stored;
- (b) The maximum true vapor pressure of the liquids as stored; and
- (c) The results of the inspections performed on the storage vessels.

The above records shall be made available to the IDEM, OAQ upon written request.

#### D.6.2 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR 60, Subpart Kb.

#### D.6.3 Storage Tanks [326 IAC 12][40 CFR 60, Subpart Kb]

Pursuant to 40 CFR 60, Subpart Kb, the Permittee shall install internal floating roofs with tanks T01 through T05 and shall comply with the following requirements in 40 CFR 60.112b (a)(1) for the internal floating roofs:

- (a) 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.
- (b) 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:
  - (1) 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.
  - (2) 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.
  - (3) 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.
- (c) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
- (d) 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.
- (e) 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.
- (f) 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.
- (g) 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.
- (h) 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.
- (i) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

D.6.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

## Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

### D.6.5 Testing and Procedures [40 CFR 60, Subpart Kb] [326 IAC 12]

Pursuant to 40 CFR 60.113b, the Permittee shall comply with the following requirement:

- (a) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.
- (b) For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the 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 Administrator in the inspection report required in 40 CFR 60.115b(a)(3). 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.
- (c) For vessels equipped with a double-seal system as specified in 40 CFR 60.112b(a)(1)(ii)(B):
  - (1) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or
  - (2) Visually inspect the vessel as specified in 40 CFR 60.113(a)(2).
- (d) 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 40 CFR 60.113(a)(2) and (a)(3)(ii) and at intervals no greater than 5 years in the case of vessels specified in 40 CFR 60.113(a)(3)(i).
- (e) Notify the IDEM, OAQ in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by 40 CFR 60.113(a)(1) and (a)(4) to afford IDEM, OAQ the opportunity to have an observer present. If the inspection required by 40 CFR 60.113 (a)(4) is not planned and the Permittee could not have known about the inspection 30 days in advance or refilling the tank, the Permittee shall notify the IDEM, OAQ 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 IDEM, OAQ at least 7 days prior to the refilling.

## **Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

### **D.6.6 Record Keeping Requirements**

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- (a) To document compliance with Condition D.6.1, the Permittee shall maintain the following records for tank T003:
  - (1) The types of volatile petroleum liquid stored;
  - (2) The maximum true vapor pressure of the liquids as stored; and
  - (3) The results of the inspections performed on the storage vessels.
- (b) Pursuant to 40 CFR 60.116b, the Permittee shall maintain the following records:
  - (1) The dimension of the storage vessel and an analysis showing the capacity of the storage vessel for the life of the source; and
  - (2) The VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period, for at least 2 years.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## **SECTION E.1 40 CFR 60, Subpart VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry**

### **Emission Limitations and Standards [326 IAC 2-8-4(1)]**

#### **E.1.1 Standards: Pumps in Light Liquid Service [326 IAC 12][40 CFR 60, Subpart VV]**

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Pursuant to 40 CFR 60.482-2 (Standards: Pumps in Light Liquid Service), the Permittee shall comply with the following requirements:

- (a) Each pump in light liquid service shall:
  - (1) be monitored monthly to detect leaks by the methods specified in Condition E.1.10, except as provided in this condition; and
  - (2) be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.
- (b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. If there are indications of liquids dripping from the pump seal, a leak is detected.
- (c) 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 Condition E.1.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- (d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of Condition E.1.1(a), provided the following requirements are met:
  - (1) Each dual mechanical seal system is:
    - (A) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or
    - (B) 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 Condition E.1.8; or
    - (C) 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) The following requirements are met:
    - (A) Each sensor as described in Condition E.1.1(d)(3) is checked daily or is equipped with an audible alarm;
    - (B) The Permittee determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

- (6) 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 Condition E.1.1(d)(5)(B), a leak is detected. 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 Condition E.1.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- (e) Any pump that is designated, as described in Condition E.1.11(d)(1) and (d)(2), for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Conditions E.1.1(a), (c), and (d) 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 Condition E.1.10(b), and
  - (3) Is tested for compliance with Condition E.1.1(e)(2) initially upon designation, annually, and at other times requested by the Administrator.
- (f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of Condition E.1.8, it is exempt from Conditions E.1.1(a) through (e).
- (g) Any pump that is designated, as described in Condition E.1.11(e)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of Conditions E.1.1(a) and (d)(4) through (d)(6) if:
  - (1) The Permittee demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Condition E.1.1(a); and
  - (2) The Permittee 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 Condition E.1.1(c) if a leak is detected.
- (h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of Conditions E.1.1(a)(2) and (d)(4), and the daily requirements of Condition E.1.1(d)(5), provided that each pump is visually inspected as often as practicable and at least monthly.

**E.1.2 Standards: Compressors [326 IAC 12][40 CFR 60, Subpart VV]**

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Pursuant to 40 CFR 60.482-3 (Standards: Compressors), the Permittee shall comply with the following requirements:

- (a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in Condition E.1.2(h) and (i).
- (b) Each compressor seal system as required in Condition E.1.2(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 Condition E.1.8; or
  - (3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.
- (c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.
  - (d) Each barrier fluid system as described in Condition E.1.2(a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.
  - (e) Each sensor as required in Condition E.1.2(d) shall be equipped with an audible alarm. The Permittee shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.
  - (f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under Condition E.1.2(e), a leak is detected.
  - (g) 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 Condition E.1.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
  - (h) A compressor is exempt from the requirements of Conditions E.1.2(a) and (b), 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 Condition E.1.8, except as provided in Condition E.1.2(i).
  - (i) Any compressor that is designated, as described in Condition E.1.11(d)(1) and (d)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Conditions E.1.2(a) through (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 Condition E.1.10(b); and
    - (2) Is tested for compliance with Condition E.1.2(i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.
  - (j) Any existing reciprocating compressor in a process unit which becomes an affected facility under 40 CFR 60.14 and 40 CFR 60.15 is exempt from Conditions E.1.2(a), (b), (c), (d), (e), and (h), provided the Permittee 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 Conditions E.1.2(a), (b), (c), (d), (e), and (h).

E.1.3 Standards: Pressure Relief Devices in Gas/Vapor Service [326 IAC 12][40 CFR 60, Subpart VV]  
Pursuant to 40 CFR 60.482-4 (Standards: Pressure Relief Devices in Gas/Vapor Service), the Permittee shall comply with the following requirements:

- (a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in Condition E.1.10(b).

- (b) 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 Condition E.1.9. 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 Condition E.1.10(b).
- (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 Condition E.1.8 is exempted from the requirements of Conditions E.1.3(a) and (b).
- (d) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of Conditions E.1.3(a) and (b), provided after each pressure release, a new rupture disk is 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 Condition E.1.9.

E.1.4 Standards: Sampling Connection Systems [326 IAC 12][40 CFR 60, Subpart VV]

Pursuant to 40 CFR 60.482-5 (Standards: Sampling Connection Systems), the Permittee shall comply with the following requirements:

- (a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system. Gases displaced during filling of the sample container are not required to be collected or captured.
- (b) Each closed-purge, closed-loop, or closed-vent system as required in Condition E.1.4(a) shall comply with the following requirements:
  - (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 Condition E.1.8; or
  - (4) Collect, store, and transport the purged process fluid to any of the following systems or facilities:
    - (A) 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;
    - (B) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or
    - (C) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.
- (c) In situ sampling systems and sampling systems without purges are exempt from the requirements of Conditions E.1.4(a) and (b).

E.1.5 Standards: Open-Ended Valves or Lines [326 IAC 12][40 CFR 60, Subpart VV]

Pursuant to 40 CFR 60.482-6 (Standards: Open-Ended Valves or Lines), the Permittee shall comply with the following requirements:

- (a) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.
- (b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
- (c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with Condition E.1.5(a) at all other times.
- (d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of Conditions E.1.5(a), (b) and (c).
- (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 Conditions E.1.5(a) through (c) are exempt from the requirements of Conditions E.1.5(a) through (c).

E.1.6 Standards: Valves in Gas/Vapor Service and in Light Liquid Service [326 IAC 12][40 CFR 60, Subpart VV]

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Pursuant to 40 CFR 60.482-7 (Standards: Valves in Gas/Vapor Service and in Light Liquid Service), the Permittee shall comply with the following requirements:

- (a) Each valve shall be monitored monthly to detect leaks by the methods specified in Condition E.1.10(a) and shall comply with Conditions E.1.6(b) through (e), except as provided in Conditions E.1.6(f), (g), and (h).
- (b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- (c) 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. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.
- (d) 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 Condition E.1.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- (e) First attempts at repair include, but are not limited to, the following best practices where practicable:
  - (1) Tightening of bonnet bolts;
  - (2) Replacement of bonnet bolts;
  - (3) Tightening of packing gland nuts;
  - (4) Injection of lubricant into lubricated packing.
- (f) Any valve that is designated, as described in Condition E.1.11(d)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Condition E.1.6(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 Condition E.1.10(b), and
  - (3) Is tested for compliance with Condition E.1.6(f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.
- (g) Any valve that is designated, as described in Condition E.1.11(e)(1), as an unsafe-to-monitor valve is exempt from the requirements of Condition E.1.6(a) if:
- (1) The Permittee demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Condition E.1.6(a), and
  - (2) The Permittee of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.
- (h) Any valve that is designated, as described in Condition E.1.11(e)(2), as a difficult-to-monitor valve is exempt from the requirements of Condition E.1.6(a) if:
- (1) The Permittee 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 Permittee designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and
  - (3) The Permittee follows a written plan that requires monitoring of the valve at least once per calendar year.

**E.1.7 Standards: Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Connectors [326 IAC 12][40 CFR 60, Subpart VV]**

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Pursuant to 40 CFR 60.482-8 (Standards: Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Connectors), the Permittee shall comply with the following requirements:

- (a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the Permittee shall follow either one of the following procedures:
  - (1) The Permittee shall monitor the equipment within 5 days by the method specified in Condition E.1.10(a) and shall comply with the requirements of Conditions E.1.7(b) through (d).
  - (2) The Permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak.
- (b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- (c) 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 Condition E.1.9. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- (d) First attempts at repair include, but are not limited to, the best practices described under Condition E.1.6(e).

E.1.8 Standards: Closed Vent Systems and Control Devices [326 IAC 12][40 CFR 60, Subpart VV]

Pursuant to 40 CFR 60.482-10 (Standards: Closed Vent Systems and Control Devices), the Permittee shall comply with the following requirements:

- (a) For closed vent systems and control devices used to comply with the provisions of 40 CFR 60, Subpart VV, the Permittee shall comply with the provisions of this Condition.
- (b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.
- (c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.
- (d) Flares used to comply with this subpart shall comply with the requirements of 40 CFR 60.18.
- (e) For control devices used to comply with the provisions of 40 CFR 60, Subpart VV, the Permittee shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.
- (f) Except as provided in Conditions E.1.8(i) through (k), each closed vent system shall be inspected according to the procedures and schedule specified below:
  - (1) If the vapor collection system or closed vent system is constructed of hard-piping, the Permittee shall comply with the requirements specified in Conditions E.1.8(f)(1)(A) and (f)(1)(B):
    - (A) Conduct an initial inspection according to the procedures in Condition E.1.10(a); and
    - (B) 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 Permittee shall:
    - (A) Conduct an initial inspection according to the procedures in Condition E.1.10(a); and
    - (B) Conduct annual inspections according to the procedures in Condition E.1.10(a).
- (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 Condition E.1.8(h).
  - (1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.
  - (2) Repair shall be completed no later than 15 calendar days after the leak is detected.

- (h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the Permittee 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 Condition E.1.8(f)(1)(A) and (f)(2).
- (j) Any parts of the closed vent system that are designated, as described in Condition E.1.8(l)(1), as unsafe to inspect are exempt from the inspection requirements of Conditions E.1.8(f)(1)(A) and (f)(2) if they comply with the following requirements:
  - (1) The Permittee 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 Conditions E.1.8(f)(1)(A) or (f)(2); and
  - (2) The Permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.
- (k) Any parts of the closed vent system that are designated, as described in Condition E.1.8(l)(2), as difficult to inspect are exempt from the inspection requirements of Conditions E.1.8(f)(1)(A) and (f)(2) if they comply with the requirements specified below:
  - (1) The Permittee determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and
  - (2) The Process unit within which the closed vent system is located becomes an affected facility through 40 CFR 60.14 and 60.15, or the Permittee designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and
  - (3) The Permittee has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.
- (l) The Permittee shall record the information specified below:
  - (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 Condition E.1.11(b).
  - (4) For each inspection conducted in accordance with Condition E.1.10(a) 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 Condition E.1.8(f)(1)(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.

- (m) Closed vent systems and control devices used to comply with provisions of 40 CFR 60, Subpart VV shall be operated at all times when emissions may be vented to them.

#### E.1.9 Standards: Delay of Repair [326 IAC 12][40 CFR 60, Subpart VV]

Pursuant to 40 CFR 60.482-9 (Standards: Delay of Repair), the Permittee shall comply with the following requirements:

- (a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.
- (b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.
- (c) Delay of repair for valves will be allowed if:
  - (1) The Permittee 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 Condition E.1.8.
- (d) Delay of repair for pumps will be allowed if:
  - (1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and
  - (2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.
- (e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

### **Compliance Determination Requirements**

#### E.1.10 Test Methods and Procedures [326 IAC 12][40 CFR 60, Subpart VV]

Pursuant to 40 CFR 60.485 (Test Methods and Procedures), the Permittee shall comply with the following requirements:

- (a) The Permittee shall determine compliance with the standards in Conditions E.1.1 through E.1.9 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:
    - (A) Zero air (less than 10 ppm of hydrocarbon in air); and
    - (B) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.
- (b) The Permittee shall determine compliance with the no detectable emission standards in Conditions E.1.1(e), E.1.2(i), E.1.3, and E.1.6(f) as follows:

- (1) The requirements of Condition E.1.11(a) 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.
- (c) The Permittee 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 in 40 CFR 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, Conditions E.1.10(c) (1) and (2) shall be used to resolve the disagreement.
- (d) The Permittee shall demonstrate that 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 in 40 CFR 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.
- (e) Samples used in conjunction with Conditions E.1.10(c), (d), and (f) shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.
- (f) The Permittee shall determine compliance with the standards of flares as follows:
- (1) Method 22 shall be used to determine visible emissions.
  - (2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.
  - (3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$$V_{\max} = K_1 + K_2H_T$$

Where:

- $V_{\max}$  = Maximum permitted velocity, m/sec (ft/sec)  
 $H_T$  = Net heating value of the gas being combusted, MJ/scm (Btu/scf).  
 $K_1$  = 8.706 m/sec (metric units) = 28.56 ft/sec (English units)  
 $K_2$  = 0.7084 m<sup>4</sup>/(MJ-sec) (metric units) = 0.087 ft<sup>4</sup>/(Btu-sec) (English units)

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

$$H_T = k \sum_{i=1}^n C_i H_i$$

Where:

- $K$  = Conversion constant, 1.740 × 10<sup>7</sup> (g-mole)(MJ)/ (ppm-scm-kcal) (metric units) = 4.674 × 10<sup>8</sup> [(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 in 40 CFR 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 in 40 CFR 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.

### **Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

#### **E.1.11 Recordkeeping Requirements [326 IAC 12][40 CFR 60, Subpart VV]**

Pursuant to 40 CFR 60.486 (Recordkeeping Requirements), the Permittee shall comply with the following requirements:

- (a) When each leak is detected as specified in Conditions E.1.1, E.1.2, E.1.6, and E.1.7, 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 Condition E.1.6(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.
- (b) When each leak is detected as specified in Conditions E.1.1, E.1.2, E.1.6, and E.1.7, the following information shall be recorded in a log 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 Condition E.1.10(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 employee 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.
- (c) The following information pertaining to the design requirements for closed vent systems and control devices described in Condition E.1.8 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 Condition E.1.8(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 Conditions E.1.1, E.1.2, E.1.3, and E.1.4 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 Conditions E.1.1, E.1.2, E.1.3, and E.1.4.
- (d) The following information pertaining to all equipment subject to the requirements in Conditions E.1.1 through E.1.9 and 40 CFR 60.482-1 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 40 CFR 60, Subpart VV.
  - (2) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of Conditions E.1.1(e), E.1.2(i) and E.1.6(f) and the designation of equipment as subject to the requirements of Conditions E.1.1(e), E.1.2(i), or E.1.6(f) shall be signed by the Permittee.
  - (3) A list of equipment identification numbers for pressure relief devices required to comply with Condition E.1.3.
  - (4) The following information:

- (A) The dates of each compliance test as required in Conditions E.1.1(e), E.1.2(i), E.1.3, and E.1.6(f);
  - (B) The background level measured during each compliance test;
  - (C) The maximum instrument reading measured at the equipment during each compliance test.
- (5) A list of identification numbers for equipment in vacuum service.
- (e) The following information pertaining to all valves subject to the requirements of Conditions E.1.6(g) and (h) and to all pumps subject to the requirements of Conditions E.1.1(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.
- (f) The following information shall be recorded for valves complying with Condition E.1.1:
- (1) A schedule of monitoring.
  - (2) The percent of valves found leaking during each monitoring period.
- (g) The following information shall be recorded in a log that is kept in a readily accessible location:
- (1) Design criterion required in Conditions E.1.1(d)(5) and E.1.2(e) and explanation of the design criterion; and
  - (2) Any changes to this criterion and the reasons for the changes.
- (h) 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.
- (i) The provisions of 40 CFR 60.7 (b) and (d) do not apply to affected facilities subject to this subpart.

#### E.1.12 Reporting Requirements [326 IAC 12][40 CFR 60, Subpart VV]

Pursuant to 40 CFR 60.487 (Reporting Requirements), the Permittee shall comply with the following requirements:

- (a) The Permittee shall submit semiannual reports to the Administrator.
- (b) All semiannual reports to the Administrator shall include the following information, summarized from the information required in Condition E.1.11.
  - (1) Process unit identification.
  - (2) For each month during the semiannual reporting period,
    - (A) Number of valves for which leaks were detected as described in Condition E.1.6(b),

- (B) Number of valves for which leaks were not repaired as required in Condition E.1.6(d),
  - (C) Number of pumps for which leaks were detected as described in Conditions E.1.1(b) and E.1.1(d)(6),
  - (D) Number of pumps for which leaks were not repaired as required in Conditions E.1.1(c) and E.1.1(d)(6),
  - (E) Number of compressors for which leaks were detected as described in Condition E.1.2(f),
  - (F) Number of compressors for which leaks were not repaired as required in Condition E.1.2(g), and
  - (G) 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.
- (c) Revisions to items reported in the initial semiannual report if changes have occurred since the initial report or subsequent revisions to the initial report.

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

### FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Putnam Ethanol, LLC  
Source Address: 7816 South US 231, Cloverdale, Indiana 46120  
Mailing Address: 700 East Ogden, Suite 308, Westmont, Illinois 60559  
FESOP No.: 133-19163-00003

**This certification shall be included when submitting monitoring, testing reports/results  
or other documents as required by this permit.**

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)\_\_\_\_\_
- Report (specify)\_\_\_\_\_
- Notification (specify)\_\_\_\_\_
- Affidavit (specify)\_\_\_\_\_
- Other (specify)\_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
Phone: 317-233-5674  
Fax: 317-233-5967**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
EMERGENCY OCCURRENCE REPORT**

Source Name: Putnam Ethanol, LLC  
Source Address: 7816 South US 231, Cloverdale, Indiana 46120  
Mailing Address: 700 East Ogden, Suite 308, Westmont, Illinois 60559  
FESOP No.: 133-19163-00003

**This form consists of 2 pages**

**Page 1 of 2**

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
  - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

**Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N Describe:
Type of Pollutants Emitted: TSP, PM10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

A certification is not required for this report.

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

### FESOP Quarterly Report

Source Name: Putnam Ethanol, LLC  
Source Address: 7816 South US 231, Cloverdale, Indiana 46120  
Mailing Address: 700 East Ogden, Suite 308, Westmont, Illinois 60559  
FESOP No.: 133-19163-00003  
Facility: Grain Receiving Operations (EU01 and EU02)  
Parameter: The total amount of grain received  
Limit: Less than 904,615 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

### FESOP Quarterly Report

Source Name: Putnam Ethanol, LLC  
Source Address: 7816 South US 231, Cloverdale, Indiana 46120  
Mailing Address: 700 East Ogden, Suite 308, Westmont, Illinois 60559  
FESOP No.: 133-19163-00003  
Facility: DDGS Handling and Loadout Operations (EU31 through EU33)  
Parameter: DDGS production rate  
Limit: Less than 294,589 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

### FESOP Quarterly Report

Source Name: Putnam Ethanol, LLC  
Source Address: 7816 South US 231, Cloverdale, Indiana 46120  
Mailing Address: 700 East Ogden, Suite 308, Westmont, Illinois 60559  
FESOP No.: 133-19163-00003  
Facility: Ethanol Loading Racks (EU40A and EU40B)  
Parameter: Total Denatured Ethanol Loaded  
Limit: Less than 88,200,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**FESOP Quarterly Report**

Source Name: Putnam Ethanol, LLC  
Source Address: 7816 South US 231, Cloverdale, Indiana 46120  
Mailing Address: 700 East Ogden, Suite 308, Westmont, Illinois 60559  
FESOP No.: 133-19163-00003  
Facility: Diesel Fire Pump (EU41)  
Parameter: Operating Hours  
Limit: Less than 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Putnam Ethanol, LLC  
Source Address: 7816 South US 231, Cloverdale, Indiana 46120  
Mailing Address: 700 East Ogden, Suite 308, Westmont, Illinois 60559  
FESOP No.: 133-19163-00003

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked <b>ΔNo deviations occurred this reporting period@.</b></p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

Form Completed By: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Significant Permit Revision to a Federally Enforceable State Operating Permit (FESOP)

<b>Source Background and Description</b>
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Source Name:	Putnam Ethanol, LLC
Source Location:	7816 South US 231, Cloverdale, Indiana 46120
County:	Putnam
SIC Code:	2869
Operation Permit No.:	F133-19163-00003
Operation Permit Issuance Date:	October 4, 2004
Significant Permit Revision No.:	133-22480-00003
Permit Reviewer:	ERG/YC

The Office of Air Quality (OAQ) has reviewed a revision application from Putnam Ethanol, LLC relating to the construction and operation of an ethanol production plant.

<b>History</b>
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Putnam Ethanol, LLC is an ethanol production plant and was permitted to construct and operate as a wet mill plant in FESOP #133-19163-00003, issued on October 4, 2004. The Permittee has not started construction of this new plant. On January 9, 2006, Putnam Ethanol, LLC submitted a permit revision application to IDEM, OAQ requesting the following changes to their FESOP:

- (a) The plant design will be modified to be a dry mill plant, instead of a wet mill plant. The units related to the wet milling operations and the production of germ, fiber, and corn protein concentration (CPC) will be removed from the permit.
- (b) The maximum denatured ethanol production rate will be increased from 63 MMgal/yr to 88.2 MMgal/yr. In order to accommodate this expansion, the maximum capacity of the grain receiving operations, grain handling operations, and storage tanks will also be increased.
- (c) The removal of the 96 MMBtu/hr natural gas fired boiler (identified as B2).
- (d) Replacing the permitted 168 MMBtu/hr thermal oxidizer with two (2) 130 MMBtu/hr thermal oxidizers with heat recovery steam generator (TO/HRSG) systems.
- (e) Installing two (2) ethanol loading racks, instead of a single ethanol loading rack. One is for truck loading and the other one is for railcar loading. The one for truck loading will be controlled by a flare.
- (f) Adding a new emergency diesel fire pump and a new diesel fuel storage tank.

The Permittee also proposed changes to the process layout, unit identification numbers, and maximum capacities of the emission units. The revised significant emission units, including the changes above, are listed below:

- (a) One (1) truck dump pit, identified as EU01, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE01, and exhausting through stack EP001.
- (b) One (1) rail dump pit, identified as EU02, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE02, and exhausting through stack EP002.
- (c) One (1) grain handling operation, constructed in 2006, controlled by baghouse CE01, exhausting through stack EP001, and consisting of the following:
  - (1) One (1) grain conveying system, identified as EU03, with a maximum throughput rate of 840 tons per hour.
  - (2) One (1) grain elevator, identified as EU04, with a maximum throughput rate of 840 tons per hour.
  - (3) One (1) grain storage silo, identified as EU05, with a maximum capacity of 800,000 bushels and maximum throughput rate of 840 tons per hour.
- (d) Three (3) hammermills, identified as EU06, EU07, and EU08, constructed in 2006, each with a maximum throughput rate of 280 tons of corn per hour, controlled by baghouses CE02, CE03, and CE04 respectively, and exhausting through stacks EP002, EP003, and EP004, respectively.
- (e) One (1) mill surge hammermill bin, identified as EU09, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE05, and exhausting through stack EP005.
- (f) One (1) fermentation process, constructed in 2006, with a maximum throughput rate of 20,000 gallons per hour, using wet scrubber CE07 for VOC control, and exhausting through stack EP007. This process consists of the following:
  - (1) Six (6) fermenters, identified as EU16 through EU21.
  - (2) One (1) beer well, identified as EU22.
- (g) Two (2) thermal oxidizers with heat recovery steam generator (TO/HRSG) systems, identified as CE09 and CE16, constructed in 2006, each with a maximum heat input capacity of 130 MMBtu/hr, using natural gas as fuel, with emissions exhausted through stacks EP008 and EP014, respectively.
- (h) One (1) distillation process, constructed in 2006, with a maximum throughput rate of 14,000 gallons of ethanol per hour, controlled by one of the TO/HRSG systems (CE09 or CE16), with emissions exhausted through stack EP008 or EP014. This process consists of the following:
  - (1) Mix tanks, identified as EU10.
  - (2) Flash tanks, identified as EU11.
  - (3) Two (2) liquefaction tanks, identified as EU12 and EU13, each with a maximum capacity of 7,000 gallons per hour.
  - (4) One (1) rectifier column, identified as EU23.
  - (5) One (1) side stripper, identified as EU24.
  - (6) One (1) beer stripper, identified as EU25.

- (7) One (1) molecular sieve, identified as EU26.
- (8) One (1) whole stillage tank, identified as EU27.
- (9) One (1) centrifuge, identified as EU28.
- (10) One (1) centrate still tank, identified as EU29.
- (i) Two (2) natural gas fired DDGS dryers, identified as EU34 and EU37, constructed in 2006, each with a maximum heat input rate of 90 MMBtu/hr, with a total maximum throughput rate of 34 tons of DDGS per hour, controlled by the multiclone CE08 and CE14 respectively, with emissions venting to TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.
- (j) Two (2) DDGS coolers, identified as EU35 and EU38, constructed in 2006, each with a maximum throughput rate of 34 tons/hr of DDGS, controlled by the TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.
- (k) One (1) DDGS handling and loadout operation, constructed in 2006, with a maximum throughput rate of 120 tons/hr of DDGS, controlled by baghouse CE10, with emissions exhausted to stack EP010, and consisting of the following:
  - (1) One (1) DDGS storage bin, identified as EU31.
  - (2) One (1) DDGS conveyor, identified as EU32.
  - (3) One (1) DDGS truck loadout spout, identified as EU33.
- (l) One (1) ethanol loading rack for truck loading, identified as EU40A, constructed in 2006, with a maximum throughput rate of 48,000 gallons per hour. This unit is controlled by enclosed flare CE012, which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu/hr, and exhausting through stack EP012.
- (m) One (1) ethanol loading rack for railcar loading, identified as EU40B, constructed in 2006, with a maximum throughput rate of 48,000 gallons per hour.

The revised insignificant emission units, including the changes above, are listed below:

- (a) Solvent recycling systems with batch capacity less than or equal to 100 gallons.
- (b) Forced and induced draft cooling tower system not regulated under a NESHAP.
- (c) Replacement or repair of bags in baghouses and filters in other air filtration equipment.
- (d) Paved roads and parking lots with public access. [326 IAC 6-4]
- (e) Underground conveyors, including underground grain and product transfer conveyors.
- (f) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (g) Stationary fire pumps, including one (1) diesel fire pump, identified as EU41, constructed in 2006, with a maximum power output rate of 275 horsepower, and exhausting to stack EP015. [326 IAC 2-8-4]
- (h) Other emission units, not regulated by a NESHAP, with PM<sub>10</sub>, NO<sub>x</sub>, and SO<sub>2</sub> emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one

(1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:

- (1) One (1) off spec tank for 190-proof ethanol, identified as T001, constructed in 2006, with a maximum capacity of 270,000 gallons. [40 CFR 60, Subpart Kb]
- (2) One (1) shift tank for 200-proof ethanol, identified as T002, constructed in 2006, with a maximum capacity of 1,000,000 gallons of 200-proof ethanol. [40 CFR 60, Subpart Kb]
- (3) One (1) denaturant tank, identified as T003, constructed in 2006, with a maximum capacity of 125,000 gallons of natural gasoline. [326 IAC 8-9] [40 CFR 60, Subpart Kb]
- (4) One (1) denatured ethanol tank, identified as TK004, constructed in 2006, with a maximum capacity of 1,000,000 gallons of denatured ethanol. [40 CFR 60, Subpart Kb]
- (5) One (1) diesel storage tank, identified as T005, constructed in 2006, with a maximum storage capacity less than 1,000 gallons.
- (6) One (1) biomethanator, identified as EU42, constructed in 2006, controlled by 3.48 MMBtu/hr biomethanator flare CE13, and exhausting to stack EP013. [326 IAC 2-8-4]

Upon further review, IDEM, OAQ has made the following changes:

1. All references to IDEM, OAQ's mailing address have been revised as follows:  
  
Indiana Department of Environmental Management  
Office of Air Quality  
100 North Senate Avenue, ~~P.O. Box 6015~~  
Indianapolis, Indiana ~~46206-6015~~ **46204-2251**
2. IDEM has determined that the Permittee is not required to keep records of all preventive maintenance. However, where the Permittee seeks to demonstrate that an emergency has occurred, the Permittee must provide, upon request records of preventive maintenance in order to establish that the lack of proper maintenance did not cause or contribute to the deviation. Therefore, IDEM has deleted paragraph (b) of Condition B.12 – Preventive Maintenance and has amended Condition B.13 – Emergency Provisions.
3. For clarification purposes, Condition B.18 - Operational Flexibility has been revised.
4. In accordance with the credible evidence rule (62 Fed. Reg. 8314, Feb. 24, 1997); Section 113(a) of the Clean Air Act, 42 U.S.C. § 7413 (a); and a letter from the United States Environmental Protection Agency (USEPA) to IDEM, OAQ dated May 18, 2004, all permits must address the use of credible evidence; otherwise, USEPA will object to the permits. Condition B.23 – Credible Evidence has been revised to the match the most current language for this condition.
5. The 326 IAC 6-3 revisions that became effective on June 12, 2002 were approved into the State Implementation Plan on September 23, 2005. These rules replace the previous version of 326 IAC 6-3 (Process Operations) that had been part of the SIP; therefore, the requirements of the previous version of 326 IAC 6-3-2 are no longer applicable to this source. Condition C.1 has been revised to remove (a) which contained these requirements. Since the requirements of the 326 IAC 6-3-2(d) that were effective June

- 12, 2002 are now federally enforceable, the last statement in Conditions C.1(b) has been removed.
6. In order to avoid duplication of requirements which may be included in D sections, Condition C.7 – Operation of Equipment has been removed from the permit.
  7. IDEM realizes that the specifications of Condition C.15 - Pressure Gauge and Other Instrument Specifications, can only be practically applied to analog units, and has therefore clarified the condition to state that the condition only applies to analog units. Upon further review, IDEM has also determined that the accuracy of the instruments is not nearly as important as whether the instrument has a range that is appropriate for the normal expected reading of the parameter. Therefore, the language in Condition C.15 has been revised (see the changes in the section of Proposed Changes).
  8. IDEM has reconsidered the requirement to develop and follow a Compliance Response Plan (Condition C.17). The Permittee will still be required to take reasonable response steps when a compliance monitoring parameter is determined to be out of range or abnormal. Replacing the requirement to develop and follow a Compliance Response Plan with a requirement to take reasonable response steps will ensure that the control equipment is returned to proper operation as soon as practicable, while still allowing the Permittee the flexibility to respond to situations that were not anticipated. Therefore, the condition for “Compliance Response Plan” has been replaced by the condition for “Response to Excursions or Exceedances”. The Section D conditions that refer to this condition have been revised to reflect the new condition title (see the changes in the section of Proposed Changes).
  9. IDEM has determined that it is the Permittee’s responsibility to include routine control device inspection requirements in the applicable preventive maintenance plan. Since the Permittee is in the best position to determine the appropriate frequency of control device inspections and the details regarding which components of the control device should be inspected, the conditions requiring control device inspections have been removed from the permit. In addition, the requirement to keep records of the inspections has been removed.
  10. Upon further review, IDEM has determined that once per day visible emission notations and once per day monitoring of the control device is generally sufficient to ensure proper operation of the emission units and control devices. Therefore, the monitoring frequency has been changed from once per shift to once per day in the revised permit.

<b>Existing Approvals</b>
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The source was issued a FESOP (F133-19163-00003) on October 4, 2004. There are no other air approvals issued to this source.

<b>Enforcement Issue</b>
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There are no enforcement actions pending.

<b>Recommendation</b>
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The staff recommends to the Commissioner that the Significant Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 9, 2006. Additional information was received on January 23, 2006, January 24, 2006, and January 25, 2006.

**Emission Calculations**

See Appendix A of this document for detailed emissions calculations (pages 1 through 15).

**Potential To Emit of the Revision**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	Greater than 100
PM10	Greater than 100
SO <sub>2</sub>	43.2
VOC	Greater than 100
CO	Greater than 100
NO <sub>x</sub>	Greater than 100

Note: For the purpose of determining Title V applicability for particulates, PM10, not PM, is the regulated pollutant in consideration.

HAPs	Potential to Emit (tons/yr)
Acetaldehyde	Greater than 10
Acrolein	Greater than 10
Formaldehyde	Greater than 10
Methanol	Greater than 10
Hexane	3.37
n-Hexane	10.1
Toluene	1.01
Benzene	0.50
Xylene	0.10
Other HAPs	Negligible
Total	Greater than 25

**Justification for Permit Revision**

This revision is being performed as a Significant Permit Revision because of the following:

- (a) This modification is subject to 326 IAC 8-1-6, pursuant to 326 IAC 2-8-11.1(f)(C);
- (b) This modification has potential to emit PM, PM10, SO<sub>2</sub>, NO<sub>x</sub> and VOC before control greater than 25 tons/yr, pursuant to 326 IAC 2-8-11.1(f)(1)(E);
- (c) This modification has potential to emit HAPs before control greater than 10 tons/yr for a single HAP and greater than 25 tons/yr for total HAPs, pursuant to 326 IAC 2-8-11.1(f)(1)(G); and
- (d) This modification has potential to emit CO greater than 100 tons/yr, pursuant to 326 IAC 2-8-11.1(f)(1)(H).

**Potential to Emit After Revision**

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units after control. The control equipment is considered federally enforceable only after issuance of this Permit Revision.

Process/Emission Unit	Potential To Emit (tons/year)						
	PM	PM10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Grain Receiving and Handling Operations	Less than 11.4	Less than 11.4	-	-	-	-	-
Grain Receiving – Fugitive	Less than 1.58	Less than 0.35	-	-	-	-	-
Fermentation Process and Distillation Process	-	-	-	Less than 25.6	-	-	Less than 3.72
Distillation, DDGS Dryers, DDGS Coolers, and TO/HRSG Systems	Less than 36.1	Less than 36.1	Less than 43.1	Less than 46.0	Less than 92.0	Less than 88.5	Less than 8.97
DDGS Handling and Loadout Operations	Less than 0.75	Less than 0.75	-	-	-	-	0.08
DDGS Loadout - Fugitive	Less than 0.05	Less than 0.01	-	-	-	-	-
Wet Cake Storage*	-	-	-	See Note	-	-	See Note
Ethanol Loading Racks	Negligible	Negligible	Negligible	Less than 16.2	Less than 5.69	Less than 3.40	Less than 0.05
Paved Roads (Fugitive)	Less than 14.2	Less than 2.77	-	-	-	-	-
Cooling Tower (Insignificant)	16.4	16.4	-	-	-	-	-
Diesel Fire Pump (Insignificant)	0.15	0.15	0.14	0.17	0.46	2.13	Negligible
Storage Tanks (Insignificant)	-	-	-	1.65	-	-	Negligible
Equipment Leaks (Fugitive)	-	-	-	7.11	-	-	0.42
Biomethanator Flare** (Insignificant)	-	-	-	See Note	See Note	See Note	-
Other Insignificant Activities	Less than 1.0	Less than 1.0	-	Less than 1.0	-	-	-
<b>Total PTE of the Entire Source</b>	<b>Less than 81.7</b>	<b>Less than 68.9</b>	<b>Less than 43.2</b>	<b>Less than 97.8</b>	<b>Less than 98.1</b>	<b>Less than 94.0</b>	<b>Less than 6.10 for a single HAP and 13.2 for total HAPs</b>
<b>PSD/TV Major Thresholds</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>10 for a single HAP and 25 for total HAPs</b>

Note: “-” pollutant not emitted by the facility.

\* This plant is capable of producing both DDGS and MDGS. The emissions from DDGS production is the worst case scenario. Therefore, the PTE of wet cake storage is not included in the PTE for the entire source.

\*\* The Biomethanator flare will not operate when any of the DDGS dryers are in operation. The emissions from the DDGS dryers are the worst case scenario. Therefore, the PTE of the biomethanator flare is not included in the PTE for the entire source.

After making the changes proposed in this revision, the potential to emit of the criteria pollutants from the entire source is still limited to less than the Title V major source thresholds. Therefore, the requirements of 326 IAC 2-7 are not applicable to this source.

### County Attainment Status

The source is located in Putnam County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Putnam County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Putnam County has been classified as unclassifiable or attainment for PM 2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM 2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM 2.5 emissions.
- (c) Putnam County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) Fugitive Emissions  
Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are counted toward determination of PSD applicability.

### Federal Rule Applicability

- (a) This source does not have a grain elevator with a permanent storage capacity greater than 2.5 million bushels. Therefore, the requirements of the New Source Performance Standards for Grain Elevators (326 IAC 12, 40 CFR 60.300-304, Subpart DD) are not included in this permit.
- (b) The thermal oxidizer/heat recovery steam generator (TO/HRSG) systems (CE09 and CE16) are also used to produce steam and each of them has a maximum heat input capacity greater than 100 MMBtu/hr and will be constructed after June 19, 1984. Therefore, the TO/HRSG systems CE09 and CE16 are subject to the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12, 40 CFR 60.40b-49b, Subpart Db).

Since the TO/HRSG systems use natural gas and the process emissions from the DDGS dryers as fuels, there are no applicable SO<sub>2</sub> and PM emission limits for this unit in 40 CFR 60, Subpart Db. Pursuant to 40 CFR 60.44b, the NO<sub>x</sub> emissions from the TO/HRSG systems (CE09 and CE16) shall not exceed 0.1 lbs/MMBtu.

Since each of the TO/HRSG systems (CE09 and CE16) has a maximum heat input capacity less than 250 MMBtu/hr and uses natural gas as supplemental fuel, the Permittee shall comply with one of the following monitoring requirements:

- (1) Pursuant to 40 CFR 60.48b(b), except for 40 CFR 60.48b(g), (h), and (i), the Permittee shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere.
- (2) Pursuant to 40 CFR 60.48b(h)(2), the Permittee shall monitor steam generating unit operating conditions and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to 40 CFR 60.49b(c).

The Permittee has proposed to install NOx continuous emission monitoring systems (CEMSs) with the TO/HRSG systems stacks (EP008 and EP014) to demonstrate compliance with this NSPS.

The Permittee is also required to comply with the NOx testing requirements in 40 CFR 60.46b and the reporting and recordkeeping requirements in 40 CFR 60.49b.

- (c) Tanks T001 through T004 have capacities greater than 75 cubic meters (19,813 gallons) and will be used to store volatile organic liquids. Therefore, these tanks are subject to the New Source Performance Standards for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 (326 IAC 12, 40 CFR 60.110b - 117b, Subpart Kb). Tank T005 has a maximum capacity less than 75 cubic meters (19,813 gallons) and therefore is not subject to this NSPS.

Tanks T001 through T004 have capacities greater than 151 cubic meters (39,890 gallons) and the stored liquids have vapor pressures greater than 5.2 kPa and less than 76.6 kPa. Therefore, these tanks are subject to the requirements in 40 CFR 60.112b(a). The Permittee has elected to install internal floating roofs with these fixed roof tanks and shall comply with the following requirements in 40 CFR 60.112b(a)(1):

- (1) 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) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
  - (A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.
  - (B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
  - (C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

- (3) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
- (4) 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.
- (5) 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.
- (6) 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.
- (7) 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.
- (8) 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.
- (9) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

The Permittee shall also comply with the testing requirements in 40 CFR 60.113b(a), the monitoring requirements in 40 CFR 60.116b, and the recordkeeping and reporting requirements in 40 CFR 60.115b.

- (d) Ethanol is one of the chemicals listed in 40 CFR 60.489. Therefore, this ethanol production plant is subject to the requirements of New Source Performance Standards for Volatile Organic Liquid Storage Vessels for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (326 IAC 12, 40 CFR 60.480 - 489, Subpart VV).

Pursuant to 40 CFR 60.480(a)(2), the affected facilities are the process units, which are defined as components assembled to produce ethanol (as intermediate or final products). Pursuant to 40 CFR 60.482-1, the Permittee shall comply with the following general requirements:

- (1) The Permittee shall demonstrate compliance with the requirements of 40 CFR 60.482-1 through 60.482-10 or 40 CFR 60.480(e) for all equipment within 180 days of initial startup.
- (2) Compliance with 40 CFR 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 40 CFR 60.485.
- (3) The Permittee may request a determination of equivalence of a means of emission limitation to the requirements of 40 CFR 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 40 CFR 60.484.
- (4) Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482-2 to 60.482-10 if it is identified as required in 40 CFR 60.486(e)(5).

The specific requirements for pumps, compressors, pressure relief devices, sampling connection systems, and valves are listed in the permit. The Permittee shall also comply with the testing requirements in 40 CFR 60.485, the recordkeeping requirements in 40 CFR 60.486, and the reporting requirements in 40 CFR 60.487.

- (e) Ethanol is one of the chemicals listed in 40 CFR 60.667. However, according to the EPA memorandum from Mr. George T. Czerniak dated December 6, 2002, the manufacture of ethanol using a fermentation process (biological synthesis) was excluded from the scope of NSPS, Subpart NNN. Therefore, the distillation unit at this new ethanol production plant is not subject to the requirements of New Source Performance Standards for Volatile Organic Liquid Storage Vessels VOC Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations (326 IAC 12, 40 CFR 60.660 - 667, Subpart NNN).
- (f) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 20, and 40 CFR Part 61 and 63) included in this permit.
- (g) This source will comply with the FESOP limits to limit the HAP emissions from the entire source to less than 10 tons/yr for a single HAP and less than 25 tons/yr for total HAPs. Therefore, the requirements of National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) are not included in this permit.
- (h) The requirements of 40 CFR Part 63, Subpart F (National Emission Standards for Organic Hazardous Air Pollutants From Synthetic Organic Chemical Manufacturing Industry), 40 CFR Part 63, Subpart G (National Emission Standards for Organic Hazardous Air Pollutants from Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater), and 40 CFR Part 63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), are not included in this permit because (1) this source has accepted limits that make it a minor source of hazardous air pollutants; (2) the source does not manufacture as a primary product any of the chemicals listed in Table 1 of 40 CFR 63, Subpart F, Tetrahydro-benzaldehyde, or Crotonaldehyde; and (3) the source does not use as a reactant, manufacture as a product or co-product any of the chemicals listed in Table 2 of 40 CFR 63, Subpart F.
- (i) The requirements of 40 CFR 63, Subpart I – National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks are not included in this permit. The source does not operate any of the processes specified in 40 CFR 63.190(b).
- (j) This new source is a minor source of HAPs. Therefore, the cooling towers at this source are not subject to the NESHAP for Industrial Process Cooling Towers (40 CFR 63, Subpart Q).
- (k) This new source is a minor source of HAPs. Therefore, this source is not subject to the requirements of the NESHAP for Organic Liquids Distribution (non-gasoline) (40 CFR 63, Subpart EEEE).
- (l) This new source is a minor source of HAPs. Therefore, this source is not subject to the requirements of the NESHAP for Miscellaneous Organic Chemical Manufacturing (40 CFR 63, Subpart FFFF).

<b>State Rule Applicability - Entire Source</b>
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326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source will be constructed in 2006. The source belongs to the chemical plant source

categories defined in 326 IAC 2-2-1(y)(1) and the potential to emit PM, PM10, VOC, CO, and NOx from the entire source before control is greater than 100 tons/yr.

In order to make the requirement of 326 IAC 2-2 (PSD) not applicable, the source shall comply with the following emission limitations:

- (a) The PM emissions from the grain receiving and handling operations, the hammermills, and the DDGS handling and loadout operations shall not exceed the emission limits listed in the table below:

Unit ID	Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)
EU01 – EU05	Grain Receiving and Handling Operations	CE01	1.41
EU06	Hammermill	CE02	0.28
EU07	Hammermill	CE03	0.28
EU08	Hammermill	CE04	0.28
EU09	Mill Surge Hammermill Bin	CE05	0.34
EU31 – EU33	DDGS Handling and Loadout Operations	CE10	0.17

The use of baghouses CE01 through CE05 and CE10 is necessary to demonstrate compliance with the PM limits above.

- (b) The total grain received shall not exceed 904,615 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (c) The total DDGS produced shall not exceed 294,589 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (d) The Permittee shall use periodic sweeping to control PM emissions from the paved roads. The sweeping shall be applied in a manner and at a frequency sufficient to ensure compliance with 326 IAC 2-2.
- (e) The total PM emissions from the TO/HRSG stacks EP008 and EP014 combined shall not exceed 8.24 lbs/hr.

Combined with the PM emissions from other PM emission units, PM emissions from the entire source are limited to less than 100 tons/yr.

The source has also accepted limits on the PM10, VOC, CO, and NOx emissions from the entire source, which will limit emissions of these pollutants to less than 100 tons/yr (see the discussion of 326 IAC 2-8-4 below). Therefore, the requirements of 326 IAC 2-2 are not applicable.

#### 326 IAC 2-4.1 (New Sources of Hazardous Air Pollutants)

This source will be constructed in 2006. The source will accept FESOP limits on the HAP emissions from the entire source, such that the emissions from the source are limited to less than 10 tons/yr for a single HAP and less than 25 tons/yr for any combination of HAPs (see the discussion of 326 IAC 2-8-4 below). Therefore, the requirements of 326 IAC 2-4.1 are not applicable.

#### 326 IAC 2-8-4 (FESOP)

The potential to emit PM10, VOC, CO, and NOx before control of the entire source is greater than 100 tons/yr. In addition, the potential to emit HAP before control from this source is greater than 10 tons/yr for a single HAP and greater than 25 tons/yr for total HAPs. Pursuant to 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

- (a) The PM10 emissions from the grain receiving and handling operations, the hammermills, and the DDGS handling and loadout operations shall not exceed the emission limits listed in the table below:

Unit ID	Unit Description	Baghouse ID	PM10 Emission Limit (lbs/hr)
EU01 – EU05	Grain Receiving and Handling Operations	CE01	1.41
EU06	Hammermill	CE02	0.28
EU07	Hammermill	CE03	0.28
EU08	Hammermill	CE04	0.28
EU09	Mill Surge Hammermill Bin	CE05	0.34
EU31 – EU33	DDGS Handling and Loadout Operations	CE10	0.17

The use of baghouses CE01 through CE05 and CE10 is necessary to demonstrate compliance with the PM10 limits above.

- (b) The total grain received shall not exceed 904,615 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (c) The total DDGS produced shall not exceed 294,589 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (d) The Permittee shall use periodic sweeping to control PM10 emissions from the paved roads. The sweeping shall be applied in a manner and at a frequency sufficient to ensure compliance with 326 IAC 2-2.
- (e) The emissions from wet scrubber CE07, which is used to control the emissions from the fermentation process, shall comply with the following:
- (1) VOC emissions shall not exceed 5.85 lbs/hr.
  - (2) Acetaldehyde emissions shall not exceed 0.812 lbs/hr.
  - (3) Total HAP emissions shall not exceed 0.85 lbs/hr.
- (f) The TO/HRSG systems (CE09 and CE16) are used to control the emissions from the distillation process, the DDGS dryers (EU34 and EU37), and the DDGS coolers (EU35 and EU38). Since the exhausts from these units will be vent to one of the TO/HRSG systems (CE09 and CE16), the total emissions from the TO/HRSG systems stacks (EP008 and EP014) combined shall comply with the following:
- (1) PM10 emissions shall not exceed 8.24 lbs/hr.
  - (2) VOC emissions shall not exceed 10.5 lbs/hr.
  - (3) CO emissions shall not exceed 21.0 lbs/hr.
  - (4) SO<sub>2</sub> emissions shall not exceed 9.84 lbs/hr.
  - (5) NO<sub>x</sub> emissions shall not exceed 20.2 lbs/hr.
  - (6) Acetaldehyde emissions shall not exceed 0.58 lbs/hr.
  - (7) Total HAP emissions shall not exceed 2.22 lbs/hr.
- (g) The Permittee shall comply with the following requirements for the ethanol loading racks (EU40A and EU40B):

- (1) The total denatured ethanol load-out from loading racks EU40A and EU40B shall not exceed 88,200,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.
  - (2) The Permittee shall use flare CE12 to control the emissions from the ethanol loading rack for trucks (EU40A).
  - (3) CO emissions from flare CE12 shall not exceed 0.129 lbs/kgal.
  - (4) NOx emissions from flare CE12 shall not exceed 0.077 lbs/kgal.
  - (5) The ethanol loading racks (EU40A and EU40B) shall utilize submerged loading method.
  - (6) The railcars and trucks shall not use vapor balance services.
- (h) The operating hours for the diesel fire pump (EU41) shall not exceed 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.
- (i) The biomethanator flare (CE13) shall not operate when any of the DDGS dryers (EU34 and EU37) are in operation.

Combined with the PM10, VOC, NOx, CO, and HAP emissions from other emission units, the emissions from the entire source are limited to less than 100 tons/yr for PM10, VOC, NOx, and CO, less than 10 tons/yr for a single HAP, and less than 25 tons/yr for total HAPs. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.

**326 IAC 2-6 (Emission Reporting)**

This source is located in Putnam County and is not required to operate under a Part 70 permit. Therefore, the requirements of 326 IAC 2-6 are not applicable to this source.

**326 IAC 5-1 (Opacity Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity for sources shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**State Rule Applicability - Grain Receiving and Handling Operations**

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**

Pursuant to 326 IAC 6-3-2, particulate emissions from each of the following operations shall not exceed the pound per hour limits listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU01	Truck Dump Pit	840	75.4
EU02	Rail Dump Pit	840	75.4
EU03	Grain Conveying System	840	75.4
EU04	Grain Elevator	840	75.4
EU05	Grain Storage Silo	840	75.4
EU06	Hammermill	280	62.2
EU07	Hammermill	280	62.2
EU08	Hammermill	280	62.2
EU09	Mill Surge Hammermill Bin	840	75.4

The pounds per hour limitations were calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Pursuant to 326 IAC 6-3-2(e)(3), when the process weight exceeds 200 tons per hour, the maximum allowable emission may exceed the emission limits shown in the table above, provided the concentration of particulate matter in the gas discharged to the atmosphere is less than 0.10 pounds per 1,000 pounds of gases.

As shown in the calculations in Appendix A, the potential to emit PM after control from the grain receiving and handling operations is less than the emission limits above. Therefore, these operations are capable of complying with 326 IAC 6-3-2. The use of the baghouses CE01 through CE05 is necessary to ensure compliance with the limits above.

### State Rule Applicability – Fermentation Process

326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)

The fermentation process will be constructed after January 1, 1980 and has potential VOC emissions greater than 25 tons per year. There are no other rules in 326 IAC 8 applicable to this process. Therefore, this fermentation process is subject to 326 IAC 8-1-6 and the Permittee is required to control VOC emissions from this process using the Best Available Control Technology (BACT). Based on the information in Appendix B, BACT for the fermentation process has been determined to be the following:

- (a) The VOC emissions from the fermentation process shall be controlled by wet scrubber CE07.
- (b) The overall VOC control efficiency for the wet scrubber CE07 (including the capture efficiency and absorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.
- (c) The VOC emissions from wet scrubber CE07 shall not exceed 5.85 lbs/hr.

### State Rule Applicability – Thermal Oxidizer/Heat Recovery Steam Generator (TO/HRSG) Systems (CE09 and CE16)

326 IAC 6-2-4 (PM Emissions for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-4(a), indirect heating facilities constructed after September 12, 1983, shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where Pt = emission rate limit (lbs/MMBtu)  
 Q = total source heat input capacity (MMBtu/hr)

The total source heat input capacity is  $130 \times 2 = 260$  MMBtu/hr. Therefore, the PM emission limit for each of the TO/HRSG systems is:

$$Pt = \frac{1.09}{260^{0.26}} = 0.26 \text{ lbs/MMBtu.}$$

A PM emission limit of 0.26 lbs/MMBtu is equivalent to 33.8 lbs/hr ( $0.26 \text{ lbs/MMBtu} \times 130 \text{ MMBtu/hr} = 31.7 \text{ lbs/hr}$ ) of PM emissions from one TO/HRSG system. According to the emission calculations in Appendix A, the total PM emissions from both the TO/HRSG systems CE09 and CE16 are 8.24 lbs/hr. Therefore, these units are capable of complying with the PM requirements in 326 IAC 6-2-4.

**State Rule Applicability – Distillation Process**

326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)

The distillation process will be constructed after January 1, 1980 and has potential VOC emissions greater than 25 tons per year. There are no other rules in 326 IAC 8 applicable to this process. Therefore, this process is subject to 326 IAC 8-1-6 and the Permittee is required to control VOC emissions from this process using the Best Available Control Technology (BACT). Based on the information in Appendix B, BACT for this process has been determined to be the following:

- (a) The VOC emissions from the distillation process shall be controlled by TO/HRSG system CE09 or CE16.
- (b) The overall VOC control efficiency for each of the TO/HRSG systems CE09 or CE16 (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.
- (c) The total VOC emissions from the TO/HRSG systems stacks (EP008 and EP014) combined shall not exceed 10.5 lbs/hr.

**State Rule Applicability – DDGS Drying and Cooling Process**

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2, particulate emissions from each of the DDGS dryers (EU34 and EU37) and the DDGS coolers (EU35 and EU38) shall not exceed the pound per hour limits listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU34	DDGS Dryer	34	41.1
EU37	DDGS Dryer	34	41.1
EU35	DDGS Cooler	34	41.1
EU38	DDGS Cooler	34	41.1

The pounds per hour limitations were calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

The use of TO/HRSG system (CE09 or CE16) is necessary to ensure compliance with the emission limits above.

**326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)**

The DDGS dryers (EU34 and EU37) will be constructed after January 1, 1980 and each of them has potential VOC emissions greater than 25 tons per year. There are no other rules in 326 IAC 8 applicable to these dryers. Therefore, these dryers are subject to 326 IAC 8-1-6 and the Permittee is required to control VOC emissions using the Best Available Control Technology (BACT). Based on the information in Appendix B, BACT for the DDGS dryers has been determined to be the following:

- (a) The VOC emissions from the DDGS dryers (EU34 and EU37) shall be controlled by one of the TO/HRSG systems (CE09 and CE16).
- (b) The overall efficiency for each of the TO/HRSG systems CE09 and CE16 (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.
- (c) The total VOC emissions from the TO/HRSG systems stacks (EP008 and EP014) combined shall not exceed 10.5 lbs/hr.

The potential VOC emissions from each of the DDGS coolers (EU35 and EU38) are less than 25 tons/yr. Therefore, the DDGS coolers are not subject to the requirements of 326 IAC 8-1-6 (BACT).

**State Rule Applicability - DDGS Handling and Loadout Operation**

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**

Pursuant to 326 IAC 6-3-2, particulate emissions from each of the following operations shall not exceed the pound per hour limits listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU31	DDGS Storage	120	53.1
EU32	DDGS Conveyor	120	53.1
EU33	DDGS Loadout	120	53.1

The pounds per hour limitations were calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

As shown in the calculations in Appendix A, the potential to emit PM after control from the DDGS storage, conveyor, and loadout operations is less than the emission limits above. Therefore, these operations are capable of complying with 326 IAC 6-3-2. The use of the baghouse CE10 is necessary to ensure compliance with the limits above.

**326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)**

The potential VOC emissions from the each of the DDGS storage and handling operations are less than 25 tons/yr. Therefore, the requirements of 326 IAC 8-1-6 (BACT) are not applicable to these units.

**State Rule Applicability – Ethanol Loading Racks (EU40A and EU40B)**

**326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)**

The ethanol loading rack for trucks (EU40A) at this source will be constructed after January 1, 1980 and has potential VOC emissions greater than 25 tons per year. There are no other rules in 326 IAC 8 applicable to this unit. Therefore, this unit is subject to 326 IAC 8-1-6 and the Permittee is required to control VOC emissions with the Best Available Control Technology (BACT). Based

on the information provided in Appendix B, BACT for the ethanol loading rack for trucks (EU40A) has been determined to be the following:

- (a) The VOC emissions from the ethanol loading rack for trucks (EU40A) shall be collected and controlled by enclosed flare CE12.
- (b) The overall efficiency for the enclosed flare CE12 (including the capture efficiency and destruction efficiency) shall be at least 98%.
- (c) The VOC emissions from the flare CE12 shall not exceed 0.92 lbs/hr. This limit was calculated based on the VOC emission factor of 0.96 lbs/kgal, the maximum truck loadout rate of 48 kgal/hr, and the flare control efficiency of 98% ( $0.96 \text{ lbs/kgal} \times 48 \text{ kgal/hr} \times (1 - 98\%) = 0.92 \text{ lbs/hr}$ ). The VOC emission factor of 0.96 lbs/kgal was calculated using the equation in AP-42, Chapter 5.2 (see the emission calculations in Appendix A).

With the denatured ethanol throughput limit of 88.2 MMgal per year, the potential VOC emissions from the railcar loading rack (EU40B) are less than 25 tons/yr (see the emission calculations in Appendix A). Therefore, the railcar loading rack (EU40B) is not subject to the requirements of 326 IAC 8-1-6(BACT).

#### **State Rule Applicability - Cooling Tower (Insignificant Activity)**

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(11), particulate emissions from the noncontact cooling tower systems are exempt from the requirements of 326 IAC 6-3.

#### **State Rule Applicability – Paved Roads (Insignificant Activities)**

326 IAC 6-4 (Fugitive Dust Emissions)

Pursuant to 326 IAC 6-4, the source shall not generate fugitive dust to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

326 IAC 6-5 (Fugitive Particulate Emissions Limitations)

The potential fugitive particulate emissions, as defined in 326 IAC 6-5-2, from the paved roads at this source are less than 25 tons/yr. Therefore, the requirements of 326 IAC 6-5 are not applicable.

#### **State Rule Applicability – Storage Tanks T001 through T005 (Insignificant Activities)**

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)

The denaturant storage tank (T003) has a maximum capacity greater than 39,000 gallons and will be used to store gasoline which has a vapor pressure greater than 1.52 psi. Therefore, tank T003 is subject to the requirements of 326 IAC 8-4-3. Tank T003 will be equipped with an internal floating roof. Pursuant to 326 IAC 8-4-3(d), the Permittee shall maintain the following records for a period of two (2) years for tank T003:

- (a) The types of volatile petroleum liquid stored;
- (b) The maximum true vapor pressure of the liquids as stored; and
- (c) The results of the inspections performed on the storage vessels.

The above records shall be made available to the IDEM, OAQ upon written request. Tanks T001, T002, T004, and T005 will not be used to store petroleum. Therefore, these tanks are not subject to requirements of 326 IAC 8-4-3.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

The source is not located in Clark, Floyd, Lake, or Porter County. Therefore, the requirements of 326 IAC 8-9-1 are not applicable to the tanks at this source.

### State Rule Applicability – Diesel Fire Pump (Insignificant Activity)

#### 326 IAC 9-1-2 (Carbon Monoxide Emission Requirements)

This source is not among the listed source categories in 326 IAC 9-1-2. Therefore, the diesel fire pump (EU41) is not subject to the requirements of 326 IAC 9-1-2.

#### 326 IAC 10-1 (Nitrogen Oxide Emission Requirements)

This source is not located in Clark or Floyd County. Therefore, the diesel fire pump (EU41) is not subject to the requirements of 326 IAC 10-1.

### Testing Requirements

In order to demonstrate compliance with the FESOP, PSD minor limits, and 40 CFR 60, Subpart Db, the Permittee shall perform the following tests within 60 days after achieving the maximum capacity but not later than 180 days after initial startup of the proposed plant:

- (a) PM and PM10 tests for baghouses CE01 through CE05, and CE10, which are used to control the particulate emissions from the grain receiving and handling operations (EU01 through EU05), the hammermills (EU06 through EU09), and the DDGS handling and loadout operations (EU31 through EU33).
- (b) VOC and Acetaldehyde tests for scrubber CE07, which is used to control the fermentation process. Acetaldehyde is the major HAP emitted from this process.
- (c) PM, PM10, VOC, NO<sub>x</sub>, CO, SO<sub>2</sub>, and Acetaldehyde tests for the TO/HRSG systems stacks EP008 and EP014. The TO/HRSG systems (CE09 and CE16) are used to control the emissions from the distillation process, the DDGS dryers (EU34 and EU37), and the DDGS coolers (EU35 and EU38). Acetaldehyde is the major HAP emitted from these units.
- (d) VOC, NO<sub>x</sub>, and CO emissions from the enclosed flare CE12, which is used to control the emissions from the ethanol loading rack (EU40).

These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration.

### Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

1. The grain receiving and handling operations (EU01 through EU05), the hammermills (EU06 through EU08), the mill surge hammermill bin (EU09), and the DDGS handling

and loadout operations (EU31 through EU33) have applicable compliance monitoring conditions as specified below. These units are controlled by baghouses CE01 through CE05, and CE10.

- (a) Visible emission notations of the baghouse stack exhausts (stacks EP001 through EP005, and EP010) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee or contractor is a person who has worked or trained at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. Section C - Response to Excursions or Exceedances for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The Permittee shall record the pressure drop across baghouses CE01 through CE05, and CE10 used in conjunction with the grain receiving and handling operations (EU01 through EU05), the hammermills (EU06 through EU08), the mill surge hammermill bin (EU09), and the DDGS handling and loadout operations (EU31 through EU33), at least once per day. When for any one reading, the pressure drop across baghouses CE01 through CE05, and CE10 is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (c) In the event that bag failure has been observed:
  - (1) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
  - (2) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

These monitoring conditions are necessary because the baghouses controlling the grain receiving and handling operations (EU01 through EU05), the hammermills (EU06 through EU08), the mill surge hammermill bin (EU09), and the DDGS handling and loadout

operations (EU31 through EU33), must operate properly to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 2-8 (FESOP), and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

2. The wet scrubber CE07, which is used to control the fermentation process, has applicable compliance monitoring conditions as specified below:

The Permittee shall monitor and record the pressure drop and flow rate of scrubber CE07, at least once per day when the associated fermentation process is in operation. When for any one reading, the pressure drop across the scrubber is outside the normal range of 1.0 and 6.0 inches of water, or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. When for any one reading, the flow rate of any of the scrubbers is less than the minimum of 40 gallons per minute, or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mention range or a flow rate that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

[Note: There are no PM/PM10 emissions from the fermentation process. Therefore, visible emissions notations are not required for this process.]

These monitoring conditions are necessary because scrubber CE07 for the fermentation process must operate properly to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 2-8-4 (FESOP), and 326 IAC 8-1-6 (BACT).

3. The distillation process, the DDGS dryers (EU34 and EU37), and the DDGS coolers (EU35 and EU38), which are controlled by the TO/HRSG systems (CE09 and CE16), have applicable compliance monitoring conditions as specified below:
  - (a) Visible emission notations of the exhaust from the TO/HRSG system stacks (EP008 and EP014) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee or contractor is a person who has worked or trained at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. Section C - Response to Excursions or Exceedances for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
  - (b) A continuous monitoring system shall be calibrated, maintained, and operated on each of the TO/HRSG systems (CE09 and CE16) for measuring operating temperature. For the purpose of this condition, continuous means no less than once per minute. The output of this system shall be recorded as a 3-hour average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizers at or above the 3-hour average temperature of 1,400°F.
  - (c) The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in this permit, as approved by IDEM.

- (d) On and after the date the approved stack test results are available, the Permittee shall operate the thermal oxidizers at or above the 3-hour average temperature as observed during the compliant stack test.
- (e) The Permittee shall determine fan amperage or duct pressure from the most recent valid stack test that demonstrates compliance with limits in this permit, as approved by IDEM, OAQ.
- (f) The duct pressure or fan amperage shall be observed at least once per day when the TO/HRSG systems are in operation. On and after the date the approved stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in most recent compliant stack test.

These monitoring conditions are necessary because the TO/HRSG systems (CE09 and CE16) must operate properly at all times the distillation process, the DDGS dryers (EU34 and EU37), and the DDGS coolers (EU35 and EU38) are in operation to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 2-8-4 (FESOP), 326 IAC 8-1-6 (BACT), and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

- 4. The ethanol loading rack for trucks (EU40A), which is controlled by enclosed flare CE12, has applicable compliance monitoring conditions as specified below:

The presence of a flare flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

These monitoring conditions are necessary because flare CE12 must operate properly at all times that ethanol loading rack EU40A is in operation to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 2-8-4 (FESOP), and 326 IAC 8-1-6 (BACT).

### Proposed Changes

The following changes have been made to the permit. Language with a line through it has been deleted, and bold language has been added. The Table of Contents has been updated as necessary.

#### A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary ethanol production plant.

Authorized individual:	President
Source Address:	7816 South US 231, Cloverdale, Indiana 46120
Mailing Address:	<del>12 Salt Creek Lane, Suite 410, Hinsdale, Illinois 60521</del> <b>700 East Ogden, Suite 308, Westmont, Illinois 60559</b>
General Source Phone:	(603) 920-9990
SIC Code:	2869
Source Location Status:	Putnam
Source Status:	Attainment for all criteria pollutants Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD; Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

#### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- ~~(a) One (1) natural gas fired trim boiler, identified as B2, constructed in 2004, with a maximum heat input capacity of 96 MMBtu/hr, equipped with a low NOx burner, and exhausting through stack EP014.~~

- (ba) One (1) truck dump pit, identified as ~~TDPEU01~~, constructed in ~~2004~~**2006**, with a maximum throughput rate of ~~560~~**840** tons of corn per hour, controlled by baghouse CE001, and exhausting through stack EP001.
- (eb) One (1) rail dump pit, identified as ~~RDPEU02~~, constructed in ~~2004~~**2006**, with a maximum throughput rate of ~~560~~**840** tons of corn per hour, controlled by baghouse ~~CE002~~**01**, and exhausting through stack EP0021.
- ~~(d) One (1) grain handling process, identified as GH1, constructed in 2004, with a maximum throughput rate of 1,120 tons of corn per hour, controlled by baghouse CE003, and exhausting through stack EP003. This process consists of the following:~~
  - ~~(1) One (1) conveyor.~~
  - ~~(2) Two (2) elevators.~~
  - ~~(3) Two (2) corn silos, with a total maximum capacity of 802,000 bushels.~~
  - ~~(4) One (1) screen.~~
- ~~(e) One (1) belt conveyor, identified as GH2, constructed in 2004, with a maximum throughput rate of 77 tons/hr, controlled by baghouse CE004, and exhausting through stack EP004.~~
- ~~(f) One (1) germ storage tank, identified as GS, constructed in 2004, with a maximum capacity of 28,100 bushels and a maximum throughput rate of 5.5 tons/hr, controlled by baghouse CE005, and exhausting through EP005.~~
- ~~(g) Two (2) fiber storage bins, identified as FS, constructed in 2004, with a maximum capacity of 22,500 bushels for each bin and a total maximum throughput rate of 6.9 tons/hr, controlled by baghouse CE006, and exhausting through EP006.~~
- ~~(h) Two (2) CPC storage bins, identified as PCS, constructed in 2004, with a maximum capacity of 22,500 bushels for each bin and a total maximum throughput rate of 13.8 tons/hr, controlled by baghouse CE009, and exhausting through EP009.~~
- ~~(i) One (1) truck loadout hood, identified as SS1, constructed in 2004, with a maximum throughput rate of 420 tons/hr, controlled by baghouse CE010, and exhausting stack EP010.~~
- ~~(j) One (1) rail loadout hood, identified as SS2, constructed in 2004, with a maximum throughput rate of 420 tons/hr, controlled by baghouse CE011, and exhausting stack EP011.~~
- (c) One (1) grain handling operation, constructed in 2006, controlled by baghouse CE01, exhausting through stack EP001, and consisting of the following:**
  - (1) One (1) grain conveying system, identified as EU03, with a maximum throughput rate of 840 tons per hour.**
  - (2) One (1) grain elevator, identified as EU04, with a maximum throughput rate of 840 tons per hour.**
  - (3) One (1) grain storage silo, identified as EU05, with a maximum capacity of 800,000 bushels and maximum throughput rate of 840 tons per hour.**
- (d) Three (3) hammermills, identified as EU06, EU07, and EU08, constructed in 2006, each with a maximum throughput rate of 280 tons of corn per hour, controlled by**

**baghouses CE02, CE03, and CE04, respectively, and exhausting through stacks EP002, EP003, and EP004, respectively.**

- (e) One (1) mill surge hammermill bin, identified as EU09, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE05, and exhausting through stack EP005.**
- (kf) One (1) fermentation process, identified as FP, constructed in 2004~~2006~~, with a maximum throughput rate of ~~77 tons/hr of grain, 45,000 gal/hr of water, and 0.25 tons/hr of yeast~~ **20,000 gallons per hour**, using wet scrubber CE007 for VOC control, and exhausting through stack EP007. **This process consists of the following:****

  - (1) Six (6) fermenters, identified as EU16 through EU21.**
  - (2) One (1) beer well, identified as EU22.**
- (g) Two (2) thermal oxidizers with heat recovery steam generator (TO/HRSG) systems, identified as CE09 and CE16, constructed in 2006, each with a maximum heat input capacity of 130 MMBtu/hr, using natural gas as fuel, with emissions exhausted through stacks EP008 and EP014, respectively.**
- (h) One (1) distillation process, constructed in 2006, with a maximum throughput rate of 14,000 gallons of ethanol per hour, controlled by one of the TO/HRSG systems (CE09 or CE16), with emissions exhausted through stack EP008 or EP014. This process consists of the following:**

  - (1) Mix tanks, identified as EU10.**
  - (2) Flash tanks, identified as EU11.**
  - (3) Two (2) liquefaction tanks, identified as EU12 and EU13, each with a maximum capacity of 7,000 gallons per hour.**
  - (4) One (1) rectifier column, identified as EU23.**
  - (5) One (1) side stripper, identified as EU24.**
  - (6) One (1) beer stripper, identified as EU25.**
  - (7) One (1) molecular sieve, identified as EU26.**
  - (8) One (1) whole stillage tank, identified as EU27.**
  - (9) One (1) centrifuge, identified as EU28.**
  - (10) One (1) centrate still tank, identified as EU29.**
- (i) Two (2) natural gas fired DDGS dryers, identified as EU34 and EU37, constructed in 2006, each with a maximum heat input rate of 90 MMBtu/hr, with a total maximum throughput rate of 34 tons of DDGS per hour, controlled by multiclones CE08 and CE14, respectively, with emissions venting to TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.**
- (j) Two (2) DDGS coolers, identified as EU35 and EU38, constructed in 2006, each with a maximum throughput rate of 34 tons/hr of DDGS, controlled by TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.**
- (k) One (1) DDGS handling and loadout operation, constructed in 2006, with a maximum throughput rate of 120 tons/hr of DDGS, controlled by baghouse CE10, with emissions exhausted to stack EP010, and consisting of the following:**

- (1) One (1) DDGS storage bin, identified as EU31.**
  - (2) One (1) DDGS conveyor, identified as EU32.**
  - (3) One (1) DDGS truck loadout spout, identified as EU33.**
- ~~(l) One (1) thermal oxidizer/heat recovery steam generator, identified as CE008E, constructed in 2004, using natural gas and process waste gases from the wet milling process, the dryers, and the distillation and dehydration process, with a maximum heat input capacity of 168 MMBtu/hr, and exhausting through stack EP008.~~
- ~~(m) One (1) wet milling process, identified as WM, constructed in 2004, with a maximum throughput rate of 77 tons/hr of grain and 32.75 tons/hr of water, controlled by thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008. This process consists of the following:~~
- ~~(1) One (1) soak tank, controlled by baghouse CE008A.~~
  - ~~(2) One (1) slurry tank.~~
  - ~~(3) One (1) yeast tank.~~
  - ~~(4) Two (2) grind mills.~~
  - ~~(5) Two (2) hydrocyclones.~~
  - ~~(6) One (1) germ wash screen and press.~~
  - ~~(7) One (1) fiber wash screen and press.~~
- ~~(n) One (1) germ drying and cooling process, identified as GD, constructed in 2004, using natural gas as fuel, with a maximum heat input capacity of 10 MMBtu/hr and the maximum throughput rate of 5.5 tons/hr of dry solid (excluding water), controlled by cyclone CE008B and thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008.~~
- ~~(o) One (1) fiber dryer, identified as FD, constructed in 2004, with a maximum heat input capacity of 23 MMBtu/hr and the maximum throughput rate of 6.9 tons/hr of dry solid (excluding water), controlled by cyclone CE008C and thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008.~~
- ~~(p) One (1) protein concentration process, identified as PC, constructed in 2004, with a maximum throughput rate of 13.8 tons/hr of dry solid (excluding water), controlled by thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008. This process consists of the following:~~
- ~~(1) One (1) decanter feed tank.~~
  - ~~(2) One (1) soluble protein decanter.~~
  - ~~(3) One (1) corn protein concentration (CPC) dryer, using natural gas as fuel, with a maximum heat input capacity of 47 MMBtu/hr and the maximum throughput rate of 13.8 tons/yr, and controlled by cyclone CE008D.~~
  - ~~(4) One (1) evaporator feed tank.~~
  - ~~(5) One (1) soluble protein concentrator evaporator.~~

- ~~(g) One (1) distillation and dehydration process, identified as DD, constructed in 2004, with a maximum ethanol production of 6,850 gal/hr, controlled by thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008.~~
- (f) One (1) ethanol loading rack for both railcars and trucks loading, identified as ~~ER~~ **EU40A**, constructed in ~~2004~~**2006**, with a maximum throughput rate of ~~96,000~~**48,000** gallons per hour. ~~The truck loading process~~ **This unit** is controlled by enclosed flare CE012, which is fueled by natural gas and has a maximum heat input capacity of ~~5.5~~**76.8** MMBtu/hr, and exhausting through stack EP012.
- (m) One (1) ethanol loading rack for railcars, identified as EU40B, constructed in 2006, with a maximum throughput rate of 60,000 gallons per hour.**

### Insignificant Activities

The revised insignificant emission units are listed below:

#### A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Solvent recycling systems with batch capacity less than or equal to 100 gallons.
- (b) Forced and induced draft cooling tower system not regulated under a NESHAP.
- (c) Replacement or repair of bags in baghouses and filters in other air filtration equipment.
- (d) Paved roads and parking lots with public access. **[326 IAC 6-4]**
- (e) Underground conveyors, including underground grain and product transfer conveyors.
- (f) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- ~~(g) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.~~
- (g) Stationary fire pumps, including one (1) diesel fire pump, identified as EU41, constructed in 2006, with a maximum power output rate of 275 horsepower, and exhausting to stack EP015. [326 IAC 2-8-4]**
- (h) Other emission units, not regulated by a NESHAP, with PM<sub>10</sub>, NO<sub>x</sub>, and SO<sub>2</sub> emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:
  - (1) One (1) off spec tank for 190-proof ethanol, identified as T001, constructed in 2006, with a maximum capacity of 270,000 gallons. [40 CFR 60, Subpart Kb]**

- (12) ~~Two (2)~~ **One (1)** shift tanks for 200-proof ethanol, identified as ~~T01 and T002~~, constructed in ~~2004~~**2006**, each with a maximum capacity of ~~85,000~~ **1,000,000** gallons of 200-proof ethanol. **[40 CFR 60, Subpart Kb]**
- (23) One (1) denaturant tank, identified as T003, constructed in ~~2004~~**2006**, with a maximum capacity of ~~35,000~~ **125,000** gallons of natural gasoline. **[326 IAC 8-9] [40 CFR 60, Subpart Kb]**
- (34) ~~Two (2)~~ **One (1)** denatured ethanol tanks, identified as ~~T04 and T05~~ **TK004**, constructed in ~~2004~~**2006**, each with a maximum capacity of ~~750,000~~ **1,000,000** gallons of denatured ethanol. **[40 CFR 60, Subpart Kb]**
- ~~(4) One (1) digester for process water, identified as MF, constructed in 2004. This unit has methane emissions and is controlled by thermal oxidizer/heat recovery steam generator CE008E or flare CE013.~~
- (5) **One (1) diesel storage tank, identified as T005, constructed in 2006, with a maximum storage capacity less than 1,000 gallons.**
- (6) **One (1) biomethanator, identified as EU42, constructed in 2006, controlled by 3.48 MMBtu/hr biomethanator flare CE13, and exhausting to stack EP013. [326 IAC 2-8-4]**

B.12 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]

...

- ~~(b) The Permittee shall implement the PMPs, including any required record keeping as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.~~
- ~~(c)~~ **(b)** A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- ~~(d)~~ **(c)** To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.13 Emergency Provisions [326 IAC 2-8-12]

...

- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.**

...

B.18 Operational Flexibility [326 IAC 2-8-15]

- (a) ...

- (3) The changes do not result in emissions which exceed the ~~emissions allowable under~~ **limitations provided in** this permit (whether expressed herein as a rate of emissions or in terms of total emissions);  
attach every such notice to the Permittee's copy of this permit; and

- ...
- (5) The Permittee maintains records on-site, **on a rolling five (5) year basis**, which document, ~~on a rolling five (5) year basis~~, all such changes and emissions ~~trading trades~~ that are subject to 326 IAC 2-8-15(b) through (d). **and makes The Permittee shall make** such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ, in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) Emission Trades [326 IAC 2-8-15(c)]  
The Permittee may trade **emissions** increases and decreases ~~in emissions in~~ at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).

...

**B.23 Credible Evidence [326 IAC 2-8-4(3)] [ 326 IAC 2-8-5] [62 FR 8314] [326 IAC 1-1-6]**

~~Notwithstanding the conditions of this permit that state specific methods that may be used to demonstrate compliance with, or a violation of, applicable requirements, any person (including the Permittee) may also use other credible evidence to demonstrate compliance with, or a violation of, any term or condition of this permit.~~

**For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.**

**C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [40 CFR 52 Subpart P][326 IAC 6-3-2]**

~~(a) Pursuant to 40 CFR 52 Subpart P, particulate matter emissions from any process not already regulated by 326 IAC 6.5 or 326 IAC 6.8 (formerly 326 IAC 6-1) or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.~~

~~(b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This condition is not federally enforceable.~~

**G.7 Operation of Equipment [326 IAC 2-8-5(a)(4)]**

~~Except as otherwise provided by statute, rule or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.~~

**C.1415 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]**

(a) ~~Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed~~ **When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device** shall have a scale such that the expected ~~normal~~ **maximum** reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (~~±2%~~) of full scale reading.

(b) ~~Whenever a condition in this permit requires the measurement of a temperature and flow rate, the instrument employed shall have a scale such that the expected normal reading~~

shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ( $\pm 2\%$ ) of full scale reading.

- (e) (b) The Permittee may request ~~that~~ the IDEM, OAQ approve the use of ~~a pressure gauge or other~~ **an** instrument that does not meet the above specifications provided the Permittee can demonstrate ~~that~~ an alternative ~~pressure gauge or other~~ instrument specification will adequately ensure compliance with permit conditions requiring the measurement of ~~pressure drop or other~~ **the** parameters.

C.1647 Compliance Response Plan - Preparation, Implementation, Records, and Reports  
**Response to Excursions or Exceedances** [326 IAC 2-8-4] [326 IAC 2-8-5]

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~~The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and is comprised of:~~

- ~~(1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected time frame for taking reasonable response steps.~~
  - ~~(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.~~
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
- ~~(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or~~
  - ~~(2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.~~
  - ~~(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be ten (10) days or more until the unit or device will be shut down, then the Permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down. The notification shall also include the status of the applicable compliance monitoring parameter with respect to normal, and the results of the response actions taken up to the time of notification.~~
  - ~~(4) Failure to take reasonable response steps shall be considered a deviation from the permit.~~
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
- ~~(1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.~~
  - ~~(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously~~

~~submitted a request for an administrative amendment to the permit, and such request has not been denied.~~

~~(3) An automatic measurement was taken when the process was not operating.~~

~~(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.~~

~~(d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.~~

~~(e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-8-12 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.~~

~~(f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.~~

**(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.**

**(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:**

**(1) initial inspection and evaluation;**

**(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or**

**(3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.**

**(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:**

**(1) monitoring results;**

**(2) review of operation and maintenance procedures and records;**

**(3) inspection of the control device, associated capture system, and the process.**

**(d) Failure to take reasonable response steps shall be considered a deviation from the permit.**

**(e) The Permittee shall maintain the following records:**

**(1) monitoring data;**

- (2) monitor performance data, if applicable; and
- (3) corrective actions taken.

## **SECTION D.1 FACILITY OPERATION CONDITIONS – Boiler B2**

### **Facility Description [326 IAC 2-8-4(10)]:**

- (a) ~~One (1) natural gas fired trim boiler, identified as B2, constructed in 2004, with a maximum heat input capacity of 96 MMBtu/hr, equipped with a low NOx burner, and exhausting through stack EP014.~~

~~(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)~~

~~THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-8-11.1, WITH CONDITIONS LISTED BELOW.~~

### **Construction Conditions**

#### **General Construction Conditions**

##### **D.1.1 Permit No Defense**

~~This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.~~

##### **D.1.2 Federally Enforceable State Operating Permit [326 IAC 2-8]**

~~The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application.~~

#### **Effective Date of the Permit**

##### **D.1.3 Effective Date of the Permit [IC13-15-5-3]**

~~Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.~~

##### **D.1.4 Modification to Construction Conditions [326 IAC 2]**

~~All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.~~

### **Operation Conditions**

#### **Emission Limitations and Standards [326 IAC 2-8-4(1)]**

##### **D.1.5 CO Emissions [326 IAC 2-8-4] [326 IAC 2-2]**

~~Pursuant to 326 IAC 2-8-4, the CO emissions from this boiler shall not exceed 50 lbs/MMCF. This is equivalent to 24 tons/yr of CO emissions from this boiler. Combined with the CO emissions from other units, the CO emissions from the entire source are limited to less than 100 tons/yr. Therefore, the requirement of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.~~

##### **D.1.6 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]**

~~The provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facility described in this section except when otherwise~~

specified in 40 CFR Part 60, Subpart Dc.

~~D.1.7 NSPS Requirements [326 IAC 12-1][40 CFR 60, Subpart Dc]~~

~~Pursuant to 40 CFR 60.48c, the Permittee shall maintain daily records of the amount and type of fuel burned in boiler B2.~~

~~D.1.8 Particulate Emissions [326 IAC 6-2-4]~~

~~Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from the 96 MMBtu per hour heat input boiler (identified as B2) shall be limited to 0.26 pounds per MMBtu heat input.~~

~~The limit was calculated using the following equation:~~

$$\frac{Pt}{Q} = \frac{1.09}{Q^{0.26}}$$

~~Where Pt = emission rate limit (lbs/MMBtu)~~

~~Q = total source heat input capacity (MMBtu/hr)~~

~~D.1.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]~~

~~A Preventive Maintenance Plan, in accordance with Section B – Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.~~

**Compliance Determination Requirements**

~~D.1.10 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]~~

~~In order to demonstrate compliance with Condition D.1.5, the Permittee shall perform CO testing for boiler B2, within 180 days after achieving the maximum production, but not later than 360 days after initial startup, utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C – Performance Testing.~~

**Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

~~D.1.11 Record Keeping Requirements~~

- ~~(a) To document compliance with Condition D.1.7, the Permittee shall maintain daily records of the amount and type of fuel combusted in boiler B2.~~
- ~~(b) To document compliance with Condition D.1.9, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.~~
- ~~(c) All records shall be maintained in accordance with Section C – General Record Keeping Requirements, of this permit.~~

**SECTION D.2 FACILITY OPERATION CONDITIONS – Grain Receiving and Handling Processes**

**Facility Description [326 IAC 2-8-4(10)] – Grain Receiving and Handling Processes:**

- ~~(b) One (1) truck dump pit, identified as TDP, constructed in 2004, with a maximum throughput rate of 560 tons of corn per hour, controlled by baghouse CE001, and exhausting through stack EP001.~~
- ~~(c) One (1) rail dump pit, identified as RDP, constructed in 2004, with a maximum throughput rate of 560 tons of corn per hour, controlled by baghouse CE002, and exhausting through stack EP002.~~
- ~~(d) One (1) grain handling process, identified as GH1, constructed in 2004, with a maximum throughput rate of 1,120 tons of corn per hour, controlled by baghouse CE003, and exhausting through stack EP003. This process consists of the following:~~

- ~~(1) One (1) conveyor.~~
  - ~~(2) Two (2) elevators.~~
  - ~~(3) Two (2) corn silos, with a total maximum capacity of 802,000 bushels.~~
  - ~~(4) One (1) screen.~~
  - ~~(e) One (1) belt conveyor, identified as GH2, constructed in 2004, with a maximum throughput rate of 77 tons/hr, controlled by baghouse CE004, and exhausting through stack EP004.~~
  - ~~(f) One (1) germ storage tank, identified as GS, constructed in 2004, with a maximum capacity of 28,100 bushels and a maximum throughput rate of 5.5 tons/hr, controlled by baghouse CE005, and exhausting through EP005.~~
  - ~~(g) Two (2) fiber storage bins, identified as FS, constructed in 2004, with a maximum capacity of 22,500 bushels for each bin and a total maximum throughput rate of 6.9 tons/hr, controlled by baghouse CE006, and exhausting through EP006.~~
  - ~~(h) Two (2) CPC storage bins, identified as PCS, constructed in 2004, with a maximum capacity of 22,500 bushels for each bin and a total maximum throughput rate of 13.8 tons/hr, controlled by baghouse CE009, and exhausting through EP009.~~
  - ~~(i) One (1) truck loadout hood, identified as SS1, constructed in 2004, with a maximum throughput rate of 420 tons/hr, controlled by baghouse CE010, and exhausting stack EP010.~~
  - ~~(j) One (1) rail loadout hood, identified as SS2, constructed in 2004, with a maximum throughput rate of 420 tons/hr, controlled by baghouse CE011, and exhausting stack EP011.~~
- ~~(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)~~

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-8-11.1, WITH CONDITIONS LISTED BELOW.

### **Construction Conditions**

#### **General Construction Conditions**

##### **D.2.1 Permit No Defense**

~~This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.~~

##### **D.2.2 Federally Enforceable State Operating Permit [326 IAC 2-8]**

~~The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application.~~

#### **Effective Date of the Permit**

##### **D.2.3 Effective Date of the Permit [IC13-15-5-3]**

~~Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.~~

##### **D.2.4 Modification to Construction Conditions [326 IAC 2]**

~~All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.~~

Operation Conditions

**Emission Limitations and Standards [326 IAC 2-8-4(1)]**

~~D.2.5 PM and PM10 Emissions [326 IAC 2-2] [326 IAC 2-8-4]~~

The PM and PM10 emissions from the following units shall not exceed the emission limits listed in the table below.

Unit ID	Unit Description	Baghouse ID	PM/PM10 Emission Limit (lbs/hr)
TDP	Truck Dump Pit	CE001	0.86
RDP	Rail Dump Pit	CE002	1.29
GH1	Grain Handling	CE003	0.30
GH2	Belt Conveyor	CE004	0.04
GS	Germ Storage Tank	CE005	0.43
FS	Fiber Storage Tanks	CE006	0.05
PCS	CPC Storage Bin	CE009	0.09
SS1	Truck Loadout Hood	CE010	0.69
SS2	Rail Loadout Hood	CE011	0.34

This is equivalent to 17.9 tons of PM/PM10 emissions. Combined with the PM/PM10 emissions from boiler B2, thermal oxidizer/heat recovery steam generator CE008E, flare CE012, unpaved roads, and insignificant activities, the PM/PM10 emissions from the entire source are limited to less than 100 tons/yr. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.

~~D.2.6 Particulate Emission Limitations [326 IAC 6-3-2]~~

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from each of following operations shall not exceed the pound per hour limit listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
TDP	Truck Dump Pit	560	70.3
RDP	Rail Dump Pit	560	70.3
GH1	Grain Handling	1,120	79.1
GH2	Belt Conveyor	77	48.7
GS	Germ Storage Tank	5.5	12.8
FS	Each of Fiber Storage Tank	6.9	15.0
PCS	Each of CPC Storage Bin	13.8	23.8
SS1	Truck Loadout Hood	420	66.9
SS2	Rail Loadout Hood	420	66.9

~~The pounds per hour limitations were calculated using one of the following equations:~~

~~Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:~~

~~$$E = 4.10 P^{0.67}$$
 where E = rate of emission in pounds per hour and P = process weight rate in tons per hour~~

~~Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:~~

---

$$E = 55.0 P^{0.44} - 40$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

---

#### ~~D.2.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]~~

~~A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.~~

### **Compliance Determination Requirements**

#### ~~D.2.8 Particulate Control~~

~~In order to comply with Conditions D.2.5 and D.2.6, each of the following emission units shall be controlled by the associated baghouse, as listed in the table below, when these units are in operation:~~

Unit ID	Unit Description	Baghouse ID
TDP	Truck Dump Pit	CE001
RDP	Rail Dump Pit	CE002
GH1	Grain Handling	CE003
GH2	Belt Conveyor	CE004
GS	Germ Storage Tank	CE005
FS	Fiber Storage Tanks	CE006
PCS	CPC Storage Bin	CE009
SS1	Truck Loadout Hood	CE010
SS2	Rail Loadout Hood	CE011

### **Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

#### ~~D.2.9 Visible Emissions Notations~~

- ~~(a) Visible emission notations of the baghouse stack exhausts (stacks EP001 through EP006, and EP009 through EP011) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.~~
- ~~(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut-down time.~~
- ~~(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.~~
- ~~(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.~~
- ~~(e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.~~

#### ~~D.2.10 Parametric Monitoring~~

~~The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the grain receiving operations (TDP and RDP), the grain handling process (GH1), the belt conveyor (GH2), the germ storage tank (GS), the fiber storage bins (FS), the CPC storage bins (PCS), and the loadout hoods (SS1 and SS2), at least once per shift when these units are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 to 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C~~

~~Compliance Response Plan – Preparation, Implementation, Records and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C – Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.~~

~~The instrument used for determining the pressure shall comply with Section C – Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.~~

#### ~~D.2.11 Baghouse Inspections~~

~~An inspection shall be performed each calendar quarter of all bags controlling the the grain receiving operations (TDP and RDP), the grain handling process (GH1), the belt conveyor (GH2), the germ storage tank (GS), the fiber storage bins (FS), the CPC storage bins (PCS), and the loadout hoods (SS1 and SS2). Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.~~

#### ~~D.2.12 Broken or Failed Bag Detection~~

~~In the event that bag failure has been observed:~~

- ~~(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C – Compliance Response Plan – Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~
- ~~(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).~~

### **Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

#### ~~D.2.13 Record Keeping Requirements~~

- ~~(a) To document compliance with Condition D.2.9, the Permittee shall maintain records of once per shift visible emission notations of the baghouse stack exhausts.~~
- ~~(b) To document compliance with Condition D.2.10, the Permittee shall maintain once per shift records of the total static pressure drop during normal operation.~~
- ~~(c) To document compliance with Condition D.2.11, the Permittee shall maintain records of the results of the inspections required under Condition D.2.11.~~
- ~~(d) To document compliance with Condition D.2.7, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.~~

- ~~(e) All records shall be maintained in accordance with Section C – General Record Keeping Requirements, of this permit.~~

**SECTION D.1 FACILITY OPERATION CONDITIONS – Grain and DDGS Handling Processes**

**Facility Description [326 IAC 2-8-4(10)] :**

- (a) One (1) truck dump pit, identified as EU01, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE01, and exhausting through stack EP001.
- (b) One (1) rail dump pit, identified as EU02, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE01, and exhausting through stack EP001.
- (c) One (1) grain handling operation, constructed in 2006, controlled by baghouse CE01, exhausting through stack EP001, and consisting of the following:
  - (1) One (1) grain conveying system, identified as EU03, with a maximum throughput rate of 840 tons per hour.
  - (2) One (1) grain elevator, identified as EU04, with a maximum throughput rate of 840 tons per hour.
  - (3) One (1) grain storage silo, identified as EU05, with a maximum capacity of 800,000 bushels and maximum throughput rate of 840 tons per hour.
- (d) Three (3) hammermills, identified as EU06, EU07, and EU08, constructed in 2006, each with a maximum throughput rate of 280 tons of corn per hour, controlled by baghouses CE02, CE03, and CE04, respectively, and exhausting through stacks EP002, EP003, and EP004, respectively.
- (e) One (1) mill surge hammermill bin, identified as EU09, constructed in 2006, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE05, and exhausting through stack EP005.
- (k) One (1) DDGS handling and loadout operation, constructed in 2006, with a maximum throughput rate of 120 tons/hr of DDGS, controlled by baghouse CE10, with emissions exhausted to stack EP010, and consisting of the following:
  - (1) One (1) DDGS storage bin, identified as EU31.
  - (2) One (1) DDGS conveyor, identified as EU32.
  - (3) One (1) DDGS truck loadout spout, identified as EU33.

**Insignificant Activity:**

- (d) Paved roads and parking lots with public access. [326 IAC 6-4]

**(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)**

**THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-8-11.1, WITH CONDITIONS LISTED BELOW.**

### **Construction Conditions**

#### **General Construction Conditions**

##### **D.1.1 Permit No Defense**

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

##### **D.1.2 Federally Enforceable State Operating Permit [326 IAC 2-8]**

The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application.

#### **Effective Date of the Permit**

##### **D.1.3 Effective Date of the Permit [IC13-15-5-3]**

Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

##### **D.1.4 Modification to Construction Conditions [326 IAC 2]**

All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.

### **Operation Conditions**

#### **Emission Limitations and Standards [326 IAC 2-8-4(1)]**

##### **D.1.5 PM and PM10 Emissions [326 IAC 2-2] [326 IAC 2-8-4]**

- (a) The PM and PM10 emissions from the following units shall not exceed the emission limits listed in the table below.

Unit ID	Unit Description	Baghouse ID	PM/PM10 Emission Limit (lbs/hr)
EU01 – EU05	Grain Receiving and Handling Operations	CE01	1.41
EU06	Hammermill	CE02	0.28
EU07	Hammermill	CE03	0.28
EU08	Hammermill	CE04	0.28
EU09	Mill Surge Hammermill Bin	CE05	0.34
EU31 – EU33	DDGS Handling and Loadout Operations	CE10	0.17

- (b) The total grain received shall not exceed 904,615 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (c) The total DDGS produced shall not exceed 294,589 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (d) The Permittee shall use periodic sweeping to control PM and PM10 emissions from the paved roads. The sweeping shall be applied in a manner and at a frequency sufficient to ensure compliance with 326 IAC 2-2.

Combined with the PM/PM10 emissions from other emission units, the PM/PM10 emissions from the entire source are limited to less than 100 tons/yr. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.

**D.1.6 Particulate Emission Limitations [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from each of following operations shall not exceed the pound per hour limits listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU01	Truck Dump Pit	840	75.4
EU02	Rail Dump Pit	840	75.4
EU03	Grain Conveying System	840	75.4
EU04	Grain Elevator	840	75.4
EU05	Grain Storage Silo	840	75.4
EU06	Hammermill	280	62.2
EU07	Hammermill	280	62.2
EU08	Hammermill	280	62.2
EU09	Mill Surge Hammermill Bin	840	75.4
EU31	DDGS Storage	120	53.1
EU32	DDGS Conveyor	120	53.1
EU33	DDGS Loadout	120	53.1

The pounds per hour limitations were calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Pursuant to 326 IAC 6-3-2(e)(3), when the process weight exceeds 200 tons per hour, the maximum allowable emission may exceed the emission limits shown in the table above, provided the concentration of particulate matter in the gas discharged to the atmosphere is less than 0.10 pounds per 1,000 pounds of gases.

**D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

**Compliance Determination Requirements**

**D.1.8 Particulate Control**

(a) In order to comply with Conditions D.1.5(a) and D.1.6, each of the following emission units shall be controlled by the associated baghouse, as listed in the table below, when these units are in operation:

Unit ID	Unit Description	Baghouse ID
EU01-EU05	Corn Conveyor	CE01
EU06	Hammermill	CE02
EU07	Hammermill	CE03
EU08	Hammermill	CE04
EU09	Mill Surge Hammermill Bin	CE05

Unit ID	Unit Description	Baghouse ID
EU31-EU33	DDGS Handling and Loadout Operations	CE10

- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

#### **D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]**

In order to demonstrate compliance with Conditions D.1.5(a) and D.1.6, the Permittee shall perform PM and PM10 testing for baghouses CE01 through CE05, and CE10 within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

#### **Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

##### **D.1.10 Visible Emissions Notations**

- (a) Visible emission notations of the baghouse stack exhausts (stacks EP001 through EP005, and EP010) shall be performed once per day during normal daylight operations. A trained employee or a trained contractor shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee or contractor is a person who has worked or trained at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

##### **D.1.11 Parametric Monitoring**

The Permittee shall record the pressure drop across the baghouses used in conjunction with the grain receiving and handling operations (EU01 through EU05), the hammermills (EU06 through EU08), the mill surge hammermill bin (EU09), and the DDGS handling and loadout operations (EU31 through EU33), at least once per day when these units are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 to 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

#### D.1.12 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

#### Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

##### D.1.13 Record Keeping Requirements

- (a) To document compliance with Condition D.1.5(b), the Permittee shall maintain monthly records of the amount of grain received at this plant.
- (b) To document compliance with Condition D.1.5(c), the Permittee shall maintain monthly records of the amount of DDGS produced.
- (c) To document compliance with Condition D.1.10, the Permittee shall maintain records of daily visible emission notations of the baghouse stack exhausts.
- (d) To document compliance with Condition D.1.11, the Permittee shall maintain daily records of pressure drop for baghouses during normal operation.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

##### D.1.14 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.5(b) and D.1.5(c) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

#### SECTION D.32

#### FACILITY OPERATION CONDITIONS – Fermentation Process

##### Facility Description [326 IAC 2-8-4(10)]:

- (kf) One (1) fermentation process, identified as FP, constructed in 2004~~2006~~, with a maximum throughput rate of ~~77 tons/hr of grain, 45,000 gal/hr of water, and 0.25 tons/hr of yeast~~ **20,000 gallons per hour**, using wet scrubber CE007 for VOC control, and exhausting through stack EP007. **This process consists of the following:**

**(1) Six (6) fermenters, identified as EU16 through EU21.**

**(2) One (1) beer well, identified as EU22.**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**D.32.1 Permit No Defense**

**D.-32.2 Federally Enforceable State Operating Permit [326 IAC 2-8]**

**D.-32.3 Effective Date of the Permit [IC13-15-5-3]**

**D.-32.4 Modification to Construction Conditions [326 IAC 2]**

**D.-32.5 VOC and HAP Emissions [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]**

Pursuant to 326 IAC 2-8-4 (FESOP), the VOC and HAP emissions from scrubber CE007 controlling the fermentation process shall not exceed the following:

- (a) **2.445.85** lbs/hr for VOC.
- (b) **0.812** lbs/hr for Acetaldehyde.
- (bc) **4.50.85** lbs/hr for total HAPs.

Combined with the VOC emissions from other units, the VOC emissions from the entire source are limited to less than 100 tons/yr, ~~and~~. **Combined with the HAP emissions from other units, the total HAP emissions from the entire source are limited to less than 10 tons/yr for a single HAP and less than 25 tons/yr for total HAPs.** Therefore, the requirements of 326 IAC 2-7 (Part 70 Program), 326 IAC 2-2 (PSD), and 326 IAC 2-4.1 (MACT) are not applicable.

**D.32.6 VOC Emissions [326 IAC 8-1-6]**

Pursuant to 326 IAC 8-1-6 (BACT), the Permittee shall control the VOC emissions from the fermentation process with a Best Available Control Technology (BACT), which has been determined to be the following:

- (a) The VOC emissions from the fermentation process (FP) shall be controlled by wet scrubber CE007.
- (b) The ~~destruction~~ **overall control efficiency** for the wet scrubber **CE07 (including the capture efficiency and adsorption efficiency)** shall be at least 978%, **or the VOC outlet concentration shall not exceed 20 ppmv.**
- (c) ~~The capture efficiency shall be 100% as defined in EPA Method 204.~~
- (dc) The VOC emissions from wet scrubber CE007 shall not exceed **2.445.85** lbs/hr.

**D.2.7 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]**

**The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facility described in Condition D.2.8 except when otherwise specified in 40 CFR 60, Subpart VV.**

**D.2.8 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VV]**

**Pursuant to 40 CFR 60, Subpart VV, the Permittee shall comply with the requirement of Section E.1 for pumps; pressure relief devices in gas/vapor service; sampling connection systems; open-ended valves or lines; and valves.**

**D.3.72.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

**D.3.82.10 VOC and HAP Control**

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In order to comply with Conditions D.32.5 and D.32.6, wet scrubber CE007 shall be in operation and control emissions from the fermentation process at all times that this process is in operation.

**D.3.92.11 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]**

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In order to demonstrate compliance with Conditions D.32.5 and D.32.6, the Permittee shall perform VOC (including emission rate, ~~destruction~~ **adsorption** efficiency, and capture efficiency) and ~~HAP~~ **Acetaldehyde** testing for scrubber CE007, within 60 days after achieving the maximum production, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

**D.3.102.12 Parametric Monitoring**

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The Permittee shall monitor and record **the pressure drop and** the flow rate of scrubber CE007 at least once per ~~shift~~ **day** when the fermentation process is in operation. **When for any one reading, the pressure drop across the scrubber is outside the normal range of 1.0 and 6.0 inches of water, or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances.** When for any one reading, the flow rate of the scrubber is less than the normal minimum of 40 gallons per minute, or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances.** **A pressure reading that is outside the above mentioned range or Aa** flow rate that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances** shall be considered a deviation from this permit.

The instruments used for determining the **pressure drop and** flow rate shall comply with Section C - ~~Pressure Gauge and Other Instrument Specifications~~, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

**D.3.11 Scrubber Inspections**

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~~An inspection shall be performed each calendar quarter of the scrubber controlling the fermentation process. Inspections required by this condition shall not be performed in consecutive months.~~

**D.3.122.13 Scrubber Detection**

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In the event that a scrubber malfunction has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances** shall be considered a deviation from this permit.

**D.3.132.14 Record Keeping Requirements**

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- (a) To document compliance with Condition ~~D.3.102.12~~, the Permittee shall maintain ~~once per shift~~ **daily** records of **pressure drop and** flow rate for scrubber CE007 during normal operation.
- (b) ~~To document compliance with Condition D.3.11, the Permittee shall maintain records of the results of the inspections required under Condition D.3.11.~~

- (c) ~~To document compliance with Condition D.3.7, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.~~
- (db) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**SECTION D.43**

**FACILITY OPERATION CONDITIONS - ~~Wet Milling Process, Dryers, and Distillation Process TO/HRSG Systems, DDGS Drying, and DDGS Cooling~~**

**Facility Description [326 IAC 2-8-4(10)]:**

- (l) ~~One (1) thermal oxidizer/heat recovery steam generator, identified as CE008E, constructed in 2004, using natural gas and process waste gases from the wet milling process, the dryers, and the distillation and dehydration process, with a maximum heat input capacity of 168 MMBtu/hr, and exhausting through stack EP008.~~
- (m) ~~One (1) wet milling process, identified as WM, constructed in 2004, with a maximum throughput rate of 77 tons/hr of grain and 32.75 tons/hr of water, controlled by thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008. This process consists of the following:~~
- ~~(1) One (1) soak tank, controlled by baghouse CE008A.~~
  - ~~(2) One (1) slurry tank.~~
  - ~~(3) One (1) yeast tank.~~
  - ~~(4) Two (2) grind mills.~~
  - ~~(5) Two (2) hydrocyclones.~~
  - ~~(6) One (1) germ wash screen and press.~~
  - ~~(7) One (1) fiber wash screen and press.~~
- (n) ~~One (1) germ drying and cooling process, identified as GD, constructed in 2004, using natural gas as fuel, with a maximum heat input capacity of 10 MMBtu/hr and the maximum throughput rate of 5.5 tons/hr of dry solid (excluding water), controlled by cyclone CE008B and thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008.~~
- (o) ~~One (1) fiber dryer, identified as FD, constructed in 2004, with a maximum heat input capacity of 23 MMBtu/hr and the maximum throughput rate of 6.9 tons/hr of dry solid (excluding water), controlled by cyclone CE008C and thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008.~~
- (p) ~~One (1) protein concentration process, identified as PC, constructed in 2004, with a maximum throughput rate of 13.8 tons/hr of dry solid (excluding water), controlled by thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008. This process consists of the following:~~
- ~~(1) One (1) decanter feed tank.~~
  - ~~(2) One (1) soluble protein decanter.~~
  - ~~(3) One (1) corn protein concentration (CPC) dryer, using natural gas as fuel, with a maximum heat input capacity of 47 MMBtu/hr and the maximum throughput rate of 13.8 tons/yr, and controlled by cyclone CE008D.~~

- ~~(4) — One (1) evaporator feed tank.~~
- ~~(5) — One (1) soluble protein concentrator evaporator.~~
- ~~(g) — One (1) distillation and dehydration process, identified as DD, constructed in 2004, with a maximum ethanol production of 6,850 gal/hr, controlled by thermal oxidizer/heat recovery steam generator CE008E, and exhausting through stack EP008.~~
- (g) Two (2) thermal oxidizers with heat recovery steam generator (TO/HRSG) systems, identified as CE09 and CE16, constructed in 2006, each with a maximum heat input capacity of 130 MMBtu/hr, using natural gas as fuel, with emissions exhausted through stacks EP008 and EP014, respectively.**
- (h) One (1) distillation process, constructed in 2006, with a maximum throughput rate of 14,000 gallons of ethanol per hour, controlled by one of the TO/HRSG systems (CE09 or CE16), with emissions exhausted through stack EP008 or EP014. This process consists of the following:**
  - (1) Mix tanks, identified as EU10.**
  - (2) Flash tanks, identified as EU11.**
  - (3) Two (2) liquefaction tanks, identified as EU12 and EU13, each with a maximum capacity of 7,000 gallons per hour.**
  - (4) One (1) rectifier column, identified as EU23.**
  - (5) One (1) side stripper, identified as EU24.**
  - (6) One (1) beer stripper, identified as EU25.**
  - (7) One (1) molecular sieve, identified as EU26.**
  - (8) One (1) whole stillage tank, identified as EU27.**
  - (9) One (1) centrifuge, identified as EU28.**
  - (10) One (1) centrate still tank, identified as EU29.**
- (i) Two (2) natural gas fired DDGS dryers, identified as EU34 and EU37, constructed in 2006, each with a maximum heat input rate of 90 MMBtu/hr, with a total maximum throughput rate of 34 tons of DDGS per hour, controlled by multiclones CE08 and CE14, respectively, with emissions vent to TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.**
- (j) Two (2) DDGS coolers, identified as EU35 and EU38, constructed in 2006, each with a maximum throughput rate of 34 tons/hr of DDGS, controlled by TO/HRSG system CE09 or CE16, and exhausting to stack EP008 or EP014.**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

D.43.1 Permit No Defense

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D.43.2 Federally Enforceable State Operating Permit [326 IAC 2-8]

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D.43.3 Effective Date of the Permit [IC13-15-5-3]

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#### D.43.4 Modification to Construction Conditions [326 IAC 2]

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#### D.43.5 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]

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Pursuant to 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following emission limits for ~~thermal oxidizer/heat recovery steam generator CE008E which is used to control the wet milling process (WM), the germ drying and cooling process (GD), the fiber dryer (FD), the protein concentration process (PC), and the distillation and dehydration process (DD)~~ **the TO/HRSG systems (CE09 and CE16), which are used to control the emissions from the distillation process, the DDGS dryers (EU34 and EU37), and the DDGS coolers (EU35 and EU38). Since the exhausts from these units will vent to one of the TO/HRSG systems (CE09 and CE16), the total emissions from both the TO/HRSG systems stacks (EP008 and EP014) combined shall comply with the following:**

- (a) PM/PM10 emissions shall not exceed ~~8.30~~ **8.24** lbs/hr.
- (b) VOC emissions shall not exceed ~~9.64~~ **10.5** lbs/hr.
- (c) CO emissions shall not exceed ~~45.4~~ **21.0** lbs/hr.
- (d) **SO<sub>2</sub> emissions shall not exceed 9.84 lbs/hr.**
- (de) NOx emissions shall not exceed ~~42.4~~ **20.2** lbs/hr.
- (f) **Acetaldehyde emissions shall not exceed 0.58 lbs/hr.**
- (eg) Total HAP emissions shall not exceed ~~0.25~~ **2.22** lbs/hr.
- (f) ~~SO<sub>2</sub> emissions shall not exceed 1.0 pounds per 1,000 gallon of ethanol produced.~~

Combined with the PM/PM10, VOC, SO<sub>2</sub>, CO, **and** NOx, ~~and HAP~~ emissions from other units, the PM/PM10, SO<sub>2</sub>, VOC, CO, NOx emissions from the entire source are each limited to less than 100 tons/yr. **Combined with the HAP emissions from other units, and the total HAP emissions from the entire source are limited to less than 10 tons/yr for a single HAP and less than 25 tons/yr for total HAPs.** Therefore, the requirements of 326 IAC 2-7 (Part 70 Program), 326 IAC 2-2 (PSD), and 326 IAC 2-4.1 (MACT) are not applicable.

#### D.43.6 VOC Emissions [326 IAC 8-1-6]

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Pursuant to 326 IAC 8-1-6 (BACT), the Permittee shall control the VOC emissions from the ~~germ, fiber, and CPC dryers, and the distillation and dehydration process~~ **distillation process and the DDGS dryers (EU34 and EU37)** with a Best Available Control Technology (BACT), which has been determined to be the following:

- (a) ~~The VOC emissions from the germ drying and cooling process (GD), the fiber dryer (FD), the protein concentration process (PC), and the distillation and dehydration process (DD) shall be controlled by thermal oxidizer/heat recovery steam generator CE008E.~~
- (b) ~~The destruction efficiency for the thermal oxidizer CE008E shall be at least 98%.~~
- (c) ~~The capture efficiency shall be 100% as defined in EPA Method 204.~~
- (d) ~~The VOC emissions from thermal oxidizer CE008E shall not exceed 9.61 lbs/hr.~~
- (a) **The VOC emissions from the distillation process and the DDGS dryers (EU34 and EU37) shall be controlled by TO/HRSG system CE09 or CE16.**
- (b) **The overall efficiency for each of the TO/HRSG systems CE09 and CE16 (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.**

- (c) **The total VOC emissions from the TO/HRSG systems stacks (EP008 and EP014) combined shall not exceed 10.5 lbs/hr.**

D.43.7 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to ~~thermal oxidizer/heat recovery steam generator CE008E~~ **the TO/HRSG systems CE09 and CE16** except when otherwise specified in 40 CFR Part 60, Subpart Db.

D.43.8 NOx Emissions [326 IAC 12-1][40 CFR 60, Subpart Db]

- (a) Pursuant to 40 CFR 60.44b, the NOx emissions from ~~thermal oxidizer/heat recovery steam generator CE008E~~ **each of the TO/HRSG systems (CE09 and CE16)** shall not exceed 0.1 lbs/MMBtu.
- (b) ~~Pursuant to 40 CFR 60.48b, the Permittee shall comply with one of the following monitoring conditions for the thermal oxidizer/heat recovery steam generator CE008E:~~
- (1) ~~Pursuant to 40 CFR 60.48b(b), the Permittee shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere; or~~
  - (2) ~~Pursuant to 40 CFR 60.48b(g)(2), the Permittee shall monitor the operating conditions for CE008E and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to 40 CFR 60.49b(e).~~
- (b) **Pursuant to 40 CFR 60.48b(b), except for 40 CFR 60.48b(g), (h), and (i), the Permittee shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere.**

D.43.9 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

D.43.10 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VV]

D.43.11 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from ~~each of the 168 MMBtu per hour heat input thermal oxidizer/heat recovery steam generator (CE008E)~~ **130 MMBtu/hr TO/HRSG systems (CE09 and CE16)** shall be limited to 0.26 pounds per MMBtu heat input.

The limit was calculated using the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where Pt = emission rate limit (lbs/MMBtu)  
Q = total source heat input capacity (MMBtu/hr)

D.43.12 Particulate Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from each of following operations shall not exceed the pound per hour limit listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
WM	Each of the Soak Tank, Slurry tank, and Yeast tank	77	48.7
GD	Germ Drying and Cooling Process	5.5	12.8
FD	Fiber Dryer	6.9	15.0
PC	Protein Concentration Process	13.8	23.8

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU34	DDGS Dryer	34	41.1
EU37	DDGS Dryer	34	41.1
EU35	DDGS Cooler	34	41.1
EU38	DDGS Cooler	34	41.1

The pounds per hour limitations were calculated using one of the following equations:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and } P = \text{process weight rate in tons per hour}$$

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and } P = \text{process weight rate in tons per hour}$$

**D.4.3.13 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

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**D.4.14 PM and PM10 Control**

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In order to comply with Conditions D.4.5(a), D.4.11, and D.4.12 baghouse and cyclones shall be in operation and control emissions from the wet milling process and dryers at all times that these units are in operation.

**D.4.15 VOC and HAP Control**

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In order to comply with Conditions D.4.5(b) and D.4.5(e), thermal oxidizer/heat recovery steam generator CE008E shall be in operation and control emissions from the wet milling processes, the germ drying and cooling process, the fiber dryer, the corn protein concentrator (CPC) dryer, and the dryers and the distillation and dehydration process at all times that these units are in operation.

**D.3.14 VOC and HAP Control**

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In order to comply with Conditions D.3.5 and D.3.6, the TO/HRSG systems (CE09 and CE16) shall be in operation and control emissions from the distillation process, the DDGS dryers (EU34 and EU37), and the DDGS coolers (EU35 and EU38) at all times that these units are in operation.

**D.4.163.15 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11] [40 CFR 60, Subpart Db] [326 IAC 2-2]**

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(a) Pursuant to 40 CFR 60.46(b)(c) and in order to demonstrate compliance with Condition D.4.8, the Permittee shall perform NOx testing for thermal oxidizer/heat recovery steam

generator CE008E, within 60 days after achieving the maximum production, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner.

- ~~(b) In order to demonstrate compliance with Conditions D.4.5, D.4.6, D.4.11, and D.4.12 the Permittee shall perform PM, PM10, VOC (including emission rate, destruction efficiency, and capture efficiency), SO<sub>2</sub>, CO, and HAP testing for thermal oxidizer/heat recovery steam generator CE008E, within 60 days after achieving the maximum production, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. PM10 includes filterable and condensible PM10. The VOC test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C – Performance Testing.~~
- ~~(c) Within 60 days after achieving the maximum production, but not later than 180 days after initial startup, the Permittee shall perform an initial one time test for the uncontrolled VOC emissions from each of the following emission units: the germ dryer; the fiber dryer; the CPC dryer; and the distillation and dehydration process. Testing shall be conducted in accordance with Section C – Performance Testing.~~
- (a) In order to demonstrate compliance with Conditions D.3.5, D.3.6, D.3.11, and D.3.12, the Permittee shall perform PM, PM10, VOC (including emission rate, destruction efficiency, and capture efficiency), NOx, SO<sub>2</sub>, CO, and Acetaldehyde testing for the TO/HRSG systems stacks (EP008 and EP014) within 60 days after achieving maximum capacity, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. PM10 includes filterable and condensible PM10. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.**
- (b) In order to demonstrate compliance with Condition D.3.8(a) and pursuant to 40 CFR 60.46b(e), the Permittee shall conduct the performance test as required under 40 CFR 60.8 using the continuous system for monitoring nitrogen oxides under 40 CFR 60.48(b). For the initial compliance test, nitrogen oxides from the TO/HRSG systems stacks (EP008 and EP014) are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the nitrogen oxides emission standards under 40 CFR 60.44b. Following the date on which the initial performance test is completed, the Permittee shall upon request determine compliance with the nitrogen oxides standards under 40 CFR 60.44b through the use of a 30-day performance test.**

**D.4.173.16** Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 12] [40 CFR 60, Subpart Db] [326 IAC 2-7-6(1),(6)]

- ~~(a) In order to demonstrate compliance with Condition D.4.8(b)(1), the Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for measuring NOx emissions discharged to the atmosphere. The continuous monitoring system shall meet the performance specifications of 326 IAC 3-5-2, and 40 CFR 60.48(b), and 40 CFR 60.13(h). 326 IAC 3-5 is not federally enforceable.~~
- ~~(b) The continuous monitors shall be operated according to Section C – Maintenance of Continuous Emission Monitoring Equipment. In the event that the nitrogen oxide continuous emissions monitor fails, the Permittee shall monitor the oxygen content and temperature once per hour. If the oxygen content or temperature is outside the range established in the latest compliance stack test, the Permittee shall take reasonable response steps in accordance with Section C – Compliance Response Plan – Preparation, Implementation, Records, and Reports. Failure to take response steps in accordance with Section C – Compliance Response Plan – Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.~~

- (a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 40 CFR 60.47b and 60.48b, a continuous monitoring system shall be calibrated, maintained, and operated for measuring NOx, which meets the performance specifications of 326 IAC 3-5-2.
- (b) Pursuant to 326 IAC 3-5-4, if revisions are made to the continuous monitoring standard operating procedures (SOP), the Permittee shall submit updates to the department biennially.
- (c) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5, or 40 CFR 60.

D.4.183.17 Visible Emissions Notations

- (a) Visible emission notations of the stack exhaust from ~~stack EP008~~ **the TO/HRSG system stacks (EP008 and EP014)** shall be performed once per ~~shift~~ **day** during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- ...
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records and Reports~~ **Response to Excursions or Exceedances** shall be considered a deviation from this permit.

D.4.194.18 Thermal Oxidizer Temperature

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the ~~thermal oxidizer (CE008E)~~ **TO/HRSG systems (CE09 and CE16)** for measuring operating temperature. For the purpose of this condition, continuous means no less than once per minute. The output of this system shall be recorded as ~~an hourly~~ **3-hour** average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the ~~hourly~~ **3-hour** average temperature of 1,540°F.
- (b) The Permittee shall determine the ~~hourly~~ **3-hour** average temperature from the most recent valid stack test that demonstrates compliance with limits in ~~eConditions D.4.5~~ **D.3.5 and D.3.6**, as approved by IDEM.
- (c) On and after the date the approved stack test results are available, the Permittee shall operate the thermal oxidizers at or above the hourly average temperature as observed during the compliant stack test.

D.4.203.19 Parametric Monitoring

- (a) The Permittee shall determine the appropriate duct pressure or fan amperage from the most recent valid stack test that demonstrates compliance with limits in ~~eConditions~~ **D.4.3.5 and D.3.6**, as approved by IDEM.
- ...

D.4.21 Parametric Monitoring

~~The Permittee shall record the total static pressure drop across the baghouse CE008A used in conjunction with the wet milling process (WM) at least once per shift when this unit is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 4.0 to 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance~~

~~with Section C – Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.~~

~~The instrument used for determining the pressure shall comply with Section C – Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.~~

#### ~~D.4.22 Baghouse Inspections~~

---

~~An inspection shall be performed each calendar quarter of all bags controlling the wet milling process (WM). Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.~~

#### ~~D.4.23 Broken or Failed Bag Detection~~

---

~~In the event that bag failure has been observed:~~

- ~~(a) — For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C – Compliance Response Plan – Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~
- ~~(b) — For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).~~

#### ~~D.4.24 Cyclone Inspections~~

---

~~An inspection shall be performed each calendar quarter of all cyclones controlling the germ drying and cooling process (GD), the fiber dryer (FD), and the protein concentration process (PC). Inspections required by this condition shall not be performed in consecutive months.~~

#### ~~D.4.25 Cyclone Failure Detection~~

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~~In the event that cyclone failure has been observed:~~

~~Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions). Failure to take response steps in accordance with Section C – Compliance Response Plan – Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.~~

#### ~~D.4.263.20 Record Keeping Requirements~~

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- ~~(a) To document compliance with Conditions D.43.5(de), D.43.8(a), and D.43.16, the Permittee shall maintain records of the NOx emissions in accordance with 40 CFR 60.49b.~~

- (b) To document compliance with Condition D.4-~~183~~**17**, the Permittee shall maintain records of once per ~~shift~~ **day** visible emission notations of the stacks **EP008 and EP014**.
- (c) To document compliance with Condition D.4-~~193~~**18**, the Permittee shall maintain continuous temperature records for the thermal oxidizer and the ~~hourly~~ **3-hour** average temperature used to demonstrate compliance during the most recent compliant stack test.
- (d) To document compliance with Condition D.4-~~203~~**19**, the Permittee shall maintain daily records of the duct pressure or fan amperage for the ~~thermal oxidizer/heat recovery steam generator~~ **TO/HRSG systems (CE09 and CE16)**.
- (e) ~~To document compliance with Condition D.4.21, the Permittee shall maintain once per shift records of the total static pressure drop for baghouse CE008A during normal operation.~~
- (f) ~~To document compliance with Conditions D.4.22 and D.4.24, the Permittee shall maintain records of the results of the inspections required under Conditions D.4.22 and D.4.24.~~
- (g) ~~To document compliance with Condition D.4.13, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.~~
- (~~h~~**e**) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4-~~273~~**21** Recordkeeping Requirements [40 CFR 60, Subpart Db] [326 IAC 12]

D.4-~~283~~**22** Reporting Requirements [40 CFR 60, Subpart Db] [326 IAC 12]

...

- (d) Pursuant to 40 CFR 60.49b(i), the Permittee shall submit reports containing the information recorded under 40 CFR 60.49b(g) and Condition D.4-~~243~~**21**(b).

...

## SECTION D.54

## FACILITY OPERATION CONDITIONS – Ethanol Loading Racks

### Facility Description [326 IAC 2-8-4(10)]:

- (~~f~~**i**) One (1) ethanol loading rack for ~~both railcar and trucks loading~~, identified as ~~ER~~ **EU40A**, constructed in ~~2004~~**2006**, with a maximum throughput rate of ~~96,000~~**48,000** gallons per hour. ~~The truck loading process~~ **This unit** is controlled by enclosed flare CE012, which is fueled by natural gas and has a maximum heat input capacity of ~~5.576.8~~ MMBtu/hr, and exhausting through stack EP012.
- (~~m~~**m**) **One (1) ethanol loading rack for railcars, identified as EU40B, constructed in 2006, with a maximum throughput rate of 60,000 gallons per hour.**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

D.54.1 Permit No Defense

D.-~~54~~**2** Federally Enforceable State Operating Permit [326 IAC 2-8]

D.-~~54~~**3** Effective Date of the Permit [IC13-15-5-3]

D.-~~54~~**4** Modification to Construction Conditions [326 IAC 2]

**D.-54.5 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]**

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Pursuant to 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following emission limits for the ethanol loading racks:

- (a) The **total** denatured ethanol load-out ~~rate from loading racks EU40A and EU40B~~ shall not exceed ~~63,000,000~~ **88,200,000** gallons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The Permittee shall use flare CE012 to control the emissions from the **ethanol** loading rack **for trucks (EU40A)** ~~when loading denatured ethanol to trucks.~~
- ~~(c) VOC emissions from flare CE012 shall not exceed 0.18 lbs/kgal.~~
- ~~(d)~~ CO emissions from flare CE012 shall not exceed ~~0.43~~ **0.129** lbs/kgal.
- ~~(e)~~ NOx emissions from flare CE012 shall not exceed ~~0.08~~ **0.077** lbs/kgal.
- (e) The ethanol loading racks (EU40A and EU40B) shall utilize submerged loading method.**
- (f) The railcars and trucks shall not use vapor balance services.**

Combined with the VOC, CO, NOx and HAP emissions from other units, the VOC, CO, and NOx emissions from the entire source are each limited to less than 100 tons/yr and the ~~total~~ HAP emissions from the entire source are limited to less than 10 tons/yr **for a single HAP and less than 25 tons/yr for total HAPs**. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.

**D.-54.6 VOC Emissions [326 IAC 8-1-6]**

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~~The potential VOC emissions from the truck loading process are greater than 25 tons/yr.~~ Pursuant to 326 IAC 8-1-6 (BACT), and the Permittee shall collect and control the VOC emissions from the ethanol loading rack, ~~when loading ethanol to~~ **for trucks (EU40A)**, with a Best Available Control Technology (BACT). The BACT for this unit has been determined to be the following:

- (a) The VOC emissions from the ethanol loading rack **for trucks (EU40A)** shall be collected and controlled by enclosed flare CE012 ~~when loading denatured ethanol to trucks.~~
- (b) The ~~destruction~~ **overall control** efficiency for the vapor collection system and enclosed flare CE012 **(including the capture efficiency and destruction efficiency)** shall be at least 98%.
- ~~(c) The capture efficiency shall be 100% as defined in EPA Method 204.~~
- ~~(d)~~ The VOC emissions from enclosed flare CE012 shall not exceed ~~0.18 pounds per kilogallons of denatured ethanol loaded~~ **0.92 lbs/hr.**

**D.4.7 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]**

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**The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facilities described in Condition D.4.8 except when otherwise specified in 40 CFR 60, Subpart VV.**

**D.5.74.8 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VV]**

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**D.5.84.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

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**D.5.94.10 VOC Control**

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In order to comply with Conditions ~~D.5.5(c)~~ **D.4.5 and D.4.6**, enclosed flare CE012 shall be in

operation and control emissions from the ethanol loading rack **for trucks (EU40A)** at all times when this **unit is in operation rack is loading ethanol to trucks.**

**D.5.104.11** Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11] [326 IAC 2-2]

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In order to demonstrate compliance with Conditions ~~D.5.5(c), (d), (e)~~ and ~~D.5.6~~ **D.4.5 and D.4.6** , the Permittee shall perform VOC (including emission rate, destruction efficiency, and capture efficiency), CO, and NOx testing for enclosed flare CE012, within 60 days after achieving the maximum production, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. **These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.** Testing shall be conducted in accordance with Section C - Performance Testing.

~~D.5.11~~ ~~Visible Emissions Notations~~

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- ~~(a) Visible emission notations of the stack exhaust from stack EP012 shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.~~
- ~~(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.~~
- ~~(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.~~
- ~~(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.~~
- ~~(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.~~

**D.54.12** Flare Pilot Flame

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In order to comply with Conditions ~~D.54.5~~ and ~~D.54.6~~, the Permittee shall monitor the presence of a flare pilot flame **for flare CE12** using a thermocouple or any other equivalent device to detect the presence of a flame when the ethanol loading rack **EU40A** is in operation ~~and is loading ethanol to trucks.~~

~~D.54.13~~ Record Keeping Requirements

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- ~~(a) To document compliance with Condition ~~D.54.5(a)~~, the Permittee shall maintain monthly records of the **total** amount of denatured ethanol loaded out **from loading racks EU40A and EU40B.**~~
- ~~(b) To document compliance with Condition ~~D.5.11~~, the Permittee shall maintain records of once per shift visible emission notations of stack EP012.~~
- ~~(c) To document compliance with Condition ~~D.5.8~~, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.~~
- ~~(db) To document compliance with Condition ~~D.54.12~~, the Permittee shall maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when the loading rack **EU40A** is in operation ~~and is loading ethanol to trucks.~~~~
- ~~(ec) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~

#### D.-54.14 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.54.5(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

### SECTION D.5 FACILITY OPERATION CONDITIONS – Fire Pump and Biomethanator

#### Facility Description [326 IAC 2-8-4(10)]: Insignificant Activities

- (g) Stationary fire pumps, including one (1) diesel fire pump, identified as EU41, constructed in 2006, with a maximum power output rate of 275 horsepower, and exhausting to stack EP015. [326 IAC 2-8-4]
- (h) Other emission units, not regulated by a NESHAP, with PM<sub>10</sub>, NO<sub>x</sub>, and SO<sub>2</sub> emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:
  - (6) One (1) biomethanator, identified as EU42, constructed in 2006, controlled by 3.48 MMBtu/hr biomethanator flare CE13, and exhausting to stack EP013. [326 IAC 2-8-4]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

#### Emission Limitations and Standards [326 IAC 2-8-4(1)]

##### D.5.1 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following:

- (a) The operating hours for the diesel fire pump (EU41) shall not exceed 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The biomethanator flare (CE13) shall not operate when any of the DDGS dryers (EU34 and EU37) are in operation.

Combined with the CO and NO<sub>x</sub> emissions from other emission units, the CO and NO<sub>x</sub> emissions from the entire source are each limited to less than 100 tons/yr. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.

#### Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

##### D.5.2 Record Keeping Requirements

- (a) To document compliance with Condition D.5.1(a), the Permittee shall maintain monthly records of the operating hours for the emergency diesel fire pump (EU41).
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### D.5.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.5.1(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## SECTION D.6

## FACILITY OPERATION CONDITIONS – Storage Tanks

### Facility Description [326 IAC 2-8-4(10)]:

#### Insignificant Activities

- (h) Other emission units, not regulated by a NESHAP, with PM<sub>10</sub>, NO<sub>x</sub>, and SO<sub>2</sub> emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:
- (1) **One (1) off spec tank for 190-proof ethanol, identified as T001, constructed in 2006, with a maximum capacity of 270,000 gallons. [40 CFR 60, Subpart Kb]**
  - (12) ~~Two (2)~~ **One (1) shift tanks for 200-proof ethanol, identified as T01 and T02, constructed in 2004/2006, each with a maximum capacity of 85,000 1,000,000 gallons of 200-proof ethanol. [40 CFR 60, Subpart Kb]**
  - (23) **One (1) denaturant tank, identified as T003, constructed in 2004/2006, with a maximum capacity of 35,000 125,000 gallons of natural gasoline. [326 IAC 8-9] [40 CFR 60, Subpart Kb]**
  - (34) ~~Two (2)~~ **One (1) denatured ethanol tanks, identified as T04 and T05 TK004, constructed in 2004/2006, each with a maximum capacity of 750,000 1,000,000 gallons of denatured ethanol. [40 CFR 60, Subpart Kb]**
  - (4) ~~One (1) digester for process water, identified as MF, constructed in 2004. This unit has methane emissions and is controlled by thermal oxidizer/heat recovery steam generator CE008E or flare CE013.~~

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### D.6.1 Volatile Organic Compounds (VOC) [326 IAC 8-9]

Pursuant to 326 IAC 8-4-3(d) (Petroleum Liquid Storage Facilities), the Permittee shall maintain the following records for a period of two (2) years for tank T003:

- (a) The types of volatile petroleum liquid stored;
- (b) The maximum true vapor pressure of the liquids as stored; and
- (c) The results of the inspections performed on the storage vessels.

The above records shall be made available to the IDEM, OAQ upon written request.

**D.6.12 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]**

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**D.6.23 Storage Tanks [326 IAC 12][40 CFR 60, Subpart Kb]**

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Pursuant to 40 CFR 60, Subpart Kb, the Permittee shall install internal floating roofs with tanks T01 through T05 and shall comply with the following requirements in 40 CFR 60.112b (a)(1) for the internal floating roofs:

**D.6.34 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

**D.6.45 Testing and Procedures [40 CFR 60, Subpart Kb] [326 IAC 12]**

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**D.6.56 Record Keeping Requirements**

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**(a) To document compliance with Condition D.6.1, the Permittee shall maintain the following records for tank T003:**

- (1) The types of volatile petroleum liquid stored;**
- (2) The maximum true vapor pressure of the liquids as stored; and**
- (3) The results of the inspections performed on the storage vessels.**

**(ab)** Pursuant to 40 CFR 60.116b, the Permittee shall maintain the following records:

- (1) The dimension of the storage vessel and an analysis showing the capacity of the storage vessel for the life of the source; and
- (2) The VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period, for at least 2 years.

~~(b) To document compliance with Condition D.6.3, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.~~

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**SECTION D.7 FACILITY OPERATION CONDITIONS — Other Insignificant Activities**

**Facility Description [326 IAC 2-8-4(10)]:**

**Insignificant Activities**

- ~~(a) Solvent recycling systems with batch capacity less than or equal to 100 gallons.~~
- ~~(b) Forced and induced draft cooling tower system not regulated under a NESHAP.~~
- ~~(c) Replacement or repair of bags in baghouses and filters in other air filtration equipment.~~
- ~~(e) Underground conveyors, including underground grain and product transfer conveyors are not on PFD.~~
- ~~(f) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.~~
- ~~(g) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or~~

equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.

(h) ~~Other emission units, not regulated by a NESHAP, with PM10, NOx, and SO2 emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:~~

(4) ~~One (1) digester for process water, identified as MF, constructed in 2004. This unit has methane emissions and is controlled by thermal oxidizer/heat recovery steam generator CE008E or flare CE013.~~

~~(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)~~

There are no specific state or federal rules applicable to these emission units.

**-INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**FESOP Quarterly Report**

Source Name: Putnam Ethanol, LLC  
Source Address: 7816 South US 231, Cloverdale, Indiana 46120  
Mailing Address: ~~42 Salt Creek Lane, Suite 410, Hinsdale, Illinois 60524~~ **700 East Ogden, Suite 308, Westmont, Illinois 60559**  
FESOP No.: 133-19163-00003  
Facility: Ethanol Loading Racks **(EU40A and EU40B)**  
Parameter: ~~Ethanol Throughput Rate~~ **Total Denatured Ethanol Loaded**  
Limit: Less than ~~63,000,000~~ **88,200,000** gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**FESOP Quarterly Report**

**Source Name:** Putnam Ethanol, LLC  
**Source Address:** 7816 South US 231, Cloverdale, Indiana 46120  
**Mailing Address:** 700 East Ogden, Suite 308, Westmont, Illinois 60559  
**FESOP No.:** 133-19163-00003  
**Facility:** Grain Receiving Operations (EU01 and EU02)  
**Parameter:** The total amount of grain received  
**Limit:** Less than 904,615 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

**YEAR:** \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

**Submitted by:** \_\_\_\_\_  
**Title / Position:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

**Attach a signed certification to complete this report.**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**FESOP Quarterly Report**

**Source Name:** Putnam Ethanol, LLC  
**Source Address:** 7816 South US 231, Cloverdale, Indiana 46120  
**Mailing Address:** 700 East Ogden, Suite 308, Westmont, Illinois 60559  
**FESOP No.:** 133-19163-00003  
**Facility:** DDGS Handling and Loadout Operations (EU31 through EU33)  
**Parameter:** DDGS production rate  
**Limit:** Less than 294,589 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

**YEAR:** \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

**Submitted by:** \_\_\_\_\_  
**Title / Position:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

**Attach a signed certification to complete this report.**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**FESOP Quarterly Report**

**Source Name:** Putnam Ethanol, LLC  
**Source Address:** 7816 South US 231, Cloverdale, Indiana 46120  
**Mailing Address:** 700 East Ogden, Suite 308, Westmont, Illinois 60559  
**FESOP No.:** 133-19163-00003  
**Facility:** Diesel Fire Pump (EU41)  
**Parameter:** Operating Hours  
**Limit:** Less than 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

**YEAR:** \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

**Submitted by:** \_\_\_\_\_  
**Title / Position:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

**Attach a signed certification to complete this report.**

## **Conclusion**

The construction and operation of this ethanol production plant shall be subject to the conditions of this Significant Permit Revision 133-22480-00003.

## Appendix B

### Best Available Control Technology (BACT) Determinations

#### Source Background and Description

Source Name:	Putnam Ethanol, LLC
Source Location:	7816 South US 231, Cloverdale, Indiana 46120
County:	Putnam
SIC Code:	2869
Operating Permit No.:	F133-19163-00003
Operating Permit Issuance Date:	October 4, 2004
Significant Permit Revision No.:	133-22480-00003
Permit Reviewer:	ERG/YC

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed the following Best Available Control Technology (BACT) reviews for a new ethanol production plant. Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), BACT is required for all facilities constructed after January 1, 1980 that have potential VOC emissions of equal to or greater than twenty-five (25) tons per year and are not regulated by other rules in 326 IAC 8. Based on the calculations (see Appendix A) and the analysis of applicable state regulations (see State Rule Applicability section of TSD), the following facilities are subject to the requirements of 326 IAC 8-1-6:

- Fermentation Process;
- Distillation Process;
- DDGS Dryers (EU34 and EU37); and
- Ethanol Loading Rack for Trucks (EU40A).

IDEM, OAQ conducts BACT analyses in accordance with the “*Top-Down*” *Best Available Control Technology Guidance Document* outlined in the 1990 draft US EPA *New Source Review Workshop Manual*, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below:

- (a) Identify all potentially available control options;
- (b) Eliminate technically infeasible control options;
- (c) Rank remaining control technologies by control effectiveness;
- (d) Evaluate the most effective controls and document the results as necessary; and
- (e) Select BACT.

In accordance with EPA guidance, the BACT analysis should take into account the energy, environmental, and economic impacts. Emission reductions may be achieved through the application of available control techniques, changes in process design, and/or operational limitations.

A summary of the BACT review for the fermentation process is provided in Section B.1, the BACT review for the distillation process is provided in Section B.2, the BACT review for the DDGS dryers is provided in Section B.3, and the BACT review for the ethanol loading rack is provided in Section B.4. These BACT determinations are based on the following information:

- (a) The EPA RACT/BACT/LAER (RBLC) Clearinghouse; and
- (b) State and local air quality permits.

## **Appendix B.1 Best Available Control Technology (BACT) Determination For the Fermentation Process**

### **Introduction:**

Putnam Ethanol, LLC will use a fermentation process to produce ethanol from grain. The potential VOC emissions from this activity are estimated to be greater than 25 tons per year. Since this facility will be constructed after the January 1, 1980 applicability date and there are no other 326 IAC 8 rules applicable to this process Putnam Ethanol, LLC is required to control the VOC emissions from the fermentation process with BACT, pursuant to 326 IAC 8-1-6.

### **Step 1 – Identify Control Options**

The following available technologies were identified and evaluated to control VOC emissions from the fermentation process at ethanol production plants:

(a) IDEM, OAQ reviewed the following six control technologies:

1. Carbon Adsorption:

Carbon adsorption is a process by which VOC is retained on a granular carbon surface, which is highly porous and has a very large surface-to-volume ratio. Organic vapors retained on the adsorbent are thereafter desorbed and both the adsorbate and adsorbent are recovered.

Carbon adsorption systems operate in two phases: adsorption and desorption. Adsorption is rapid and removes most of the VOC in the stream. Eventually, the adsorbent becomes saturated with the vapors and the system's efficiency drops. Regulatory considerations dictate that the adsorbent be regenerated or replaced soon after efficiency begins to decline. In regenerative systems, the adsorbent is reactivated with steam or hot air and the adsorbate (solvent) is recovered for reuse or disposal. Non-regenerative systems require the removal of the adsorbent and replacement with fresh or previously regenerated carbon.

2. Wet Scrubbers:

A wet scrubber is an absorption system in which the waste stream is dissolved in a solvent by passing it through a medium containing the solvent. Water is the most commonly used solvent. However, other solvents may be used dependent upon the components of the waste stream.

3. Thermal Oxidation:

An efficient thermal oxidizer design must provide adequate residence time for complete combustion, sufficiently high temperatures for VOC destruction, and adequate velocities to ensure proper mixing without quenching combustion. The type of burners and their arrangement affect combustion rates and residence time. The more thorough the contact between the flame and VOC, the shorter the time required for complete combustion. Natural gas is required to ignite the flue gas mixtures and maintain combustion temperatures. Typically, a heat exchanger upstream of the oxidizer uses the heat content of the oxidizer flue gas to preheat the incoming VOC-laden stream to improve the efficiency of the oxidizer.

Of all the VOC control technologies evaluated, thermal oxidization is the one whose VOC reduction efficiency is least affected by waste stream characteristics. A properly designed thermal oxidizer can handle almost all solvent mixtures (except for fluorinated or chlorinated solvents) and concentrations, and therefore meet all regulatory standards.

In addition to the energy penalty associated with thermal oxidization, NOx emissions will be generated from the combustion of natural gas used to fuel the oxidizer. A thermal oxidizer normally provides a VOC destruction efficiency of at least 98%.

4. Catalytic Oxidation:

In a catalytic oxidizer, a catalyst is used to lower the activation energy for oxidation. When a preheated gas stream is passed through a catalytic oxidizer, the catalyst bed initiates and promotes the oxidation of the VOC without being permanently altered itself. In catalytic oxidization, combustion occurs at significantly lower temperatures than that of direct flame units and can also achieve a destruction efficiency of 98%. However, steps must be taken to ensure complete combustion. The types of catalysts used include platinum, platinum alloys, copper chromate, copper oxide, chromium, manganese, and nickel. These catalysts are deposited in thin layers on an inert substrate, usually a honeycomb shaped ceramic.

5. Flare:

Flares can be used to control almost any VOC stream and can handle fluctuations in VOC concentration, flow rate, heat content, and inert content. Flaring is appropriate for continuous, batch, and variable flow vent stream application. Some streams, such as those containing halogenated or sulfur-containing compounds, are usually not flared because they corrode the flare tip or cause formation of secondary pollutants (such as acid gases or sulfur dioxide). A flare normally provides a VOC destruction efficiency greater than 98%.

6. Refrigeration Condenser:

Condensation is the process by which the temperature of the waste stream is lowered to below the boiling points of the waste constituents. A refrigeration condenser normally provides a VOC control efficiency greater than 90%.

(b) The search for the fermentation process in EPA's RACT/BACT/LAER Clearinghouse (RBLC) and Indiana Air Permits identified the following:

Plant	PBLD ID or Permit #	Date Issued and State	Facility	Control Technology and Permit Date	Stack Test Results and Dates
Central Indiana Ethanol, LLC	F053-21057-00062	08/04/05 (IN)	Fermentation	Wet scrubber with a control efficiency of 98% or VOC < 20 ppmv. VOC emissions < 6.0 lbs/hr.	Under Construction
Putnam Ethanol, LLC	F133-19163-00003	10/05/04 (IN)	Fermentation	Wet scrubber with a control efficiency of 97%. VOC emissions < 2.44 lbs/hr.	Under Construction.
United Wisconsin Grain Producers	WI-0204	8/14/03 (WI)	Fermentation	Wet scrubber (packed tower). VOC Emissions < 7.4 lbs/hr.	Not Available.
Michigan Ethanol	MI-0359	11/04/02 (MI)	Fermentation	BACT determined to be a scrubber with 97% control efficiency and VOC emissions < 6.0 lbs/hr	97.4% (03/19/03)
Grain Processing Corporation	IN-0075	06/10/97 (IN)	Fermentation	Scrubber with 95% control efficiency.	Not Available.
Cargill, Inc.	NE-0016	04/25/96 (NE)	Fermentation	BACT determined to be a wet scrubber with a VOC emission limit of 11.8 lbs/hr.	Not Available.

**Step 2 – Eliminate Technically Infeasible Control Options**

After reviewing the above technologies, IDEM, OAQ eliminated carbon adsorption as not technically feasible for this type of operation. The reasons for eliminating carbon adsorption are as follows:

**Carbon Adsorption:** Carbon adsorption uses intermolecular forces to accumulate organic material at the surface of an adsorbent (typically activated carbon). These intermolecular forces include the small momentary dipoles that result from the movement of electrons within molecular bonds (van der Waals interactions). The incidence of van der Waals interactions increases with larger molecules because there are more bonds within each molecule. For this reason, carbon adsorption is most effective for larger

molecules. The VOC compounds emitted from the fermentation system include several small molecules, such as ethanol (MW = 46), acetaldehyde (MW = 44), and formaldehyde (MW = 30). Due to the small size of these molecules, the van der Waals interactions are weak. Since carbon adsorption typically requires a VOC concentration of at least 200 to 1,000 ppmv and average VOC molecular weights of at least 50 to 60 atomic units, this technology is considered infeasible for controlling the VOC emissions from the fermentation system.

### **Step 3 – Rank Remaining Control Technologies by Control Effectiveness**

Using the control efficiencies reported for similar sources, IDEM, OAQ has ranked the remaining control technologies as follows:

<b>Control Technology</b>	<b>Control Efficiency (%)</b>
Thermal Oxidizer	98%
Catalytic Oxidizer	98%
Flare	98%
Wet Scrubber	98% or 20 ppmv
Refrigeration Condenser	90%

### **Step 4 – Evaluate the Most Effective Controls and Document Results**

Based on control efficiency, the thermal oxidizer, catalytic oxidizer, flare, and wet scrubber are the most effective control technologies.

### **Step 5 – Select BACT**

The Permittee plans to recover and sell the carbon dioxide from the fermentation process, which can only be achieved using the wet scrubber. Both the thermal oxidizer and flare destroy the product rather than recovering it. In addition, both the thermal oxidizer and flare generate their own emissions from the combustion process. Since the use of scrubbers has lower environmental impact, generates economic benefit for the Permittee, and provides the highest ranked control efficiency of 98%, the Permittee proposes using a wet scrubber (identified as CE07) as the BACT for the fermentation process. Pursuant to 326 IAC 8-1-6, IDEM, OAQ has determined that the following requirements represent BACT for the fermentation process at this source:

- (a) The VOC emissions from the fermentation process shall be controlled by wet scrubber CE07.
- (b) The overall VOC control efficiency for the wet scrubber CE07 (including the capture efficiency and absorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

[Note that when the inlet VOC concentration is low, the scrubber will not be able to achieve a control efficiency of 98%. However, the scrubber manufacturer guarantees that the VOC outlet concentration will be less than 20 ppmv or VOC emissions will be reduced by 98%. Therefore, the Permittee shall either comply with the VOC control efficiency requirement or comply with the VOC outlet concentration limits, depending on the inlet VOC concentrations.]

- (c) The VOC emissions from wet scrubber CE07 shall not exceed 5.85 lbs/hr.

## Appendix B.2 Best Available Control Technology (BACT) Determination For Distillation Process

### Introduction:

Putnam Ethanol, LLC will use distillation to concentrate the ethanol produced in the fermentation process. The potential VOC emissions from the distillation process are estimated to be greater than 25 tons per year. Since this facility will be constructed after the January 1, 1980 applicability date and there are no other rules in 326 IAC 8 applicable to this process, Putnam Ethanol, LLC is required to implement BACT to comply with 326 IAC 8-1-6.

### Step 1 – Identify Control Options

The following available technologies were identified and evaluated to control VOC emissions from the distillation process at ethanol production plants:

(a) IDEM, OAQ reviewed the following six (6) control technologies. The detail description of each control technology can be found in Step 1 of Appendix B.1.

1. Carbon Adsorption;
2. Wet Scrubbers (packed tower);
3. Thermal Oxidation;
4. Catalytic Oxidation;
5. Flare; and
6. Refrigeration Condenser.

(b) The search for the distillation process in EPA's RACT/BACT/LAER Clearinghouse (RBLC) and Indiana Air Permits identified the following:

Plant	PBLD ID or Permit #	Date Issued and State	Facility	Control Technology and Permit Date	Stack Test Results and Dates
Central Indiana Ethanol, LLC	F053-21057-00062	08/04/05 (IN)	Fermentation/ Distillation	Wet scrubber with a control efficiency of 98% or VOC < 20 ppmv. VOC emissions < 6.0 lbs/hr.	Under Construction
Putnam Ethanol, LLC	F133-19163-00003	10/05/04 (IN)	Distillation/Dryers	RTO with a control efficiency of 98%. VOC emissions < 9.61 lbs/hr.	Under Construction.
United Wisconsin Grain Producers	WI-0204	8/14/03 (WI)	Distillation/Dryers	RTO with a control efficiency of 98% or VOC emissions < 5 ppm	Not Available.
Michigan Ethanol	MI-0359	11/04/02 (MI)	Distillation	Wet scrubber with a control efficiency of 98%. VOC emissions < 0.46 lbs/hr	94.0% (03/19/03)
Grain Processing Corp.	IN-0075	06/10/97 (IN)	Distillation	Wet scrubber with a control efficiency of 95%.	Not Available.
Cargill, Inc.	NE-0016	04/25/96 (NE)	Distillation	Wet scrubber and a VOC emission limit of 2.22 lbs/hr.	Not Available.

### Step 2 – Eliminate Technically Infeasible Control Options

IDEM, OAQ believes that carbon adsorption is not technically feasible for the control of VOC emissions from the distillation process. The primary VOC constituents emitted from this process are ethanol and acetaldehyde. Carbon adsorption is only technically feasible for VOC concentrations of 200 to 1,000 ppmv and an average VOC molecular weight of 50 to 60 atomic units.

### **Step 3 – Rank Remaining Control Technologies by Control Effectiveness**

Using the control efficiencies reported for similar sources, IDEM, OAQ has ranked the remaining control technologies as follows:

<b>Control Technology</b>	<b>Control Efficiency (%)</b>
Thermal Oxidizer	98%
Catalytic Oxidizer	98%
Flare	98%
Wet Scrubber	98% or 20 ppmv
Refrigeration Condenser	90%

### **Step 4 – Evaluate the Most Effective Controls and Document Results**

Based on control efficiency, the thermal oxidizer, catalytic oxidizer, flare, and wet scrubber are the most effective control technologies.

### **Step 5 – Select BACT**

Both thermal oxidizer and flare generate their own emissions from the combustion process. Putnam Ethanol, LLC proposes to use thermal oxidizer with heat recovery steam generator (TO/HRSG) systems (CE09 and CE16) as the BACT for the distillation process. The TO/HRSG systems will operate in parallel and vent to stacks EP008 and EP014, respectively. Pursuant to 326 IAC 8-1-6, IDEM, OAQ has determined that the following requirements represent BACT for the distillation and dehydration process:

- (a) The VOC emissions from the distillation process shall be controlled by TO/HRSG system CE09 or CE16.
- (b) The overall VOC control efficiency for each of the TO/HRSG systems CE09 or CE16 (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.
- (c) The total VOC emissions from the TO/HRSG systems stacks (EP008 and EP014) shall not exceed 10.5 lbs/hr.

**Appendix B.3  
 Best Available Control Technology (BACT) Determination  
 For the DDGS Dryers (EU34 and EU37)**

**Introduction:**

VOC will be emitted from the DDGS drying process as trace quantities of alcohol from the fermentation process are evaporated. Other sources of VOC emissions result from the combustion of fuel in the dryers and the partial oxidation of organic material during the drying process. The potential VOC emissions from each of the DDGS dryers (EU34 and EU37) are greater than 25 tons per year and there are no other rules in 326 IAC 8 applicable to DDGS dryers; therefore, the Permittee is required to control the VOC emissions from the DDGS dryers with BACT.

**Step 1 – Identify Control Options**

The following available technologies were identified and evaluated to control VOC emissions from the dryers at ethanol production plants:

(a) IDEM, OAQ reviewed the following six (6) control technologies. The detail description of each control technology can be found in Step 1 of Appendix B.1.

1. Carbon Adsorption;
2. Wet Scrubbers;
3. Thermal Oxidation;
4. Catalytic Oxidation;
5. Flare; and
6. Refrigeration Condenser.

(b) The search for DDGS dryers in EPA’s RACT/BACT/LAER Clearinghouse (RBLC) and Indiana Air Permits identified the following:

Plant	PBLD ID or Permit #	Date Issued and State	Facility	Control Technology and Permit Date	Stack Test Results and Dates
Central Indiana Ethanol, LLC	F053-21057-00062	08/04/05 (IN)	Dryers	RTO with a control efficiency of 98%. VOC emissions < 6.0 lbs/hr.	Under Construction
Putnam Ethanol, LLC	F133-19163-00003	10/05/04 (IN)	Distillation/Dryers	RTO with a control efficiency of 98%. VOC emissions < 9.61 lbs/hr.	Under Construction.
United Wisconsin Grain Producers	WI-0204	8/14/03 (WI)	Distillation/Dryers	RTO with a control efficiency of 98% or VOC emissions < 5 ppm	Not Available.
Michigan Ethanol	MI-0359	11/04/02 (MI)	Dryer	RTO with a control efficiency of 95%	99.6% (03/19/03)
Archer Daniels Midland Co.	IL-0087	12/27/02 (IL)	Feed Dryer	RTO with a control efficiency of 95% and VOC < 10 ppm.	Not Available.
New Energy Corp.	T141-6956-00033	Draft (IN)	DDGS Dryers	RTO with a control efficiency of 95%	98.8% (RTO1) 99.2% (RTO2) (06/30/04)

**Step 2 – Eliminate Technically Infeasible Control Options**

After reviewing the above technologies, IDEM, OAQ eliminated carbon adsorption, catalytic oxidation, flares, and refrigeration condensers as not technically feasible for this type of operation. The reasons for eliminating these control technologies are as follows:

**Carbon Adsorption:** Carbon adsorption typically requires a VOC concentration of at least 200 to 1,000 ppm and an average VOC molecular weight of at least 50 to 60 atomic units. Therefore, IDEM, OAQ concludes that carbon adsorption is not an effective control for the dryers due to the characteristics of the dryer exhaust gasses.

**Catalytic Oxidizer:** Catalytic oxidizers use a catalyst to lower the operating temperature of the oxidation unit. The catalyst must remain effective during operation in order for the control efficiency of the device be maintained. Fouling of the catalyst will rapidly decrease the control efficiency. The catalyst material used for catalytic oxidation has small channels for the waste gas stream to flow. As a result, particulate matter in the dryer exhaust streams is likely to accumulate in the catalyst material, thereby fouling the catalyst and reducing the control efficiency. For this reason, OAQ has concluded that catalytic oxidation is an unreliable control technology for the dryers because of the presence of particulates in the exhaust gasses.

**Flares:** Since flares do not maintain a constant combustion zone temperature, they require supplemental natural gas to enrich the waste gas stream if the VOC concentration is low. In order to increase the heat value of the dryers, natural gas must be added to the exhaust gasses prior to the flare.

**Refrigeration Condensers:** OAQ believes that condensers would be technically infeasible because the dryer exhaust characteristics of low VOC concentration and high volumetric flow rate would make condensers ineffective.

### **Step 3 – Rank Remaining Control Technologies by Control Effectiveness**

IDEM, OAQ has ranked the remaining control technologies by control efficiency as follows:

Control Technology	Control Efficiency (%)
Thermal Oxidation	98% or 10 ppmv
Wet Scrubber	Less than 96%*

\* A wet scrubber applied to this type of operation will not achieve the level of control that a thermal oxidizer will because of the large flow rate and dilute VOC concentration. Mass transfer in a contact scrubber is driven by concentration. Elevated temperature and particulate matter are also negative properties of this gas stream that make wet scrubbing a less appropriate control technology than the alternatives. The control efficiency is based on a wet scrubber that was applied to a spent grain dryer at an ethanol plant in Luverne, MN.

### **Step 4 – Evaluate the Most Effective Controls and Document Results**

According to the analysis above, the most effective control is a thermal oxidizer with a control efficiency of 98%.

### **Step 5 – Select BACT**

Putnam Ethanol, LLC proposed to use TO/HRSG systems CE09 and CE16 with control efficiencies of 98% to control the VOC emissions from the DDGS dryers (EU34 and EU37). The TO/HRSG systems CE09 and CE16 are also used to control the VOC emissions from the distillation process. The exhausts from the distillation process and the DDGS dryers will be divided into two (2) streams and will be directed to one of the TO/HRSG systems (CE09 and CE16). The TO/HRSG systems will operate in parallel and vent to stacks EP008 and EP014, respectively. The exhausts from distillation and drying processes will be controlled by at least one of the TO/HRSG systems (CE09 and CE16). The Permittee stated that this is designed to prevent shutdown of the entire production line when one of the TO/HRSG systems is malfunctioned.

Pursuant to 326 IAC 8-1-6, IDEM, OAQ has determined that the following requirements represent BACT for the DDGS dryers (EU34 and EU37) at this source:

- (a) The VOC emissions from the DDGS dryers (EU34 and EU37) shall be controlled by TO/HRSG system CE09 or CE16.

- (b) The overall efficiency for each of the TO/HRSG systems CE09 and CE16 (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.
- (c) The total VOC emissions from the TO/HRSG systems stacks (EP008 and EP014) shall not exceed 10.5 lbs/hr.

**Appendix B.4  
 Best Available Control Technology (BACT) Determination  
 For the Ethanol Loading Rack for Trucks (EU40A)**

**Introduction:**

Putnam Ethanol, LLC will ship denatured ethanol using either tank trucks or railcars. During the loading of the truck and rail tanks, VOC will be emitted as ethanol vapors and gases present in the tanks from previous cargos are displaced by liquid ethanol. The railcars are dedicated tanks but the trucks may carry gasoline before filling with ethanol. The potential VOC emissions from this activity were calculated using the methodology in AP-42, Section 5.2, Transportation and Loading of Petroleum Liquids (1/95) and are estimated to be greater than 25 tons per year from the denatured ethanol loading operations (see the calculations in Appendix A).

The potential VOC emissions from the ethanol lading rack for trucks (EU40A) are greater than 25 tons per year. Since this unit will be constructed after the January 1, 1980 applicability date and there are no other rules in 326 IAC 8 applicable to this unit, the Permittee is required to control the VOC emissions from the ethanol loading rack for trucks (EU40A) with BACT. Note that the potential VOC emissions from the railcar loading rack (EU40B) are less than 25 tons per year when the total denatured ethanol throughput rate is limited to less than 88.2 million gallons per year. Therefore, the railcar loading rack (EU40B) is not subject to the requirements of 326 IAC 8-1-6 (BACT).

**Step 1 – Identify Control Options**

The following available technologies were identified and evaluated to control VOC emissions from the ethanol loading racks:

(a) IDEM, OAQ reviewed the following six (6) control technologies. The detailed description of each control technology can be found in Step 1 of Appendix B.1.

1. Carbon Adsorption;
2. Wet Scrubbers;
3. Thermal Oxidation;
4. Flare; and
5. Refrigeration Condenser.

(b) The search for ethanol loading process in EPA’s RACT/BACT/LAER Clearinghouse (RBLC) and Indiana Air Permits identified the following:

Plant	PBLD ID or Permit #	Date Issued and State	Facility	Control Technology and Permit Date	Stack Test Results and Dates
Central Indiana Ethanol, LLC	F053-21057-00062	08/04/05 (IN)	Ethanol Loading Rack	Flare with a control efficiency of 98%	Under Construction.
Putnam Ethanol, LLC	F133-19163-00003	10/05/04 (IN)	Ethanol Loading Rack	Flare with a control efficiency of 98%	Under Construction.
Motiva Enterprises, L.L.C.	CT-0149	10/22/03 (CT)	Fuel Loading Rack	Vapor recovery unit with carbon absorption unit	Not Available.
United Wisconsin Grain Producers	WI-0204	8/14/03 (WI)	Ethanol Loading Rack	Flare with a control efficiency of 94%.	Not Available.
Archer Daniels Midland Co.	IL-0090	03/28/03 (IL)	Ethanol Loading Rack	Flare with a control efficiency of 95%.	Not Available.
Van Waters & Rogers	CA-0894	09/01/99 (CA)	Truck Loading Stations	Thermal oxidizer with a control efficiency of 95%.	Not Available.

**Step 2 – Eliminate Technically Infeasible Control Options**

After reviewing the above technologies, IDEM, OAQ eliminated carbon adsorption and wet scrubbers as

technically infeasible for this type of operation. The reasons for eliminating these technologies are as follows:

**Carbon Adsorption:** Carbon adsorption is effective when there is sufficient VOC concentration and adequate van der Waals interactions. Because the primary VOC being emitted is ethanol, the van der Waals interactions would be minimal. Therefore, carbon adsorption is not typically used in this type of application. According to Calgon Carbon Industries, carbon adsorption is actually used in some applications to purify ethanol. This means that carbon adsorption is so ineffective at capturing ethanol that it is used to remove contaminants from ethanol. Therefore, carbon adsorption is considered technologically infeasible for controlling the VOC emissions from the ethanol loading facility.

**Wet Scrubbers:** Wet scrubbers are reasonably effective for controlling VOC emissions when the VOCs are easily absorbed in water. Several characteristics control the effectiveness of wet scrubbers for VOC removal. The one parameter that can be easily analyzed to determine if wet scrubbing is effective is the solubility of the pollutants in the absorbent (water). The constituents in gasoline include many different organic compounds. Some of these compounds have limited solubility in water; therefore, potentially affect the control efficiency of the scrubber. A significant amount of VOC emissions emitted during the loading of tank trucks arises from the displacement of petroleum or gasoline vapors present in the tank from the previous cargo. While the emissions from the ethanol would be effectively controlled by a wet scrubber, the VOC emissions resulting from the displacement of gasoline or petroleum vapors would not be effectively controlled by a wet scrubber.

### **Step 3 – Rank Remaining Control Technologies by Control Effectiveness**

A condenser, thermal oxidizer, and flare are the only technically feasible control options for the ethanol loading facility. IDEM, OAQ reviewed industry data to determine the VOC control efficiency of each of these remaining control technologies. The results of this review are summarized in the following table.

<b>Control Technology</b>	<b>VOC Control Efficiency (%)</b>
Flare	98%
Thermal Oxidizer	98%
Refrigeration Condenser	Greater than 90%

### **Step 4 – Evaluate the Most Effective Controls and Document Results**

The two most effective control technologies are thermal oxidizers and flares.

### **Step 5 – Select BACT**

Since flares achieve the highest control efficiency and have been used to control VOC emissions from other ethanol loading racks, Putnam Ethanol, LLC proposed to use an enclosed flare CE012 with a control efficiency of 98% to control the VOC emissions from the ethanol loading rack for trucks (EU40A). Pursuant to 326 IAC 8-1-6, IDEM, OAQ has determined that the following requirements represent BACT for the truck loading rack EU40A at this source:

- (a) The VOC emissions from the ethanol loading rack for trucks (EU40A) shall be collected and controlled by enclosed flare CE12.
- (b) The overall control efficiency for the vapor collection system and enclosed flare CE12 (including the capture efficiency and destruction efficiency) shall be at least 98%.
- (c) The VOC emissions from enclosed flare CE12 shall not exceed 0.92 lbs/hr.

**Appendix A: Emission Calculations  
PM and PM10 Emissions  
From the Grain Receiving and Handling Operations**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

**1. Potential to Emit PM/PM10 - Captured Emissions:**

Baghouse ID	Process Description	Control Device	Outlet Grain Loading (gr/dscf)	Maximum Air Flow Rate (scfm)	PTE of PM/PM10 after Control (lbs/hr)	PTE of PM/PM10 after Control (tons/yr)	Control Efficiency (%)	PTE of PM/PM10 before Control (tons/yr)
CE01	Grain Receiving and Handling EU01-EU05	Baghouse	0.005	33,000	1.41	6.19	99%	619
CE02	Hammermill EU06	Baghouse	0.005	6,500	0.28	1.22	99%	122
CE03	Hammermill EU07	Baghouse	0.005	6,500	0.28	1.22	99%	122
CE04	Hammermill EU08	Baghouse	0.005	6,500	0.28	1.22	99%	122
CE05	Mill Surge Hammermill Bin EU09	Baghouse	0.005	8,000	0.34	1.50	99%	150
<b>Total</b>						<b>11.4</b>		<b>1,136</b>

Assume all PM emissions equal PM10 emissions.

**Methodology**

PTE of PM/PM10 after Control (lbs/hr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr

PTE of PM/PM10 after Control (tons/yr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr x 8760 hr/yr x 1 ton/2000 lbs

PTE of PM/PM10 before Control (tons/yr) = PTE of PM/PM10 after Control (tons/yr) / (1-Control Efficiency)

**2. Potential to Emit PM/PM10 - Fugitive Emissions:**

Unit ID	Unit Description	Annual Throughput Limit (tons/yr)	Uncontrolled PM Emission Factor (lbs/ton)	Uncontrolled PM10 Emission Factor (lbs/ton)	Baghouse ID	Capture Efficiency (%)	Fugitive PM Emissions (tons/yr)	Fugitive PM10 Emissions (tons/yr)
EU01 and EU02	Grain Receiving	904,615	0.035	0.0078	CE01	90%	1.58	0.35
<b>Total</b>							<b>1.58</b>	<b>0.35</b>

Note: Emission factors are from AP-42, Chapter 9.9.1 - Grain Elevators, Table 9.9.1-1 (04/03). Assume all the grain receiving and loadout is by truck, which is the worst case scenario.

The Permittee stated that there are no fugitive emissions from the grain handling operations because the emissions from these units are 100% captured.

**Methodology**

Fugitive PM/PM10 (tons/yr) = Annual Throughput Limit (tons/yr) x Uncontrolled Emission Factor (lbs/ton) x (1-Capture Efficiency%) x 1 ton/2000 lbs

**Appendix A: Emission Calculations  
VOC and HAP Emissions  
From the Fermentation Process**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

**1. Process Description:**

Max. Throughput Rate: 84 MM gal/yr of ethanol  
Control Equipment: Wet Scrubber CE07

**2. Potential to Emit (PTE) of VOC and HAP:**

Pollutant	*Emission Rate after Control (lbs/hr)	PTE after Control (tons/yr)	**Control Efficiency (%)	PTE before Control (tons/yr)
VOC	5.85	<b>25.6</b>	98%	<b>1,281</b>
HAP				
Acetaldehyde	0.812	3.56	50%	7.11
Acrolein	0.0079	0.03	0%	0.03
Formaldehyde	0.015	0.07	0%	0.07
Methanol	0.014	0.06	0%	0.06
<b>Total HAPs</b>	<b>0.85</b>	<b>3.72</b>		<b>7.27</b>

\* This is provided by the source based on multiple ethanol facilities' stack test results and scaled linearly based on production capacity.

The Permittee will perform stack testing to demonstrate compliance with the above emission rates.

\*\* The control efficiency information is based on the information from other similar plants.

**Methodology**

PTE after Control (tons/yr) = Emission Rate after Control (lbs/hr) x 8760 hr/yr x 1 ton/2000 lbs

PTE before Control (tons/yr) = PTE after Control (tons/yr) / (1 - Control Efficiency)

**Appendix A: Emission Calculations**  
**Criteria Pollutants**  
**From Two (2) 90 MMBtu/hr DDGS Dryers, Two (2) DDGS Coolers, and Two (2) 130 MMBtu/hr TO/HRSG Systems**

**Company Name: Putnam Ethanol, LLC**  
**Address: 7816 S. US 231, Cloverdale, IN 46120**  
**SPR: 133-22480-00003**  
**Reviewer: ERG/YC**  
**Date: February 10, 2006**

	Pollutant					
Emission Factor	PM*	PM10*	SO <sub>2</sub> *	NO <sub>x</sub> *	VOC*	CO*
	8.24 (lbs/hr)	8.24 (lbs/hr)	9.84 (lbs/hr)	20.2 (lbs/hr)	10.5 (lbs/hr)	21.0 (lbs/hr)
<b>Potential to Emit in tons/yr</b>	<b>36.1</b>	<b>36.1</b>	<b>43.1</b>	<b>88.5</b>	<b>46.0</b>	<b>92.0</b>

\*Emission rates were estimated by the source based on the stack testing results from similar sources. These emission rates are the proposed emission limits in this permit and will be verified by stack testing.

**Methodology**

PTE (tons/yr) = Emission Factor (lbs/hr) x 8760 hr/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations  
HAP Emissions  
From Two (2) 90 MMBtu/hr DDGS Dryers, Two (2) DDGS Coolers, and Two (2) 130 MMBtu/hr TO/HRSG Systems**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

	Pollutant				
	Acetaldehyde	Acrolein	Formaldehyde	Methanol	Total
Emission Rate after Control (lbs/hr) *	0.58	0.11	0.32	0.21	1.22
<b>PTE after Control in tons/yr</b>	<b>2.54</b>	<b>0.48</b>	<b>1.40</b>	<b>0.92</b>	<b>5.34</b>

\*HAP emission rates were estimated by the source based on the stack testing results from a similar engineered site (Glacial Lakes Energy, MN). The Permittee will perform stack tests to verify the HAP emissions from these units.

**Methodology**

PTE after Control (tons/yr) = Emission Rate after Control (lbs/hr) x 8760 hr/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations  
HAP Emissions from Natural Gas Combustion  
Two (2) 90 MMBtu/hr DDGS Dryers and Two (2) 130 MMBtu/hr TO/HRSG Systems**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

440 (4 units combined)

3854.4

Emission Factor in lbs/MMCF	Pollutant					Total HAPs
	Hexane 1.8E+00	Formaldehyde 7.5E-02	Toluene 3.4E-03	Benzene 2.1E-03	Nickel 2.1E-03	
<b>Potential to Emit in tons/yr</b>	3.47	0.14	6.55E-03	4.05E-03	4.05E-03	<b>3.63</b>

Emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (AP-42, 03/98).

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

**Methodology**

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

PTE (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

**Appendix A: Emission Calculations**  
**PM and PM10 Emissions**  
**From the DDGS Handling and Loadout Operation**

**Company Name: Putnam Ethanol, LLC**  
**Address: 7816 S. US 231, Cloverdale, IN 46120**  
**SPR: 133-22480-00003**  
**Reviewer: ERG/YC**  
**Date: February 10, 2006**

**1. Potential to Emit PM/PM10 - Captured Emissions:**

Baghouse ID	Process Description	Control Device	Outlet Grain Loading (gr/dscf)	Maximum Air Flow Rate (scfm)	PTE of PM/PM10 after Control (lbs/hr)	PTE of PM/PM10 after Control (tons/yr)	Control Efficiency (%)	PTE of PM/PM10 before Control (tons/yr)
CE10	DDGS Handling and Loadout EU31- EU33	Baghouse	0.005	4,000	0.17	0.75	99%	75.1
<b>Total</b>								<b>75.1</b>

Assume all PM emissions equal PM10 emissions.

**Methodology**

PTE of PM/PM10 after Control (lbs/hr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr

PTE of PM/PM10 after Control (tons/yr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr x 8760 hr/yr x 1 ton/2000 lbs

PTE of PM/PM10 before Control (tons/yr) = PTE of PM/PM10 after Control (tons/yr) / (1-Control Efficiency)

**2. Potential to Emit PM/PM10 - Fugitive Emissions:**

Unit ID	Unit Description	Annual Throughput Limit (tons/yr)	Uncontrolled PM Emission Factor (lbs/ton)	Uncontrolled PM10 Emission Factor (lbs/ton)	Capture Efficiency (%)	Fugitive PM Emissions (tons/yr)	Fugitive PM10 Emissions (tons/yr)
EU33	DDGS Loadout Operation	294,589	0.0033	0.0008	90%	0.05	0.01
<b>Total</b>						<b>0.05</b>	<b>0.01</b>

Note: Emission factors are from AP-42, Chapter 9.9.1 - Grain Elevators, Table 9.9.1-2 (03/03).

The Permittee stated that there are no fugitive emissions from the DDGS handling operations because the emissions from these units are 100% captured.

**Methodology**

Fugitive PM/PM10 (tons/yr) = Annual Throughput Limit (tons/yr) x Uncontrolled Emission Factor (lbs/ton) x (1-Capture Efficiency%) x 1 ton/2000 lbs

**Appendix A: Emission Calculations  
VOC and HAP Emissions  
From the Wetcake Storage**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

**1. Process Description:**

Max. Throughput Rate: 50 tons/hr of wetcake (provided by the source)

**2. Potential to Emit (PTE) of VOC and HAP:**

Pollutant	*Emission Factor (lbs/ton)	PTE (tons/yr)
VOC	6.00E-03	<b>1.31</b>
HAP		
Acetaldehyde	5.56E-05	<b>0.01</b>
Acrolein	8.33E-06	<b>1.82E-03</b>
Formaldehyde	3.33E-04	<b>0.07</b>
Methanol	6.94E-05	<b>0.02</b>
<b>Total HAP</b>		<b>0.10</b>

\* This is provided by the source based on the stack test results for DENCO, LLC in Morris, MN.

\*\* The control efficiency information is based on the information from other similar plants.

**Methodology**

PTE (tons/yr) = Max. Throughput Rate (tons/hr) x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations**  
**VOC and HAP Emissions from Ethanol Loading Racks (EU40A and EU40B)**

**Company Name: Putnam Ethanol, LLC**  
**Address: 7816 S. US 231, Cloverdale, IN 46120**  
**SPR: 133-22480-00003**  
**Reviewer: ERG/YC**  
**Date: February 10, 2006**

**1. Emission Factors: AP-42**

Denatured ethanol will be shipped by either truck loading rack EU40A or railcar loading rack EU40B. Railcars will be dedicated fleets, but the trucks may be used to carry gasoline prior to filling with ethanol. Both railcars and trucks will be filled by submerged loading process. Only the truck loadout rack (EU40A) will be controlled by flare CE12 which has a control efficiency of 98% for VOC and HAPs.

According to AP-42, Chapter 5.2 - Transportation and Marketing of Petroleum Liquids (01/95), the VOC emission factors for the truck and rail loading racks can be estimated from the following equation:

$$L = 12.46 \times (\text{SPM})/T$$

where:

L = loading loss (lbs/kgal)  
S = a saturation factor (see AP-42, Table 5.2-1)  
P = true vapor pressure of the liquid loaded (psia)  
M = molecular weight of vapors  
T = temperature of the bulk liquid loaded (degree R)

Previous Stored Liquid	*S	P (psia)	M (lbs/mole lbs)	T (degree R)	L (lbs/kgal)
Gasoline (normal)	0.6	4	66	505	3.91
Gasoline (clean cargo)	0.5	4	66	505	3.26
Denatured Ethanol (normal)	0.6	0.50	49.7	505	0.37
Denatured Ethanol (clean cargo)	0.5	0.50	49.7	505	0.31

Therefore, the emission factor for loading denatured ethanol to the trucks which stored gasoline previously

$$= L (\text{gasoline, normal}) - L (\text{gasoline, clean cargo}) + L (\text{denatured ethanol, clean cargo}) = 0.96 \quad (\text{lbs/kgal})$$

**2. Potential to Emit VOC Before Control:**

Max. Loading Rate for EU40A: 48 kgal/hr (for truck loading)

$$\text{PTE of VOC before Control (tons/yr)} = 48 \text{ kgal/hr} \times 0.96 \text{ lbs/kgal} \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 201 \text{ tons/yr}$$

Max. Loading Rate EU40B: 60 kgal/hr (for railcar loading)

$$\text{PTE of VOC before Control (tons/yr)} = 60 \text{ kgal/hr} \times 0.37 \text{ lbs/kgal} \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 96.7 \text{ tons/yr}$$

**3. Limited Potential to Emit:**

Annual Production Limit: 88,200 kgal/yr (for both railcar and truck loading)

Flare Control Efficiency: 98% (only for truck loadout operation EU40A)

(1) Assume all denatured ethanol is loaded to trucks (controlled by flare CE12):

$$\text{PTE of VOC (tons/yr)} = 0.96 \text{ lbs/kgal} \times 88,200 \text{ kgal/yr} \times (1-98\%) \times 1 \text{ ton}/2000 \text{ lbs} = 0.84 \text{ tons/yr}$$

(2) Assume all denatured ethanol is loaded to railcars (no control):

$$\text{PTE of VOC (tons/yr)} = 0.37 \text{ lbs/kgal} \times 88,200 \text{ kgal/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 16.2 \text{ tons/yr}$$

**Worst case scenario is when loading denatured ethanol to railcars and the worst case VOC emissions = 16.2 tons/yr**

**4. Potential to Emit HAPs:**

HAP emissions are mainly from the unloading process for trucks, which may have been used to ship gasoline previously.

HAP	HAP Fraction*	PTE of HAP before Control (tons/yr)	Limited PTE of HAP after Control (tons/yr)
Benzene	2.50E-03	0.50	2.11E-03
Carbon Disulfide	2.00E-05	4.03E-03	1.69E-05
Cumene	1.00E-04	0.02	8.45E-05
Ethyl benzene	5.00E-05	1.01E-02	4.22E-05
n-Hexane	5.00E-02	10.1	4.22E-02
Toluene	5.00E-03	1.01	4.22E-03
Xylene	5.00E-04	0.10	4.22E-04
<b>Total</b>	<b>0.06</b>	<b>11.7</b>	<b>0.05</b>

\* This is the HAP fraction for gasoline vapors.

**Methodology**

PTE of HAP before Control (tons/yr) = PTE of VOC before Control (tons/yr) x HAP %

Limited PTE of HAP after Control (tons/yr) = Limited PTE of VOC by Trucks (tons/yr) x HAP %

**Appendix A: Emission Calculations  
Combustion Emissions  
From Flare CE12 for Ethanol Loading Rack for Trucks (EU40A)**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

Heat Input Capacity  
MMBtu/hr

6.8

Max. Load-out Rate  
kgal/hr

48.0

Annual Production Limit  
kgal/yr

88,201

	Pollutant					
Emission Factor	*PM	*PM10	*SO <sub>2</sub>	**NO <sub>x</sub>	***VOC	**CO
	NA	NA	NA	0.077 (lbs/kgal)	-	0.129 (lbs/kgal)
<b>Unlimited Potential to Emit in tons/yr</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>16.2</b>	<b>201</b>	<b>27.1</b>
<b>Limited Potential to Emit in tons/yr</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>3.40</b>	<b>0.84</b>	<b>5.69</b>

\*PM, PM10, and SO<sub>2</sub> emission factors are negligible due to the smokeless design and minimal H<sub>2</sub>S levels.

\*\*Emission factors for NO<sub>x</sub> and CO are based on the information provided by the flare manufacturer (MRW Technologies, Inc.)

\*\*\* VOC emission calculations can be found in page 9 of this appendix.

### Methodology

PTE of PM/PM10 and SO<sub>2</sub> (tons/yr) = Max. Heat Input (MMBtu/hr) x 1 MMCF/1,000 MMBtu x Emission Factor (lbs/MMCF) x 8760 hr/yr x 1 ton/2000 lbs

Unlimited PTE of NO<sub>x</sub> and CO (tons/yr) = Max. Load-out Rate (kgal/hr) x Emission Factor (lbs/kgal) x 8760 hr/yr x 1 ton/2000 lbs

Limited PTE of NO<sub>x</sub> and CO (tons/yr) = Annual Production Limit (kgal/yr) x Emission Factor (lbs/kgal) x 1 ton/2000 lbs

Limited PTE of PM/PM10 and SO<sub>2</sub> (tons/yr) = Unlimited PTE (tons/yr) x Annual Production Limit (kgal/yr) / (Max. Load-out Rate kgal/hr x 8760 hr/yr)

**Appendix A: Emission Calculations  
Fugitive Emissions From Paved Roads**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

**1. Emission Factors: AP-42**

According to AP-42, Chapter 13.2.1 - Paved Roads (12/03), the PM/PM10 emission factors for paved roads can be estimated from the following equation:

$$E = (k \times (sL/2)^a \times (w/3)^b - C) \times (1 - p/(4 \times 365))$$

where:

E = emission factor (lb/vehicle mile traveled)  
sL = road surface silt loading ( $g/m^2$ ) = 0.6 ( $g/m^2$ ) (AP-42, Table 13.2.1-3)  
w = mean vehicle weight (tons) = 29.0 tons  
k = empirical constant = 0.082 for PM and 0.016 for PM10  
a = empirical constant = 0.65  
b = empirical constant = 1.5  
C = emission factor for exhaust, brake and tire wear = 0.00047 for PM and PM10  
p = number of days per year with 0.01 inches precipitation = 120

$$\text{PM Emission Factor} = (0.082 \times (0.6/2)^{0.65} \times (29/3)^{1.5} - 0.00047) \times (1 - 120/1460) = \mathbf{1.03 \text{ lbs/mile}}$$

$$\text{PM10 Emission Factor} = (0.016 \times (0.6/2)^{0.65} \times (29/3)^{1.5} - 0.00047) \times (1 - 120/1460) = \mathbf{0.20 \text{ lbs/mile}}$$

**2. Potential to Emit (PTE) of PM/PM10 Before Control from Paved Roads:**

Vehicle Type	*Ave Weight of Vehicles (tons)	*Trip Number (trips/yr)	* Round Trip Distance (mile/trip)	Vehicle Mile Traveled (VMT) (miles/yr)	Traffic Component (%)	Component Vehicle Weight (tons)	PTE of PM before Control (tons/yr)	PTE of PM10 before Control (tons/yr)
Grain Receiving	29	36,185	1.01	36,547	66.4%	19.26	18.89	3.68
DDGS Load Out	29	11,784	1.01	11,902	21.6%	6.27	6.15	1.20
Ethanol Load Out	29	11,025	0.57	6,284	11.4%	3.31	3.25	0.63
Denaturant Delivery	29	525	0.57	299	0.54%	0.16	0.15	0.03
<b>Total</b>				<b>55,032</b>	<b>100%</b>	<b>29.0</b>	<b>28.4</b>	<b>5.54</b>

\* This information is provided by the source.

**Methodology**

Vehicle Mile Traveled (miles/yr) = Trip Number (trips/yr) x Round-Trip Distance (mile/trip)

Traffic Component (%) = VMT / Total VMT

Component Vehicle Weight = Ave. Weight of Vehicles (ton) x Traffic Component (%)

PTE of PM/PM10 before Control (tons/yr) = VMT (miles/yr) x PM/PM10 Emission Factors x 1 ton/2000 lbs

**3. Potential to Emit (PTE) of PM/PM10 after Control from Paved Roads:**

The source proposed to use periodic sweeping to control the fugitive dust emissions.

The control efficiency from sweeping is assumed to be 50%.

$$\text{PTE of PM after Control} = 28.4 \text{ tons/yr} \times (1-50\%) = \mathbf{14.2 \text{ tons/yr}}$$

$$\text{PTE of PM10 after Control} = 5.54 \text{ tons/yr} \times (1-50\%) = \mathbf{2.77 \text{ tons/yr}}$$

**Appendix A: Emission Calculations  
PM/PM10 Emissions  
From the the Cooling Tower (Insignificant Activity)**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

**1. Process Description:**

Type of Cooling Tower:	Induced Draft
Circulation Flow Rate:	60,000 gal/min
Total Drift:	0.005% of the circulating flow
Total Dissolved Solids:	2,500 ppm
Density:	8.345 lbs/gal

Note: The information above was provided by the cooling tower manufacturer for the same units located at a similar source.

**2. Potential to Emit PM/PM10:**

Assume all the dissolved solids become PM10 emissions and assume PM emissions are equal to PM10 emissions.

$$\text{PTE of PM/PM10 (lbs/hr)} = 55,000 \text{ gal/min} \times 60 \text{ min/hr} \times 0.005\% \times 8.345 \text{ lbs/gal} \times 2,500 \text{ ppm} \times 1/1,000,000 \text{ ppm} = \quad \mathbf{3.76 \text{ lbs/hr}}$$

$$\text{PTE of PM/PM10 (tons/yr)} = 3.44 \text{ lbs/hr} \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lbs} = \quad \mathbf{16.4 \text{ tons/yr}}$$

**Appendix A: Emission Calculations  
Internal Combustion Engines  
From the Diesel Fire Pump EU41 (Insignificant)**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

Power Output  
Horse Power (HP)

Operation Limit  
hr/yr

275

500

Emission Factor in lb/HP-hr	Pollutant					
	PM*	PM10*	SO <sub>2</sub>	NO <sub>x</sub>	**VOC	CO
	2.20E-03	2.20E-03	2.05E-03	3.10E-02	2.47E-03	6.68E-03
<b>Potential to Emit in tons/yr</b>	<b>0.15</b>	<b>0.15</b>	<b>0.14</b>	<b>2.13</b>	<b>0.17</b>	<b>0.46</b>

\*Assume PM10 emissions are equal to PM emissions.

\*\* Assume TOC (total organic compounds) emissions are equal to VOC emissions.

Emission factors are from AP-42, Chapter 3.3, Table 3.3-1, SCC #2-02-001-02 and 2-03-001-01 (AP-42 Supplement B, 10/96).

**Methodology**

PTE (tons/yr) = Power Output (HP) x Emission Factor (lb/HP-hr) x Operation Limit (hr/yr) x 1 ton/2000 lbs

**Appendix A: Emission Calculations  
VOC and HAP Emissions  
From Equipment Leaks**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

**1. Fugitive VOC Emissions:**

Process Stream	Equipment Component Source	Product	Component Count*	Emission Factor** (lbs/comp-hr)	Subpart VV Control Effectiveness*** (%)	TOC Weight**** (%)	Fugitive VOC Emissions (tons/yr)
Fermentation	Valves	Gas/Vapor	0	0.01319	87%	13%	0.00
	Valves	Light Liquid	146	0.00891	84%	13%	0.12
	Pumps	Gas/Vapor	12	0.04398	69%	13%	0.09
	Pressure-Relief Valves	Gas/Vapor	8	0.22984	87%	13%	0.14
	Open-Ended Lines	All	14	0.00376	0%	13%	0.03
	Flanges	All	164	0.00404	0%	13%	0.38
Distillation	Valves	Gas/Vapor	206	0.01319	87%	81.7%	1.26
	Valves	Light Liquid	0	0.00891	84%	81.7%	0.00
	Pumps	Gas/Vapor	9	0.04398	69%	81.7%	0.44
	Pressure-Relief Valves	Gas/Vapor	1	0.22984	87%	81.7%	0.11
	Open-Ended Lines	All	70	0.00376	0%	81.7%	0.94
	Flanges	All	115	0.00404	0%	81.7%	1.66
Tank Farm	Valves	Gas/Vapor	0	0.01319	87%	100%	0.00
	Valves	Light Liquid	53	0.00891	84%	100%	0.33
	Pumps	Gas/Vapor	5	0.04398	69%	100%	0.30
	Pressure-Relief Valves	Gas/Vapor	0	0.22984	87%	100%	0.00
	Open-Ended Lines	All	14	0.00376	0%	100%	0.23
	Flanges	All	61	0.00404	0%	100%	1.08
<b>Total</b>			<b>878</b>				<b>7.11</b>

\* Component count estimated based on Subpart VV equipment inventory from VeraSun Energy, Watertown, SD for a 100 million gallons per year plant.

\*\* Emission factors are from Protocol for Equipment leak Emission Estimates, EPA-453/R-95-017.

\*\*\* Control Effectiveness is from Protocol for Equipment leak Emission Estimates, EPA-453/R-95-017, Table 5-2.

\*\*\*\* TOC weight % is the worst case for each process stream identified.

**Methodology**

Fugitive VOC Emissions (tons/yr) = Component Count x Emission Factor (lbs/hr) x 8760 hr/yr x 1 ton/2000 lbs x (1-Control Effectiveness) x TOC Weight %

**2. Fugitive HAP Emissions:**

HAP	HAP Fraction*	Fugitive HAP Emissions (tons/yr)
Acetaldehyde	2.00E-04	1.42E-03
Methanol	2.00E-04	1.42E-03
Benzene	2.50E-03	1.78E-02
Carbon Disulfide	2.00E-05	1.42E-04
Cumene	1.00E-03	7.11E-03
Ethylbenzene	5.00E-05	3.55E-04
n-Hexane	5.00E-02	3.55E-01
Toluene	5.00E-03	3.55E-02
Xylenes	5.00E-04	3.55E-03
<b>Total</b>		<b>0.42</b>

\* This is the HAP fraction for gasoline vapors or from test results.

**Methodology**

Fugitive HAP Emissions (tons/yr) = Fugitive VOC Emissions (tons/yr) x HAP Fraction

**Appendix A: Emission Calculations  
Combustion Emissions  
From Biomethanator Flare CE13**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

\*This methanator flare only operates when the DDGS dryers are down.

Max. Heat Input  
MMBtu/hr

3.48
------

	Pollutant						
Emission Factor in lb/MMBtu	PM <sup>b</sup>	PM10 <sup>b</sup>	SO <sub>2</sub> <sup>b</sup>	NO <sub>x</sub> <sup>a</sup>	CO <sup>a</sup>	VOC <sup>a</sup>	HAP <sup>b</sup>
	-	-	-	0.068	0.37	0.052	-
<b>PTE (tons/yr)</b>	Negligible	Negligible	Negligible	<b>1.04</b>	<b>5.64</b>	<b>0.79</b>	Negligible

<sup>a</sup> Emission factors are from AP-42, Tables 13.5-1 and 13.5-2 (AP-42, 01/95).

<sup>b</sup> The Permittee stated that PM/PM10 emissions from this flare are negligible due to the smokeless design. The PTE of SO<sub>2</sub> and HAP are negligible due to negligible sulfur and HAP presence in the gas stream.

**Methodology**

PTE (tons/yr) = Max. Heat Input (MMBtu/hr) x Emission Factor (lbs/MMBtu) x 8760 hrs/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations  
PTE Summary**

**Company Name: Putnam Ethanol, LLC  
Address: 7816 S. US 231, Cloverdale, IN 46120  
SPR: 133-22480-00003  
Reviewer: ERG/YC  
Date: February 10, 2006**

**Limited Potential To Emit after Control**

<b>Emission Units</b>	<b>PM</b>	<b>PM10</b>	<b>SO<sub>2</sub></b>	<b>*NO<sub>x</sub></b>	<b>VOC</b>	<b>CO</b>	<b>Total HAPs</b>
Grain Receiving and Handling	11.4	11.4	-	-	-	-	-
Grain Receiving - Fugitive	1.58	0.35	-	-	-	-	-
Fermentation	-	-	-	-	25.6	-	3.72
Dryers and RT/HRSG Sytems	36.1	36.1	43.1	88.5	46.0	92.0	8.97
DDGS Handling and Loadout	0.75	0.75	-	-	-	-	-
DDGS Loadout - Fugitive	0.05	0.01	-	-	-	-	-
Wet Cake Storage*	-	-	-	-	See Note	-	See Note
Ethanol Loadout and Flare	-	-	-	3.40	16.2	5.69	0.05
Paved Roads (Fugitive)	14.2	2.77	-	-	-	-	-
Cooling Tower	16.4	16.4	-	-	-	-	-
Diesel Fire Pump	0.15	0.15	0.14	2.13	0.17	0.46	Negligible
Storage Tanks**	-	-	-	-	1.65	-	Negligible
Leaks	-	-	-	-	7.11	-	0.42
Biomethanator Flare***	-	-	-	See Note	See Note	See Note	See Note
Other Insignificant Activities	1.00	1.00	-	-	1.00	-	-
<b>Total PTE</b>	<b>81.7</b>	<b>68.9</b>	<b>43.2</b>	<b>94.0</b>	<b>97.8</b>	<b>98.1</b>	<b>13.2</b>

Note:

\* This plant is capable to produce both DDGS and MDGS. The emissions from the DDGS production is the worst case scenario. Therefore, the PTE of the wet cake storage is not included in the PTE for the entire source.

\*\* Emissions from the storage tanks were calculated by the Permittee using EPA TANKS software (version 4.09d) and have been verified.

\*\*\* Biomethanator flare only operates when the DDGS dryers are down. The operation of the DDGS dryers is the worst case senario for emissions and the emissions from the DDGS dryers have been included in the total PTE.