



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: June 17, 2009

RE: Abengoa Bioenergy of Indiana / 129-27302-00050

FROM: Matthew Stuckey, Branch 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, Suite N 501E, 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.dot12/03/07



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Mr. Craig Kramer
Abengoa Bioenergy of Indiana
16150 Main Circle Drive, Suite 300
Chesterfield, MO 63014

June 17, 2009

Re: 129-27302-00050
First Significant Revision to
F129-23484-00050

Dear Mr. Kramer

Abengoa Bioenergy of Indiana was issued a Federally Enforceable State Operating Permit (FESOP) No. F129-23484-00050 on January 25, 2007 for a stationary ethanol production plant located at 8999 West Franklin Road, Mt. Vernon, Indiana 47620. On December 24, 2008, the Office of Air Quality (OAQ) received an application from the source requesting modifications to the plant design. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

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. Attached please find the entire revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Brian Williams, of my staff, at 317-234-5375 or 1-800-451-6027, and ask for extension 4-5375.

Sincerely,



Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

IC/BMW

cc: File - Posey County
Posey County Health Department
U.S. EPA, Region V
Air Compliance Section
IDEM Southwest Regional Office
Compliance Data Section
Technical Support and Modeling
Permits Administrative and Development
Billing, Licensing and Training Section



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New Source Construction and Federally Enforceable State Operating Permit OFFICE OF AIR QUALITY

**Abengoa Bioenergy of Indiana
8999 West Franklin Rd
Mt. Vernon, Indiana 47620**

(herein known as the Permittee) is hereby authorized to construct and 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 provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or 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.

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.

Operation Permit No.: 129-23484-00050	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: January 25, 2007 Expiration Date: January 25, 2012

First Significant Permit Revision No.: 129-27302-00050	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: June 17, 2009 Expiration Date: January 25, 2012

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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.

Source Address:	8999 West Franklin Rd, Mt. Vernon, Indiana 47620
Mailing Address:	16150 Main Circle Drive, Suite 300, Chesterfield, Missouri 63017
General Source Phone Number:	(636) 728-0508
SIC Code:	2869
County Location:	Posey
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 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) grain receiving area, approved for construction in 2009, and consisting of the following:
 - (1) One (1) truck/rail receiving pit, identified as EP1101, with a maximum capacity of 1680 tons of corn per hour, controlled by baghouse DC1101, and exhausting through stack DC1101;
 - (2) One (1) truck receiving pit, identified as EP1102, with a maximum capacity of 1120 tons of corn per hour, controlled by baghouse DC1102, and exhausting through stack DC1102;
 - (3) Two (2) grain transfer drag conveyors, identified as EP1101C and EP1102C, with a maximum capacity of 1680 tons of corn per hour and 1120 tons of corn per hour, controlled by baghouses DC1101 and DC1102, and exhausting through stacks DC1101 and DC1102, respectively; and
 - (4) Two (2) grain storage silos, identified as EP2003A and EP2004A, each with a maximum capacity of 150 tons of corn per hour, controlled by baghouses DC2003A, DC2003B, DC2004A, and DC2004B, and exhausting through stacks DC2003A, DC2003B, DC2004A, and DC2004B, respectively.
- (b) One (1) corn scalper, identified as EP2005A, approved for construction in 2009, with a maximum capacity of 150 tons of corn per hour, controlled by baghouse DC1200, and exhausting through stack DC1200.
- (c) Four (4) hammer mill surge bins, identified as EP1200A, EP1200B, EP1200C, and EP1200D, approved for construction in 2009, each with a maximum capacity of 117.6

tons of grain per hour, controlled by baghouse DC1200, and exhausting through stack DC1200.

- (d) Four (4) hammermills, identified as EP1205, EP1206, EP1207, and EP1208, approved for construction in 2009, each with a maximum capacity of 117.6 tons per hour of grain, controlled by baghouses DC1205, DC1206, DC1207, and DC1208, and exhausting through stacks DC1205, DC1206, DC1207, and DC1208, respectively.
- (e) Two (2) pellet mills, identified as EP2250A and EP2250B, approved for construction in 2009, each with a maximum capacity of 30 tons per hour, controlled by cyclones DC2250A and DC2250B, and exhausting through stacks DC2250A and DC2250B, respectively.
- (f) One (1) DDGS unloading and loading area, approved for construction in 2009, and consisting of the following:
 - (1) One (1) DDGS rail to barge unloading operation, identified as EP2252, with a maximum capacity of 400 tons per hour, controlled by baghouse S2252, and exhausting through stack S2252;
 - (2) One (1) DDGS barge loadout operation, identified as EP2251, with a maximum capacity of 200 tons per hour, controlled by high efficiency dustless spout filter system DC2251, and exhausting through stack DC2251;
 - (3) One (1) DDGS truck loadout operation, identified as EP2201, with a maximum capacity of 200 tons per hour, controlled by high efficiency dustless spout filter system LS2201, and exhausting through stack LS2201; and
 - (4) Three (3) DDGS rail loadout operations, identified as EP2202A, EP2202B, and EP2202C, with a maximum capacity of 200 tons per hour, each, controlled by high efficiency dustless spout filter systems LS2202A, LS2202B, and LS2202C, and exhausting through stacks LS2202A, LS2202B, and LS2202C, respectively.
- (g) One (1) fermentation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, consisting of the following major equipment:
 - (1) One (1) prefermenter tank, identified as T-1400, using a wet scrubber (S1400) and sodium bisulfite injection for VOC control, exhausting through stack S1400.
 - (2) Six (6) main fermenters and one (1) beer well, identified as T-1401 through T-1407, using a wet scrubber (S1401), and sodium bisulfite injection for VOC control, exhausting through stack S1401.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (h) One (1) distillation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, using a wet scrubber, (S1504) and sodium bisulfite injection for VOC control, exhausting through stack S1504, and consisting of the following major equipment:
 - (1) One (1) beer column identified as C-1510.
 - (2) One (1) stripping column identified as C-1520.

- (3) One (1) rectifying column identified as C-1530.
- (4) One (1) four-tower molecular sieve unit, with associated heat exchangers and pumps.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (i) Four (4) natural gas fired boilers, identified as BL5001, BL5002, BL5003, and BL5004, approved for construction in 2009, with a maximum heat input rate of 92.4 MMBtu/hr, each, and exhausting through stacks BL5001, BL5002, BL5003, and BL5004, respectively.

Under NSPS, Subpart Dc, the boilers are considered affected facilities.

- (j) Two (2) natural gas fired Swiss Combi "Eco-Dry" Dryer Systems, identified as D1802A and D1802B, approved for construction in 2009, with a maximum heat input rate of 76.7MMBtu/hr and a design throughput rate of 20 tons per hour of DDGS each, with emissions exhausting through stacks S1802A and S1802B.

Note: The basis of the Swiss Combi Dryer System is an indirect heat drying process using a closed steam loop with thermal oxidation. The DDGS cooler is also integrated into the Eco-Dry system.

Under NSPS, Subpart Dc, the Swiss Combi Dryer Systems are considered affected facilities.

- (k) One (1) ethanol and E85 loading rack for trucks and railcars, identified as EP2101, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute for trucks and railcars, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101, and exhausting through stack S2101.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (l) One (1) ethanol and E85 loading rack for barges, identified as EP2501, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501, and exhausting through stack S2501.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

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

This stationary source also includes the following insignificant activities:

- (a) One (1) diesel fired stationary fire pump, identified as P7075B, approved for construction in 2009, with a maximum power output rate of 460 horsepower, and exhausting through stack P7075B. [326 IAC 2-8-4]

Under NSPS, Subpart IIII, the diesel fire pump is considered a new certified National Fire Protection Association (NFPA) fire pump.

- (b) One (1) emergency diesel generator, identified as GN7000, approved for construction in 2009, with a maximum power output rate of 1,495 horsepower, and exhausting through stack GN7000.

Under NSPS, Subpart IIII, the emergency diesel generator is considered a new stationary compression ignition internal combustion engine.
- (c) Noncontact cooling tower system with natural draft not regulated under a NESHAP.
- (d) Replacement or repair of bags in baghouses and filters in other air filtration equipment.
- (e) Paved roads and parking lots with public access. [326 IAC 6-4]
- (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) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (i) Other emission units, not regulated by a NESHAP, with PM₁₀, NO_x, 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:
 - (1) One (1) denaturant storage tank, identified as T2104, with a maximum capacity of 128,800 gallons equipped with an internal floating roof for VOC emissions control. [326 IAC 8-4-3] [40 CFR 60, Subpart Kb]
 - (2) Three (3) tanks for storage of denatured fuel ethanol and/or E-85, identified as T2102, T2103, and T2105 each with a maximum capacity of 1,015,164 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]
 - (3) One (1) fixed-roof anhydrous ethanol off-spec storage tank, identified as T2101, with a maximum capacity of 39,500 gallons, equipped with an internal floating roof for VOC emissions control.
 - (4) Two (2) fixed-roof anhydrous ethanol storage tanks (shift tanks), identified as T2110 and T2111, each with a maximum capacity of 250,000 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]

Under NSPS, Subpart Kb, storage tanks T2104, T2102, T2103, T105, T2110, and T2111 are considered volatile organic liquid storage vessels.

- (5) Cook area process equipment, including: one (1) slurry tank (T-1301), one (1) mash cooker (V-1302), two (2) conversion tanks (T-1304 and T-1305), one (1) hot water tank (T-1303), one (1) saccharification flash vessel (V-1306), three (3) mash coolers (E-1311 through E-1313), and three (3) mash trim coolers (E-1515 through E-1517).
- (6) Equipment for handling spent grain from the fermentation process, including: one (1) triple effect light evaporation system, one (1) final concentrator, one (1) whole stillage tank (T-1701), one (1) thin stillage tank (T-1600), one (1) intermediate stillage tank (T-1702), one (1) syrup tank (T-1650), and Four (4) stillage decanters (SP-1701 through SP-1704).
- (7) One (1) corrosion inhibitor storage tank.
- (8) One (1) sulfuric acid tank (T-1911).
- (9) One (1) Clean-in place (CIP) system.
- (10) Compressed air and dry air systems.

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) for a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 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.2 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit 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.

B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4][326 IAC 2-8]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 and [326 IAC 2-8] when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

B.4 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

-
- (a) This permit, 129-23484-00050, 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 of this permit.
 - (b) If IDEM, OAQ, upon receiving a timely and complete renewal 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.

B.5 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.6 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.7 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.8 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.9 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 an "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.10 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.11 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 (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1)

B.12 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (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 final permit issuance 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 no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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, as 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) immediately upon startup of plant operations, 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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require the certification by an "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 an "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.14 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 describe 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 and Southwest Regional Office, 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 Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-0178 (ask for Compliance Section)
Facsimile Number: 317-233-6865

Southwest Regional Office
Toll Free (888) 672-8323 (toll free within Indiana)
Local (812) 380-2305
Fax (812) 380-2304

- (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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 an "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.15 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to F129-23484-00050 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted
- (b) All previous registrations and permits are superseded by this permit.

B.16 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.17 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "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.18 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]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit 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 an "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.19 Permit Renewal [326 IAC 2-8-3(h)]

- (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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) 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) 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 being needed to process the application.

B.20 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

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

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "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.21 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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, 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 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 Federally Enforceable State Operating Permit**
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.22 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.23 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC13-30-3-1]

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.24 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "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.25 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 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 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 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.26 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][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

Emission 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 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) The potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) not applicable.

(c) 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.

(d) 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]

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

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

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 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on February 19, 2009. The plan is included as Attachment A.

C.8 Stack Height [326 IAC 1-7]

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

- (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
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 an "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.

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

C.10 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. 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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 an "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 an "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.11 Compliance Requirements [326 IAC 2-1.1-11]

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.12 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented immediately upon startup of plant operations. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated after operation of the ethanol plant begins, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to ninety (90) days after startup of plant operations, with full justification of the reasons for the inability to meet this date.

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

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

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

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)]

- (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 alternative or other 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]

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 or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

- (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; and/or
 - (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 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 an "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]

- (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 not already legally required shall be implemented within ninety (90) days of permit issuance.

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

- (a) The Permittee 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 an "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 startup of facility operations and ending on the last day of the reporting period. Reporting periods are 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

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) grain receiving area, approved for construction in 2009, and consisting of the following:
 - (1) One (1) truck/rail receiving pit, identified as EP1101, with a maximum capacity of 1680 tons of corn per hour, controlled by baghouse DC1101, and exhausting through stack DC1101;
 - (2) One (1) truck receiving pit, identified as EP1102, with a maximum capacity of 1120 tons of corn per hour, controlled by baghouse DC1102, and exhausting through stack DC1102;
 - (3) Two (2) grain transfer drag conveyors, identified as EP1101C and EP1102C, with a maximum capacity of 1680 tons of corn per hour and 1120 tons of corn per hour, controlled by baghouses DC1101 and DC1102, and exhausting through stacks DC1101 and DC1102, respectively; and
 - (4) Two (2) grain storage silos, identified as EP2003A and EP2004A, each with a maximum capacity of 150 tons of corn per hour, controlled by baghouses DC2003A, DC2003B, DC2004A, and DC2004B, and exhausting through stacks DC2003A, DC2003B, DC2004A, and DC2004B, respectively.
- (b) One (1) corn scalper, identified as EP2005A, approved for construction in 2009, with a maximum capacity of 150 tons of corn per hour, controlled by baghouse DC1200, and exhausting through stack DC1200.
- (c) Four (4) hammer mill surge bins, identified as EP1200A, EP1200B, EP1200C, and EP1200D, approved for construction in 2009, each with a maximum capacity of 117.6 tons of grain per hour, controlled by baghouse DC1200, and exhausting through stack DC1200.
- (d) Four (4) hammermills, identified as EP1205, EP1206, EP1207, and EP1208, approved for construction in 2009, each with a maximum capacity of 117.6 tons per hour of grain, controlled by baghouses DC1205, DC1206, DC1207, and DC1208, and exhausting through stacks DC1205, DC1206, DC1207, and DC1208, respectively.
- (e) Two (2) pellet mills, identified as EP2250A and EP2250B, approved for construction in 2009, each with a maximum capacity of 30 tons per hour, controlled by cyclones DC2250A and DC2250B, and exhausting through stacks DC2250A and DC2250B, respectively.
- (f) One (1) DDGS unloading and loading area, approved for construction in 2009, and consisting of the following:
 - (1) One (1) DDGS rail to barge unloading operation, identified as EP2252, with a maximum capacity of 400 tons per hour, controlled by baghouse S2252, and exhausting through stack S2252;
 - (2) One (1) DDGS barge loadout operation, identified as EP2251, with a maximum capacity of 200 tons per hour, controlled by high efficiency dustless spout filter system DC2251, and exhausting through stack DC2251;
 - (3) One (1) DDGS truck loadout operation, identified as EP2201, with a maximum capacity of 200 tons per hour, controlled by high efficiency dustless spout filter system LS2201, and exhausting through stack LS2201; and

- (4) Three (3) DDGS rail loadout operations, identified as EP2202A, EP2202B, and EP2202C, with a maximum capacity of 200 tons per hour, each, controlled by high efficiency dustless spout filter systems LS2202A, LS2202B, and LS2202C, and exhausting through stacks LS2202A, LS2202B, and LS2202C, respectively.

(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 there under, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

D.1.2 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.1.3 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.1.4 PM, PM10, and PM2.5 Emissions [326 IAC 2-2] [326 IAC 2-8-4]

- (a) The PM, PM10, and PM2.5 emissions from the grain receiving, handling, unloading, and loadout operations shall not exceed the emission limits listed in the table below:

Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
Truck/Rail Receiving Pit and Grain Conveyor (EP1101 and EP1101C)	DC1101	1.03	1.03	1.03
Truck Receiving Pit and Grain Conveyor (EP1102 and EP1102C)	DC1102	0.43	0.43	0.43
Grain Storage Silo (EP2003A)	DC2003A DC2003B	0.08	0.08	0.08
Grain Storage Silo (EP2004A)	DC2004A DC2004B	0.08	0.08	0.08
Corn Scalper and Hammer Mill Surge Bins (EP2005A and EP1200A through EP1200D)	DC1200	0.04	0.04	0.04
Hammermill (EP1205)	DC1205	0.26	0.26	0.26
Hammermill (EP1206)	DC1206	0.26	0.26	0.26
Hammermill (EP1207)	DC1207	0.26	0.26	0.26
Hammermill (EP1208)	DC1208	0.26	0.26	0.26
Pellet Mill (EP2250A)	DC2250A	0.51	0.51	0.51
Pellet Mill (EP2250B)	DC2250B	0.51	0.51	0.51
DDGS Rail to Barge Unloading (EP2252)	S2252	1.03	1.03	1.03
DDGS Barge Loadout (EP2251)	DC2251	0.64	0.64	0.64
DDGS Truck Loadout (EP2201)	LS2201	0.06	0.06	0.06
DDGS Rail Loadout (EP2202A)	LS2202A	0.06	0.06	0.06
DDGS Rail Loadout (EP2202B)	LS2202B	0.06	0.06	0.06
DDGS Rail Loadout (EP2202C)	LS2202C	0.06	0.06	0.06

Compliance with these limits, combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and PM10 and PM2.5 to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.5 Particulate Emission Limitations [326 IAC 6-3-2]

- (a) 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)
EP1101	Truck/Rail Receiving Pit	1680	84.5
EP1102	Truck Receiving Pit	1120	79.1
EP1101C	Grain Conveyor	1680	84.5
EP1102C	Grain Conveyor	1120	79.1
EP2003A	Grain Storage Silo	140	54.7
EP2004A	Grain Storage Silo	140	54.7
EP2005A	Corn Scalper	150	55.4
EP1200A through EP1200D	Hammer Mill Surge Bins	117.6, each	52.9, each
EP1205	Hammermill	117.6	52.9
EP1206	Hammermill	117.6	52.9
EP1207	Hammermill	117.6	52.9
EP1208	Hammermill	117.6	52.9
EP2250A	Pellet Mill*	30	40.0
EP2250B	Pellet Mill*	30	40.0
EP2252	DDGS Rail to Barge Unloading	400	66.3
EP2251	DDGS Barge Loadout	200	58.5
EP2201	DDGS Truck Loadout	200	58.5
EP2202A	DDGS Rail Loadout	200	58.5
EP2202B	DDGS Rail Loadout	200	58.5
EP2202C	DDGS Rail Loadout	200	58.5

The pounds per hour limitations were calculated using 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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and } P = \text{process weight rate in tons per hour}$$

or

Interpolation 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:

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

- (b) 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.1.6 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.1.7 Particulate Control

- (a) In order to comply with Conditions D.1.4 and D.1.5, each of the following emission units shall be controlled by the associated control device, as listed in the table below, when these units are in operation:

Unit Description	Control Device ID
Truck/Rail Receiving Pit and Grain Conveyor (EP1101 and EP1101C)	DC1101
Truck Receiving Pit and Grain Conveyor (EP1102 and EP1102C)	DC1102
Grain Storage Silo (EP2003A)	DC2003A DC2003B
Grain Storage Silo (EP2004A)	DC2004A DC2004B
Corn Scalper and Hammer Mill Surge Bins (EP2005A and EP1200A through EP1200D)	DC1200
Hammermill (EP1205)	DC1205
Hammermill (EP1206)	DC1206
Hammermill (EP1207)	DC1207
Hammermill (EP1208)	DC1208
Pellet Mill (EP2250A)	DC2250A
Pellet Mill (EP2250B)	DC2250B
DDGS Rail to Barge Unloading (EP2252)	S2252
DDGS Barge Loadout (EP2251)	DC2251
DDGS Truck Loadout (EP2201)	LS2201
DDGS Rail Loadout (EP2202A)	LS2202A
DDGS Rail Loadout (EP2202B)	LS2202B
DDGS Rail Loadout (EP2202C)	LS2202C

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

In order to demonstrate compliance with Conditions D.1.4 and D.1.5:

- (a) The Permittee shall perform PM testing for baghouses DC1101, DC1102, S2252, and high efficiency dustless spout filter system DC2251 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.
- (b) The Permittee shall perform PM testing for one of the baghouses DC1205, DC1206, DC1207 and DC1208, for one of the cyclones DC2250A and DC2250B, and one of the high efficiency dustless spout filter systems LS2201, LS2202A, LS2202B, and LS2202C 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 on a different baghouse 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) The Permittee shall perform PM2.5 and PM10 testing for baghouses DC1101, DC1102, S2252, and high efficiency dustless spout filter system DC2251 within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup or within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008, whichever occurs later. This testing shall be conducted 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 and PM2.5 includes filterable and condensable PM.
- (d) The Permittee shall perform PM2.5 and PM10 testing for one of the baghouses DC1205, DC1206, DC1207 and DC1208, for one of the cyclones DC2250A and DC2250B, and one of the and high efficiency dustless spout filter systems LS2201, LS2202A, LS2202B, and LS2202C within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup or within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008, whichever occurs later. This testing shall be conducted utilizing methods as approved by the Commissioner. These tests shall be repeated on a different baghouse 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 and PM2.5 includes filterable and condensable PM.

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

D.1.9 Visible Emissions Notations

- (a) Visible emission notations of the baghouse stack exhausts (stacks DC1101, DC1102, DC2003A, DC2003B, DC2004A, DC2004B, DC1200, DC1205, DC1206, DC1207, DC1208, DC2250A, DC2250B, S2252, DC2251, LS2201, LS2202A, LS2202B, and LS2202C) 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.1.10 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the grain receiving and handling operations (EP1101, EP1102, EP1101C, EP1102C, EP2003A, and EP2004A), the corn scalper and hammermill surge bins (EP2005A and EP1200A through EP1200D) and the hammermills (EP1205 through EP1208), the pellet mills (EP2250A and EP2250B), and the DDGS unloading and loadout operations (EP2252, EP2251, EP2201, and EP2202A through EP2202C), 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.
- (b) 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.1.11 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.1.12 Record Keeping Requirements

- (a) To document compliance with Condition D.1.9, the Permittee shall maintain records of daily visible emission notations of the baghouse stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (b) To document compliance with Condition D.1.10, the Permittee shall maintain daily records of pressure drop for baghouses during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading (e.g., the process did not operate that day).
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2 FACILITY OPERATION CONDITIONS

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

- (g) One (1) fermentation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, consisting of the following major equipment:
- (1) One (1) prefermenter tank, identified as T-1400, using a wet scrubber (S1400) and sodium bisulfite injection for VOC control, exhausting through stack S1400.
 - (2) Six (6) main fermenters and one (1) beer well, identified as T-1401 through T-1407, using a wet scrubber (S1401) and sodium bisulfite injection for VOC control, exhausting through stack S1401.
- Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.
- (h) One (1) distillation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, using a wet scrubber (S1504) and sodium bisulfite injection for VOC control, exhausting through stack S1504, and consisting of the following major equipment:
- (1) One (1) beer column identified as C-1510.
 - (2) One (1) stripping column identified as C-1520.
 - (3) One (1) rectifying column identified as C-1530.
 - (4) One (1) four-tower molecular sieve unit, with associated heat exchangers and pumps.
- Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

(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 there under, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

D.2.2 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.2.3 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.2.4 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following emission limits for the scrubbers (S1400, S1401, and S1504), which are used to control the emissions from the fermentation and distillation processes:

- (a) The emissions from the Pre-Fermentation Scrubber (S1400) shall not exceed the following:
 - (1) VOC emissions shall not exceed 2.45 lbs/hr.
 - (2) Acetaldehyde emissions shall not exceed 0.20 lbs/hr.
 - (3) Total HAP emissions shall not exceed 0.36 lbs/hr.
- (b) The emissions from the Fermentation Scrubber (S1401) shall not exceed the following:
 - (1) VOC emissions shall not exceed 6.69 lbs/hr.
 - (2) Acetaldehyde emissions shall not exceed 0.35 lbs/hr.
 - (3) Total HAP emissions shall not exceed 0.94 lbs/hr.
- (c) The emissions from the Distillation Scrubber (S1504) shall not exceed the following:
 - (1) VOC emissions shall not exceed 1.54 lbs/hr.
 - (2) Acetaldehyde emissions shall not exceed 0.40 lbs/hr.
 - (3) Total HAP emissions shall not exceed 0.47 lbs/hr.

Compliance with these limits, combined with the potential to emit VOC and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of VOC to less than 100 tons per 12 consecutive month period, any single HAP to less than ten (10) tons per 12 consecutive month period, and total HAPs to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

D.2.5 VOC Emissions [326 IAC 8-5-6]

Pursuant to 326 IAC 8-5-6 (Fuel Grade Ethanol Production), the Permittee shall comply with the following:

- (a) The VOC emissions from the fermentation and distillation processes shall be controlled by wet scrubbers, identified as S1400, S1401, and S1504.
- (b) The overall efficiency for each of the wet scrubbers S1400, S1401, and S1504 (including the capture efficiency and absorption efficiency), shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

D.2.6 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VVa]

Pursuant to 40 CFR 60, Subpart VVa, 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.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 VOC and HAP Control

- (a) In order to comply with Conditions D.2.4 and D.2.5, the scrubbers (S1400, S1401, and S1504) shall be in operation and control emissions from the fermentation and distillation processes at all times that these units are in operation.
- (b) In order to comply with Condition D.2.4, the sodium bisulfite injection systems shall be in operation and injecting sodium bisulfite into scrubbers S1400, S1401, and S1504 at all times that the fermentation and distillation processes are in operation.

D.2.9 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.2.4 and D.2.5, the Permittee shall perform VOC and acetaldehyde testing (including emission rate, overall destruction efficiency and overall capture efficiency), on the wet scrubber stacks (S1400, S1401, and S1504) within 60 days after achieving 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.

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

D.2.10 Visible Emissions Notations

- (a) Visible emission notations of the stack exhaust from the wet scrubber stacks (S1400, S1401, and S1504) 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) 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.2.11 Scrubber Pressure Drop and Flow Rate

The Permittee shall monitor and record the pressure drop and the flow rate of the scrubbers S1400, and S1401 when the fermentation process is in operation, and S1504 when the distillation process is in operation, at least once per day. When for any one reading, the pressure drop across a 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 a scrubber is less than the normal minimum of 8.0 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.2.12 Scrubber Detection

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.

D.2.13 Sodium Bisulfite Injection System

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the fermentation scrubbers (S1400 and S1401) and distillation scrubber (S1504) for measuring the sodium bisulfite injection rate. For the purpose of this condition, continuous means no less than once per fifteen (15) minutes. The output of this system shall be recorded as a one-hour average. From the date of issuance of this permit until the stack test results are available; the Permittee shall inject sodium bisulfite at the rates shown in the table below:

Scrubber ID	Sodium Bisulfite Injection Rate (milliliters per minute)
S1400	53.7
S1401	95.2
S1504	90.9

- (b) The Permittee shall determine the one-hour average injection rates from the most recent valid stack test that demonstrates compliance with limits in Condition D.2.4.

- (c) On and after the date the stack test results are available, the Permittee shall inject sodium bisulfite at or above the one-hour average injection rates as observed during the compliant stack test.

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

D.2.14 Record Keeping Requirements

- (a) To document compliance with Condition D.2.10, the Permittee shall maintain records of once per day visible emission notations of the stacks S1400, S1401, and S1504. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (b) To document compliance with Condition D.2.11, the Permittee shall maintain daily records of pressure drop and flow rate for the scrubbers identified as S1400, S1401, and S1504 during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading (e.g., the process did not operate that day).
- (c) To document compliance with Condition D.2.13, the Permittee shall maintain records of the one-hour average sodium bisulfite injection rates of scrubbers S1400, S1401, and S1504.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS – Boilers

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

- (i) Four (4) natural gas fired boilers, identified as BL5001, BL5002, BL5003, and BL5004, approved for construction in 2009, with a maximum heat input rate of 92.4 MMBtu/hr, each, and exhausting through stacks BL5001, BL5002, BL5003, and BL5004, respectively.

Under NSPS, Subpart Dc, the boilers are considered affected facilities.

(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 there under, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

D.3.2 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.3.3 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.3.4 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) The boilers shall only burn natural gas.
- (b) The input of natural gas to the boilers shall be limited to 3302.4 MMCF per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) NO_x emissions shall not exceed 19.6 pounds per MMCF.
- (d) CO emissions shall not exceed 13.7 pounds per MMCF.
- (e) PM emissions shall not exceed 7.6 pounds per MMCF.

- (f) PM10 emissions shall not exceed 7.6 pounds per MMCF.
- (g) PM2.5 emissions shall not exceed 7.6 pounds per MMCF.

Compliance with these limits, combined with the potential to emit NO_x, CO, PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of NO_x, CO, PM10, and PM2.5 to less than 100 tons per 12 consecutive month period, each, and PM to less than 250 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.3.5 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission Limitations for facilities specified in 326 IAC 6-2-1(d)), the PM emissions from the boilers shall not exceed 0.234 pounds per million Btu heat input (lb/MMBtu). This limitation was calculated using the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} \quad \text{where } Q = \text{total source heat input capacity (MMBtu/hr)}$$

For these units, Q = 369.6 MMBtu/hr.

D.3.6 New Source Performance Standards for Industrial - Commercial - Institutional Steam Generating Units [326 IAC 12][40 CFR 60, Subpart Dc]

Pursuant to 40 CFR 60, Subpart Dc, the Permittee shall comply with the requirements of Section E.2 for the boilers.

D.3.7 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 their control devices.

Compliance Determination Requirements

D.3.8 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.3.4, the Permittee shall perform NO_x and CO testing for one of the boilers (BL5001, BL5002, BL5003, and BL5004) within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. These tests shall be repeated on a different boiler 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.

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

D.3.9 Record Keeping Requirements

- (a) To document compliance with Condition D.3.4, the Permittee shall maintain daily records of the amount of natural gas combusted in the boilers.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.10 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.4 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.4 FACILITY OPERATION CONDITIONS – Dryer and Cooling System

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

- (j) Two (2) natural gas fired Swiss Combi “Eco-Dry” Dryer Systems, identified as D1802A and D1802B, approved for construction in 2009, with a maximum heat input rate of 76.7MMBtu/hr and a design throughput rate of 20 tons per hour of DDGS each, with emissions exhausting through stacks S1802A and S1802B.

Note: The basis of the Swiss Combi Dryer System is an indirect heat drying process using a closed steam loop with thermal oxidation. The DDGS cooler is also integrated into the Eco-Dry system.

Under NSPS, Subpart Dc, the Swiss Combi Dryer Systems are considered affected facilities.

(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.

Effective Date of the Permit

D.4.2 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.4.3 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.4.4 FESOP and PSD Minor Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following emission limits for the Swiss Combi Dryer Systems (D1802A and D1802B) which are used to control the emissions from DDGS drying and cooling:

- (a) PM emissions shall not exceed 3.71 lbs/hr for each stack (S1802A and S1802B).
- (b) PM10 emissions shall not exceed 3.71 lbs/hr for each stack (S1802A and S1802B).

- (c) PM2.5 emissions shall not exceed 3.71 lbs/hr for each stack (S1802A and S1802B).
- (d) VOC emissions shall not exceed 1.97 lbs/hr for each stack (S1802A and S1802B).
- (e) CO emissions shall not exceed 7.97 lbs/hr for each stack (S1802A and S1802B).
- (f) SO2 emissions shall not exceed 0.407 lbs/hr for each stack (S1802A and S1802B).
- (g) NOx emissions shall not exceed 6.52 lbs/hr for each stack (S1802A and S1802B).
- (h) Acetaldehyde emissions shall not exceed 0.65 lbs/hr for each stack (S1802A and S1802B).
- (i) Total HAP emissions shall not exceed 1.35 lbs/hr for each stack (S1802A and S1802B).

Compliance with these limits, combined with the potential to emit PM, PM10, PM2.5, SO2, NOx, VOC, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per consecutive month period, PM10, PM2.5, SO2, NOx, and VOC to less than 100 tons per 12 consecutive month period, each, any single HAP to less than ten (10) tons per 12 consecutive month period, and total HAPs to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

D.4.5 VOC Emissions [326 IAC 8-5-6]

Pursuant to 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills), the Permittee shall comply with the following:

- (a) The VOC emissions from the Swiss Combi Dryer Systems (D1802A and D1802B) shall be controlled by thermal oxidation.
- (b) The overall efficiency for the Swiss Combi Dryer Systems, identified as D1802A and D1802B, (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

D.4.6 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:

Emission Unit	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
D1802A	20.1	30.5
D1802B	20.1	30.5

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

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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.4.7 New Source Performance Standards for Industrial - Commercial - Institutional Steam Generating Units [326 IAC 12][40 CFR 60, Subpart Dc]

Pursuant to 40 CFR 60, Subpart Dc, the Permittee shall comply with the requirements of Section E.2 for the Swiss Combi Dryer Systems.

D.4.8 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 this facility and any control device.

Compliance Determination Requirements

D.4.9 Particulate Control

In order to comply with Conditions D.4.4 and D.4.5, the Swiss Combi Dryer Systems (D1802A and D1802B) shall be in operation and control emissions from the DDGS dryers and coolers at all times that these units are in operation.

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

- (a) In order to demonstrate compliance with Conditions D.4.4(a) and (d) through (i), D.4.5, and D.4.6, the Permittee shall perform PM, VOC (including emission rate, destruction efficiency, and capture efficiency), NO_x, CO, and Acetaldehyde testing for each of the thermal oxidizer stacks (S1802A and S1802B) 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.
- (b) In order to demonstrate compliance with Conditions D.4.4(b) and (c), the Permittee shall perform PM_{2.5} and PM₁₀ testing for each of the thermal oxidizer stacks (S1802A and S1802B) within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup or within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM_{2.5}), signed on May 8th, 2008, whichever is later. This testing shall be conducted 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 and PM_{2.5} includes filterable and condensable PM.

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

D.4.11 Visible Emissions Notations

- (a) Visible emission notations of the stack exhaust from the thermal oxidizers (stacks S1802A and S1802B) 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.4.12 Thermal Oxidation Temperature

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the Swiss Combi Dryer Systems (D1802A and D1802B) for measuring operating temperature. For the purpose of this condition, continuous means no less than once per fifteen (15) minutes. 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 oxidizers 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.4.4 and D.4.5.
- (c) On and after the date the 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.4.13 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 Conditions D.4.4 and D.4.5.
- (b) The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizers are in operation. On and after the date the 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.4.14 Record Keeping Requirements

- (a) To document compliance with Condition D.4.11, the Permittee shall maintain records of once per day visible emission notations of stacks S1802A and S1802B. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (b) To document compliance with Condition D.4.12, the Permittee shall maintain continuous temperature records for the thermal oxidizers and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test. The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of temperature reading (e.g., the process did not operate that day).
- (c) To document compliance with Condition D.4.13, the Permittee shall maintain daily records of the duct pressure or fan amperage for the thermal oxidizers. The Permittee shall include in its daily record when a pressure or fan amperage reading is not taken and the reason for the lack of pressure or fan amperage reading (e.g., the process did not operate that day).

- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.5 FACILITY OPERATION CONDITIONS – Ethanol Loading Racks

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

- (k) One (1) ethanol and E85 loading rack for trucks and railcars, identified as EP2101, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute for trucks and railcars, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101, and exhausting through stack S2101.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (l) One (1) ethanol and E85 loading rack for barges, identified as EP2501, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501, and exhausting through stack S2501.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

(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.5.1 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.

Effective Date of the Permit

D.5.2 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.5.3 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.5.4 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following emission limits for the ethanol loading racks:

- (a) The combined total denatured ethanol and E85 load-out rate shall not exceed 135,714,290 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The VOC emissions from S2101 shall not exceed 0.0835 lbs/kgal.
- (c) The VOC emissions from S2501 shall not exceed 0.0835 lbs/kgal.
- (d) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system identified as S2101 to control the emissions from ethanol loading to trucks and railcars (EP2101).
- (e) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system identified as S2501 to control the emissions from ethanol loading to barges (EP2501).
- (f) The ethanol loading racks shall utilize submerged loading methods.
- (g) The railcars, trucks, and barges shall not use vapor balance services.

Compliance with these limits, combined with the potential to emit VOC from all other emission units at this source, shall limit the source-wide total potential to emit of VOC to less than 100 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

D.5.5 VOC Emissions [Commissioner's Order and Variance]

Pursuant to Commissioner's Order #2009-OAQ-01 and Variance issued on April 29, 2009, in lieu of the requirement to control VOC emissions from the ethanol loading racks as specified in 326 IAC 8-5-6, the Permittee shall comply with the following:

- (a) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101 to control the emissions from ethanol loading to trucks and railcars (EP2101).
- (b) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501 to control the emissions from ethanol loading to barges (EP2501).
- (c) The overall efficiency for each of the carbon adsorption/absorption hydrocarbon vapor recovery systems S2101 and S2501, (including the capture efficiency and adsorption/absorption efficiency) shall be at least 98%.

- (d) The carbon adsorption/absorption hydrocarbon vapor recovery systems (S2101 and S2501) shall be in operation and control emissions from the ethanol loading systems (EP2101 and EP2501) at all times when these units are in operation.
- (e) The Permittee shall determine initial compliance with the control efficiency requirements within sixty (60) days after achieving maximum production levels but no later than one hundred and eighty (180) days after startup.
- (f) The Permittee shall monitor and record the carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall achieve 3 inches Hg during the regeneration cycle of the carbon beds.
- (g) The Permittee shall monitor and record the high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall be maintained at a temperature below 200°F.
- (h) The Permittee shall maintain records of the carbon bed regeneration pressure and high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501).

D.5.6 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VVa]

Pursuant to 40 CFR 60, Subpart VVa, the Permittee shall comply with the requirements 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.5.7 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.5.8 VOC Control

In order to comply with Conditions D.5.4 and D.5.5, carbon adsorption/absorption vapor recovery systems (S2101 and S2501) shall be in operation and control emissions from the ethanol loading system at all times when these units are in operation.

D.5.9 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.5.4 and D.5.5, the Permittee shall perform VOC (including emission rate, adsorption/adsorption efficiency, and capture efficiency) testing for the carbon adsorption/absorption vapor recovery systems (S2101 and S2501), 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.5.10 Carbon Bed Regeneration Pressure

The Permittee shall monitor and record the carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall achieve 3 inches Hg during the regeneration cycle of the carbon beds. When for any one reading, the carbon bed regeneration pressure is outside the above mentioned range 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 instruments used for determining the carbon bed regeneration 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.5.11 High Adsorber Bed Temperature

The Permittee shall monitor and record the high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall be maintained at a temperature below 200°F. When for any one reading, the high adsorber bed temperature is outside the above mentioned range 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 temperature 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 instruments used for determining the high adsorber bed temperature 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.

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

D.5.12 Record Keeping Requirements

- (a) To document compliance with Condition D.5.4(a), the Permittee shall maintain monthly records of the combined total amount of denatured ethanol and E85 loaded out from the ethanol loading racks.
- (b) To document compliance with Condition D.5.10, the Permittee shall maintain records of the carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501). The Permittee shall include in its daily record when a pressure reading is not taken and the reason for the lack of pressure reading (e.g., the process did not operate that day).
- (c) To document compliance with Condition D.5.11, the Permittee shall maintain records of the high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501). The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of temperature reading (e.g., the process did not operate that day).

- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.5.13 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.5.4(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 – Diesel Generator

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

- (a) One (1) diesel fired stationary fire pump, identified as P7075B, approved for construction in 2009, with a maximum power output rate of 460 horsepower, and exhausting through stack P7075B. [326 IAC 2-8-4]

Under NSPS, Subpart IIII, the diesel fire pump is considered a new certified National Fire Protection Association (NFPA) fire pump.

- (b) One (1) emergency diesel generator, identified as GN7000, approved for construction in 2009, with a maximum power output rate of 1,495 horsepower, and exhausting through stack GN7000.

Under NSPS, Subpart IIII, the emergency diesel generator is considered a new stationary compression ignition internal combustion engine.

(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 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]

- (a) Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the operating hours for the diesel fired stationary fire pump, identified as P7075B, shall not exceed 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the operating hours for the emergency diesel generator, identified as GN7000, shall not exceed 300 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit NO_x and CO from all other emission units at this source, shall limit the source-wide total potential to emit of NO_x and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

D.6.2 Internal Combustion Engine [326 IAC 12] [40 CFR 60, Subpart IIII]

Pursuant to 40 CFR 60, Subpart IIII, the Permittee shall comply with the requirements of Section E.4 for the fire pump, identified as P7075B and the emergency diesel generator, identified as GN7000.

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

D.6.3 Record Keeping Requirements

- (a) To document compliance with Condition D.6.1(a), the Permittee shall maintain monthly records of the operating hours for P7075B.
- (b) To document compliance with Condition D.6.1(b), the Permittee shall maintain monthly records of the operating hours for GN7000.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.6.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.6.1 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.7

FACILITY OPERATION CONDITIONS – Storage Tanks

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

Insignificant Activities

- (i) Other emission units, not regulated by a NESHAP, with PM₁₀, NO_x, 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:
- (1) One (1) denaturant storage tank, identified as T2104, with a maximum capacity of 128,800 gallons equipped with an internal floating roof for VOC emissions control. [326 IAC 8-4-3] [40 CFR 60, Subpart Kb]
 - (2) Three (3) tanks for storage of denatured fuel ethanol and/or E-85, identified as T2102, T2103, and T2105 each with a maximum capacity of 1,015,164 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]
 - (4) Two (2) fixed-roof anhydrous ethanol storage tanks (shift tanks), identified as T2110 and T2111, each with a maximum capacity of 250,000 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]

Under NSPS, Subpart Kb, storage tanks T2104, T2102, T2103, T105, T2110, and T2111 are considered volatile organic liquid storage vessels.

(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.7.1 Volatile Organic Compounds (VOC) [326 IAC 8-4-3]

- (a) Pursuant to 326 IAC 8-4-3(b)(1)(B), the denaturant storage tank (T2104) shall be maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials.
- (b) Pursuant to 326 IAC 8-4-3(b)(1)(C), all openings, except stub drains, are equipped with covers, lids, or seals such that:
 - (1) The cover, lid or seal in the closed portion at all times except when in actual use;
 - (2) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;
 - (3) Rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

- (c) Pursuant to 326 IAC 8-4-3(d), the Permittee shall maintain the following records for a period of two (2) years for the denaturant storage tank (T2104):
- (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 vessel.

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

D.7.2 Storage Tanks [326 IAC 12][40 CFR 60, Subpart Kb]

Pursuant to 40 CFR 60, Subpart Kb, the Permittee shall comply with the requirements of Section E.3 for T2102, T2103, T2104, T2105, T2110, and T2111.

D.7.3 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 T2104.

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

D.7.4 Record Keeping Requirements

- (a) To document compliance with Condition D.7.1, the Permittee shall maintain the following records for T2104:
- (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) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION E.1

FACILITY OPERATION CONDITIONS

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

- (g) One (1) fermentation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, consisting of the following major equipment:
- (1) One (1) prefermenter tank, identified as T-1400, using a wet scrubber (S1400) and sodium bisulfite injection for VOC control, exhausting through stack S1400.

- (2) Six (6) main fermenters and one (1) beer well, identified as T-1401 through T-1407, using a wet scrubber (S1401), and sodium bisulfite injection for VOC control, exhausting through stack S1401.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (h) One (1) distillation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, using a wet scrubber, (S1504) and sodium bisulfite injection for VOC control, exhausting through stack S1504, and consisting of the following major equipment:

- (1) One (1) beer column identified as C-1510.
- (2) One (1) stripping column identified as C-1520.
- (3) One (1) rectifying column identified as C-1530.
- (4) One (1) four-tower molecular sieve unit, with associated heat exchangers and pumps.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (k) One (1) ethanol and E85 loading rack for trucks and railcars, identified as EP2101, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute for trucks and railcars, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101, and exhausting through stack S2101.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (l) One (1) ethanol and E85 loading rack for barges, identified as EP2501, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501, and exhausting through stack S2501.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

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

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart VVa.
- (b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.1.2 Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 [40 CFR Part 60, Subpart VVa] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart VVa (included as Attachment B of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart VVa:

- (1) 40 CFR 60.480a
- (2) 40 CFR 60.481a
- (3) 40 CFR 60.482-1a
- (4) 40 CFR 60.482-2a
- (5) 40 CFR 60.482-3a
- (6) 40 CFR 60.482-4a
- (7) 40 CFR 60.482-5a
- (8) 40 CFR 60.482-6a
- (9) 40 CFR 60.482-7a
- (10) 40 CFR 60.482-8a
- (11) 40 CFR 60.482-9a
- (12) 40 CFR 60.482-10a
- (13) 40 CFR 60.482-11a
- (14) 40 CFR 60.483-1a
- (15) 40 CFR 60.483-2a
- (16) 40 CFR 60.485a
- (17) 40 CFR 60.486a
- (18) 40 CFR 60.487a
- (19) 40 CFR 60.488a
- (20) 40 CFR 60.489a

SECTION E.2

FACILITY OPERATION CONDITIONS

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

- (i) Four (4) natural gas fired boilers, identified as BL5001, BL5002, BL5003, and BL5004, approved for construction in 2009, with a maximum heat input rate of 92.4 MMBtu/hr, each, and exhausting through stacks BL5001, BL5002, BL5003, and BL5004, respectively.

Under NSPS, Subpart Dc, the boilers are considered affected facilities.

- (j) Two (2) natural gas fired Swiss Combi “Eco-Dry” Dryer Systems, identified as D1802A and D1802B, approved for construction in 2009, with a maximum heat input rate of 76.7MMBtu/hr and a design throughput rate of 20 tons per hour of DDGS each, with emissions exhausting through stacks S1802A and S1802B.

Note: The basis of the Swiss Combi Dryer System is an indirect heat drying process using a closed steam loop with thermal oxidation. The DDGS cooler is also integrated into the Eco-Dry system.

Under NSPS, Subpart Dc, the Swiss Combi Dryer Systems are considered affected facilities.

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

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

E.2.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1 for boilers BL5001, BL5002, BL5003, BL5004, and the Swiss Combi Dryer Systems (D1802A and D1802B), except as otherwise specified in 40 CFR Part 60, Subpart Dc.
- (b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.2.2 New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (included as Attachment C of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart Dc:

- (1) 40 CFR 60.40c
(2) 40 CFR 60.41c
(3) 40 CFR 60.48c (a)
(4) 40 CFR 60.48c (g)(2)
(5) 40 CFR 60.48c (i)
(4) 40 CFR 60.48c (j)

SECTION E.3

FACILITY OPERATION CONDITIONS

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

(i) Other emission units, not regulated by a NESHAP, with PM₁₀, NO_x, 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:

- (1) One (1) denaturant storage tank, identified as T2104, with a maximum capacity of 128,800 gallons equipped with an internal floating roof for VOC emissions control. [326 IAC 8-4-3] [40 CFR 60, Subpart Kb]
- (2) Three (3) tanks for storage of denatured fuel ethanol and/or E-85, identified as T2102, T2103, and T2105 each with a maximum capacity of 1,015,164 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]
- (4) Two (2) fixed-roof anhydrous ethanol storage tanks (shift tanks), identified as T2110 and T2111, each with a maximum capacity of 250,000 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]

Under NSPS, Subpart Kb, storage tanks T2104, T2102, T2103, T105, T2110, and T2111 are considered volatile organic liquid storage vessels.

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

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

E.3.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1 for tanks T2102, T2103, T2104, T2105, T2110, and T2111 except as otherwise specified in 40 CFR Part 60, Subpart Kb.
- (b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.3.2 Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) [40 CFR Part 60, Subpart Kb] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart Kb, the Permittee shall comply with the provisions of Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels), which are incorporated by reference as 326 IAC 12, for tanks T2102, T2103, T2104, T2105, T2110, and T2111 as specified as follows:

- (1) 40 CFR 60.110b
- (2) 40 CFR 60.111b
- (3) 40 CFR 60.112b(a)(1)
- (4) 40 CFR 60.113b(a)
- (5) 40 CFR 60.115b(a)
- (6) 40 CFR 60.116b(a – e)
- (7) 40 CFR 60.117b

SECTION E.4

FACILITY OPERATION CONDITIONS

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

Insignificant Activities

- (a) One (1) diesel fired stationary fire pump, identified as P7075B, approved for construction in 2009, with a maximum power output rate of 460 horsepower, and exhausting through stack P7075B. [326 IAC 2-8-4]

Under NSPS, Subpart IIII, the diesel fire pump is considered a new certified National Fire Protection Association (NFPA) fire pump.

- (b) One (1) emergency diesel generator, identified as GN7000, approved for construction in 2009, with a maximum power output rate of 1,495 horsepower, and exhausting through stack GN7000.

Under NSPS, Subpart IIII, the emergency diesel generator is considered a new stationary compression ignition internal combustion engine.

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

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

E.4.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

- (a) The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the fire pump, identified as P7075B and the diesel generator, identified as GN7000, except when otherwise specified in 40 CFR 60, Subpart IIII.

- (b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.4.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart IIII] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart IIII, the Permittee shall comply with the provisions of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, which are incorporated by reference as 326 IAC 12, for the fire pump, identified as P7075B and the diesel generator, identified as GN7000, as specified as follows:

- (1) 40 CFR 60.4200(a)(2)
- (2) 40 CFR 60.4200(a)(3)
- (3) 40 CFR 60.4200(b)
- (4) 40 CFR 60.4205(b)
- (5) 40 CFR 60.4206
- (6) 40 CFR 60.4207(a)
- (7) 40 CFR 60.4207(b)

- (8) 40 CFR 60.4207(c)
- (9) 40 CFR 60.4208
- (10) 40 CFR 60.4209(a)
- (11) 40 CFR 60.4211(a)
- (12) 40 CFR 60.4211(c)
- (13) 40 CFR 60.4211(e)
- (14) 40 CFR 60.4212
- (15) 40 CFR 60.4214(b)
- (16) 40 CFR 60.4218
- (17) 40 CFR 60.4219
- (18) Tables 5 and

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Abengoa Bioenergy of Indiana
Source Address: 8999 West Franklin Rd, Mt. Vernon, Indiana 47620
Mailing Address: 16150 Main Circle Drive, Suite 300, Chesterfield, Missouri 63017
FESOP Permit No.: F129-23484-00050

**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 AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

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

Source Name: Abengoa Bioenergy of Indiana
Source Address: 8999 West Franklin Rd, Mt. Vernon, Indiana 47620
Mailing Address: 16150 Main Circle Drive, Suite 300, Chesterfield, Missouri 63017
FESOP Permit No.: F129-23484-00050

This form consists of 2 pages

Page 1 of 2

- | |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), 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, PM-10, SO ₂ , VOC, NO _x , 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 AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Abengoa Bioenergy of Indiana
Source Address: 8999 West Franklin Rd, Mt. Vernon, Indiana 47620
Mailing Address: 16150 Main Circle Drive, Suite 300, Chesterfield, Missouri 63017
FESOP Permit No.: 129-23484-00050
Facility: Ethanol Loading Racks
Parameter: Combined total denatured ethanol and E85 load-out
Limit: 135,714,290 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 AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Abengoa Bioenergy of Indiana
Source Address: 8999 West Franklin Rd, Mt. Vernon, Indiana 47620
Mailing Address: 16150 Main Circle Drive, Suite 300, Chesterfield, Missouri 63017
FESOP Permit No.: F129-23484-00050
Facility: BL5001, BL5002, BL5003, and BL5004
Parameter: Natural Gas Usage
Limit: 3302.4 MMCF 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 AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Abengoa Bioenergy of Indiana
Source Address: 8999 West Franklin Rd, Mt. Vernon, Indiana 47620
Mailing Address: 16150 Main Circle Drive, Suite 300, Chesterfield, Missouri 63017
FESOP Permit No.: F129-23484-00050
Facility: Diesel fired stationary fire pump
Parameter: Operating hours
Limit: 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 AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Abengoa Bioenergy of Indiana
Source Address: 8999 West Franklin Rd, Mt. Vernon, Indiana 47620
Mailing Address: 16150 Main Circle Drive, Suite 300, Chesterfield, Missouri 63017
FESOP Permit No.: F129-23484-00050
Facility: Emergency diesel generator
Parameter: Operating hours
Limit: 300 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 AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Abengoa Bioenergy of Indiana
Source Address: 8999 West Franklin Rd, Mt. Vernon, Indiana 47620
Mailing Address: 16150 Main Circle Drive, Suite 300, Chesterfield, Missouri 63017
FESOP Permit No.: F129-23484-00050

Months: _____ **to** _____ **Year:** _____

<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 "No deviations occurred this reporting period".</p>	
<p><input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.</p>	
<p><input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Mail to: Permit Administration & Support Section
Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Abengoa Bioenergy of Indiana
8999 West Franklin Rd
Mt. Vernon, Indiana 47620

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____
(Title) (Company Name)
3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____
(Company Name)
4. I hereby certify that Abengoa Bioenergy of Indiana 8999 West Franklin Rd, Mt. Vernon, Indiana 47620, completed construction of the ethanol production plant on _____ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on August 9, 2006, and as permitted pursuant to New Source Construction Permit and Federally Enforceable State Operating Permit No. F129-23484-00050, Plant ID No. 129-00050 issued on January 25, 2007 or per the most recent version of the permit.
5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature _____
Date _____

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana
on this _____ day of _____, 20 _____. My Commission expires: _____.

Signature _____
Name _____ (typed or printed)

**Indiana Department of Environmental Management
Office of Air Quality**

Attachment A

Fugitive Dust Control Plan

**Abengoa Bioenergy of Indiana
West Franklin, Posey County, Indiana**

Abengoa Bioenergy of Indiana (ABI) is proposing to construct a new ethanol production facility approximately 1.0 mile northwest of the City of West Franklin in Posey County, Indiana. The plant will be located in the northeast quarter of Section 23, Township 7 South, Range 13 West. ABI's capacity will be 100 million gallons per year as denatured fuel-grade ethanol (95% ethanol with 5% denaturant). Some or all of the ethanol will be marketed as E85, which is a blend of up to 30% gasoline. As E85, the maximum facility production rate will be approximately 135.7 million gallons per year.

Pursuant to Title 326 of the Indiana Administrative Code (IAC), Article 6, Rule 5, this Fugitive Dust Control Plan addresses particulate matter (PM) fugitive emission sources and summarizes the proposed control measures for each source. This Fugitive Dust Control Plan is considered a supplemental document to the Air Quality Construction Permit Application, submitted in December 2008, to modify the existing Federally Enforceable State Operating Permit issued in 2006.

Emission Sources

There will be three main potential sources of fugitive PM emissions associated with the operation of the ethanol plant. Emission sources will include the following:

- Grain Receiving;
- DDGS loading; and
- Truck traffic on paved haul roads and maintenance traffic on unpaved roads.

Grain Receiving

Unloading of grain will be conducted within a building, which is enclosed except for the entry/exit doors for the truck and/or railcar. PM emissions from the grain receiving and loading areas will be controlled by separate high efficiency fabric filters.

During grain receiving, most emissions will be captured by the baghouse dust collection systems. However, a small fraction of these emissions may not be captured by the baghouse. Any fugitive emissions from grain receiving will be minimized by using a "choked flow" operation, whereby the grain receiving rate is controlled. As the truck and/or railcar are emptied, the grain forms a small pile on the receiving grate. By controlling the grain receiving rate, the air displacement in the receiving pit is minimized, which helps to trap emissions within the pit where they can be captured by the baghouse dust collection systems.

Additional control is provided by locating the receiving and loading operations within a building, providing an enclosed space except for the truck entry/exit doors. Most of the fugitive emissions which occur within the building are expected to be retained in the building rather than escape to the ambient air.

DDGS Loading

DDGS loading will be conducted within a covered, sheltered area. This area is not an enclosed building however, any PM emissions generated from DDGS loading will be controlled by separate high efficiency dustless spouts. These spouts are lowered within the truck or railcar and hover slightly above the loaded product. As the DDGS fills the compartment, the spout slowly rises up creating a vacuum on

the emissions. This type of system does not generate fugitive emissions since there is no gap from the drop location of DDGS into the compartment.

Truck Traffic

The truck traffic associated with grain receiving, DDGS loading, and liquid product (denaturant and denatured ethanol) will be on paved haul roads within the facility. Paved haul roads produce significant reduction in emissions compared to unpaved roads. Fugitive emissions from paved roads will be further controlled by limiting maximum vehicle speeds within the facility to 10 miles per hour. Lower vehicle speeds minimize the turbulence generated by the passing traffic and reduce the reentrainment of silt particles that may be on the road surface. Roadways will also be periodically cleaned using a mechanical road sweeper and any spills will be cleaned up as soon as possible.

There will also be minor traffic associated with maintenance activities (expected once per week) for the rail spur, barge loadout, and well areas. These maintenance roads are unpaved and only used for weekly checks and maintenance. Any fugitive emissions generated from the unpaved roads will be minimal since they will be driven on once a week at a 10 mile per hour or less speed limit.

Implementation Schedule

This Fugitive Dust Control Plan will be implemented once construction of the facility is complete and operations commence. The plan will be kept onsite and updated as necessary to minimize fugitive PM emissions from ABI's plant operations.

**Indiana Department of Environmental Management
Office of Air Quality**

Attachment B

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

[Browse Previous](#) | [Browse Next](#)

Subpart VVa—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

Source: 72 FR 64883, Nov. 16, 2007, unless otherwise noted.

§ 60.480a Applicability and designation of affected facility.

- (a)(1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.
- (2) The group of all equipment (defined in §60.481a) within a process unit is an affected facility.
- (b) Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after November 7, 2006, shall be subject to the requirements of this subpart.
- (c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.
- (d)(1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the owner or operator shall maintain records as required in §60.486a(i).
- (2) Any affected facility that has the design capacity to produce less than 1,000 Mg/yr (1,102 ton/yr) of a chemical listed in §60.489 is exempt from §§60.482–1a through 60.482–11a.
- (3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from §§60.482–1a through 60.482–11a.
- (4) Any affected facility that produces beverage alcohol is exempt from §§60.482–1a through 60.482–11a.
- (5) Any affected facility that has no equipment in volatile organic compounds (VOC) service is exempt from §§60.482–1a through 60.482–11a.
- (e) *Alternative means of compliance* —(1) *Option to comply with part 65.* (i) Owners or operators may choose to comply with the provisions of 40 CFR part 65, subpart F, to satisfy the requirements of §§60.482–1a through 60.487a for an affected facility. When choosing to comply with 40 CFR part 65, subpart F, the requirements of §§60.485a(d), (e), and (f), and 60.486a(i) and (j) still apply. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.
- (ii) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart F must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(1)(ii) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 65, subpart F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart F, must comply with 40 CFR part 65, subpart A.

(2) *Part 63, subpart H.* (i) Owners or operators may choose to comply with the provisions of 40 CFR part 63, subpart H, to satisfy the requirements of §§60.482–1a through 60.487a for an affected facility. When choosing to comply with 40 CFR part 63, subpart H, the requirements of §60.485a(d), (e), and (f), and §60.486a(i) and (j) still apply.

(ii) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 63, subpart H must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2)(ii) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 63, subpart H, except that provisions required to be met prior to implementing 40 CFR part 63 still apply. Owners and operators who choose to comply with 40 CFR part 63, subpart H, must comply with 40 CFR part 63, subpart A.

(f) *Stay of standards.* (1) Owners or operators that start a new, reconstructed, or modified affected source prior to November 16, 2007 are not required to comply with the requirements in this paragraph until EPA takes final action to require compliance and publishes a document in the Federal Register.

(i) The definition of “capital expenditure” in §60.481a of this subpart. While the definition of “capital expenditure” is stayed, owners or operators should use the definition found in §60.481 of subpart VV of this part.

(ii) [Reserved]

(2) Owners or operators are not required to comply with the requirements in this paragraph until EPA takes final action to require compliance and publishes a document in the Federal Register.

(i) The definition of “process unit” in §60.481a of this subpart. While the definition of “process unit” is stayed, owners or operators should use the following definition:

Process unit means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in §60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

(ii) The method of allocation of shared storage vessels in §60.482–1a(g) of this subpart.

(iii) The standards for connectors in gas/vapor service and in light liquid service in §60.482–11a of this subpart.

[72 FR 64883, Nov. 16, 2007, as amended at 73 FR 31375, June 2, 2008]

§ 60.481a Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act (CAA) or in subpart A of part 60, and the following terms shall have the specific meanings given them.

Capital expenditure means, in addition to the definition in 40 CFR 60.2, an expenditure for a physical or operational change to an existing facility that:

(a) Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation: $P = R \times A$, where:

(1) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, divided by 100 as reflected by the following equation:

$$A = Y \times (B \div 100);$$

(2) The percent Y is determined from the following equation: $Y = 1.0 - 0.575 \log X$, where X is 2006 minus the year of construction; and

(3) The applicable basic annual asset guideline repair allowance, B, is selected from the following table consistent with the applicable subpart:

Table for Determining Applicable Value for B

Subpart applicable to facility	Value of B to be used in equation
VVa	12.5
GGGa	7.0

Closed-loop system means an enclosed system that returns process fluid to the process.

Closed-purge system means a system or combination of systems and portable containers to capture purged liquids. Containers for purged liquids must be covered or closed when not being filled or emptied.

Closed vent system means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

Connector means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment or that close an opening in a pipe that could be connected to another pipe. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation.

Control device means an enclosed combustion device, vapor recovery system, or flare.

Distance piece means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Duct work means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Equipment means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart.

First attempt at repair means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, P.O. Box 2300, Fairfield, NJ 07007-2300).

In gas/vapor service means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

In heavy liquid service means that the piece of equipment is not in gas/vapor service or in light liquid service.

In light liquid service means that the piece of equipment contains a liquid that meets the conditions specified in §60.485a(e).

In-situ sampling systems means nonextractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa) (0.7 psia) below ambient pressure.

In VOC service means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of §60.485a(d) specify how to determine that a piece of equipment is not in VOC service.)

Initial calibration value means the concentration measured during the initial calibration at the beginning of each day required in §60.485a(b)(1), or the most recent calibration if the instrument is recalibrated during the day (i.e., the calibration is adjusted) after a calibration drift assessment.

Liquids dripping means any visible leakage from the seal including spraying, misting, clouding, and ice formation.

Open-ended valve or line means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

Pressure release means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

Process improvement means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.

Process unit means the components assembled and connected by pipes or ducts to process raw materials and to produce, as intermediate or final products, one or more of the chemicals listed in §60.489. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. For the purpose of this subpart, process unit includes any feed, intermediate and final product storage vessels (except as specified in §60.482-1a(g)), product transfer racks, and connected ducts and piping. A process unit includes all equipment as defined in this subpart.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be accomplished. The following are not considered process unit shutdowns:

- (1) An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours.
- (2) An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown.
- (3) The use of spare equipment and technically feasible bypassing of equipment without stopping production.

Quarter means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.

Repaired means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as defined in the applicable sections of this subpart and, except for leaks identified in accordance with §§60.482–2a(b)(2)(ii) and (d)(6)(ii) and (d)(6)(iii), 60.482–3a(f), and 60.482–10a(f)(1)(ii), is re-monitored as specified in §60.485a(b) to verify that emissions from the equipment are below the applicable leak definition.

Replacement cost means the capital needed to purchase all the depreciable components in a facility.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Sensor means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

Storage vessel means a tank or other vessel that is used to store organic liquids that are used in the process as raw material feedstocks, produced as intermediates or final products, or generated as wastes. Storage vessel does not include vessels permanently attached to motor vehicles, such as trucks, railcars, barges or ships.

Synthetic organic chemicals manufacturing industry means the industry that produces, as intermediates or final products, one or more of the chemicals listed in §60.489.

Transfer rack means the collection of loading arms and loading hoses, at a single loading rack, that are used to fill tank trucks and/or railcars with organic liquids.

Volatile organic compounds or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in §60.2 Definitions.

Effective Date Note: At 73 FR 31376, June 2, 2008, in §60.481a, the definitions of “capital expenditure” and “process unit” were stayed until further notice.

§ 60.482-1a Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§60.482–1a through 60.482–10a or §60.480a(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§60.482–1a to 60.482–10a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485a.

(c)(1) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482–2a, 60.482–3a, 60.482–5a, 60.482–6a, 60.482–7a, 60.482–8a, and 60.482–10a as provided in §60.484a.

(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§60.482–2a, 60.482–3a, 60.482–5a, 60.482–6a, 60.482–7a, 60.482–8a, or 60.482–10a, an owner or operator shall comply with the requirements of that determination.

(d) Equipment that is in vacuum service is excluded from the requirements of §§60.482–2a through 60.482–10a if it is identified as required in §60.486a(e)(5).

(e) Equipment that an owner or operator designates as being in VOC service less than 300 hr/yr is excluded from the requirements of §§60.482–2a through 60.482–11a if it is identified as required in §60.486a(e)(6) and it meets any of the conditions specified in paragraphs (e)(1) through (3) of this section.

(1) The equipment is in VOC service only during startup and shutdown, excluding startup and shutdown between batches of the same campaign for a batch process.

(2) The equipment is in VOC service only during process malfunctions or other emergencies.

(3) The equipment is backup equipment that is in VOC service only when the primary equipment is out of service.

(f)(1) If a dedicated batch process unit operates less than 365 days during a year, an owner or operator may monitor to detect leaks from pumps, valves, and open-ended valves or lines at the frequency specified in the following table instead of monitoring as specified in §§60.482–2a, 60.482–7a, and 60.483.2a:

Operating time (percent of hours during year)	Equivalent monitoring frequency time in use		
	Monthly	Quarterly	Semiannually
0 to <25	Quarterly	Annually	Annually.
25 to <50	Quarterly	Semiannually	Annually.
50 to <75	Bimonthly	Three quarters	Semiannually.
75 to 100	Monthly	Quarterly	Semiannually.

(2) Pumps and valves that are shared among two or more batch process units that are subject to this subpart may be monitored at the frequencies specified in paragraph (f)(1) of this section, provided the operating time of all such process units is considered.

(3) The monitoring frequencies specified in paragraph (f)(1) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor at any time during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. Reasonable intervals are defined in paragraphs (f)(3)(i) through (iv) of this section.

(i) When monitoring is conducted quarterly, monitoring events must be separated by at least 30 calendar days.

(ii) When monitoring is conducted semiannually (*i.e.* , once every 2 quarters), monitoring events must be separated by at least 60 calendar days.

(iii) When monitoring is conducted in 3 quarters per year, monitoring events must be separated by at least 90 calendar days.

(iv) When monitoring is conducted annually, monitoring events must be separated by at least 120 calendar days.

(g) If the storage vessel is shared with multiple process units, the process unit with the greatest annual amount of stored materials (predominant use) is the process unit the storage vessel is assigned to. If the storage vessel is shared equally among process units, and one of the process units has equipment subject to this subpart, the storage vessel is assigned to that process unit. If the storage vessel is shared equally among process units, none of which have equipment subject to this subpart of this part, the storage vessel is assigned to any process unit subject to subpart VV of this part. If the predominant use of the storage vessel varies from year to year, then the owner or operator must estimate the predominant use initially and reassess every 3 years. The owner or operator must keep records of the information and supporting calculations that show how predominant use is determined. All equipment on the storage vessel must be monitored when in VOC service.

Effective Date Note: At 73 FR 31376, June 2, 2008, in §60.482–1a, paragraph (g) was stayed until further notice.

§ 60.482-2a Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485a(b), except as provided in §60.482–1a(c) and (f) and paragraphs (d), (e), and (f) of this section. A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in §60.482–1a(c) and paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in §60.482–1a(f).

(b)(1) The instrument reading that defines a leak is specified in paragraphs (b)(1)(i) and (ii) of this section.

(i) 5,000 parts per million (ppm) or greater for pumps handling polymerizing monomers;

(ii) 2,000 ppm or greater for all other pumps.

(2) If there are indications of liquids dripping from the pump seal, the owner or operator shall follow the procedure specified in either paragraph (b)(2)(i) or (ii) of this section. This requirement does not apply to a pump that was monitored after a previous weekly inspection and the instrument reading was less than the concentration specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable.

(i) Monitor the pump within 5 days as specified in §60.485a(b). A leak is detected if the instrument reading measured during monitoring indicates a leak as specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable. The leak shall be repaired using the procedures in paragraph (c) of this section.

(ii) Designate the visual indications of liquids dripping as a leak, and repair the leak using either the procedures in paragraph (c) of this section or by eliminating the visual indications of liquids dripping.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs (c)(2)(i) and (ii) of this section, where practicable.

(i) Tightening the packing gland nuts;

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (6) of this section are met.

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10a; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4)(i) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(ii) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (d)(4)(ii)(A) or (B) of this section prior to the next required inspection.

(A) Monitor the pump within 5 days as specified in §60.485a(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected.

(B) Designate the visual indications of liquids dripping as a leak.

(5)(i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm.

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(iii) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion established in paragraph (d)(5)(ii) of this section, a leak is detected.

(6)(i) When a leak is detected pursuant to paragraph (d)(4)(ii)(A) of this section, it shall be repaired as specified in paragraph (c) of this section.

(ii) A leak detected pursuant to paragraph (d)(5)(iii) of this section shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor.

(iii) A designated leak pursuant to paragraph (d)(4)(ii)(B) of this section shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping.

(e) Any pump that is designated, as described in §60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing;

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §60.485a(c); and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §60.482-10a, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

§ 60.482-3a Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in §60.482-1a(c) and paragraphs (h), (i), and (j) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482-10a; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

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

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §60.482-10a, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in §60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in §60.485a(c); and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of §60.14 or §60.15 is exempt from paragraphs (a) through (e) and (h) of this section, provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.

§ 60.482-4a Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485a(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482-9a.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485a(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482-10a is exempted from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §60.482-9a.

§ 60.482-5a Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in §60.482-1a(c) and paragraph (c) of this section.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section.

(1) Gases displaced during filling of the sample container are not required to be collected or captured.

(2) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(3) Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured.

(4) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either paragraph (b)(4)(i), (ii), (iii), or (iv) of this section.

(i) Return the purged process fluid directly to the process line.

(ii) Collect and recycle the purged process fluid to a process.

(iii) Capture and transport all the purged process fluid to a control device that complies with the requirements of §60.482-10a.

(iv) 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;

(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;

(D) A waste management unit subject to and operated in compliance with the treatment requirements of 40 CFR 61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the treatment unit are subject to and operated in compliance with the management requirements of 40 CFR 61.343 through 40 CFR 61.347; or

(E) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, provided the purged process fluid is not hazardous waste as defined in 40 CFR part 261.

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

§ 60.482-6a Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §60.482-1a(c) and paragraphs (d) and (e) of this section.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b), and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

§ 60.482-7a Standards: Valves in gas/vapor service and in light liquid service.

(a)(1) Each valve shall be monitored monthly to detect leaks by the methods specified in §60.485a(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, §60.482–1a(c) and (f), and §§60.483–1a and 60.483–2a.

(2) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to paragraphs (a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in paragraphs (f), (g), and (h) of this section, §60.482–1a(c), and §§60.483–1a and 60.483–2a.

(i) Monitor the valve as in paragraph (a)(1) of this section. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.

(ii) If the existing valves in the process unit are monitored in accordance with §60.483–1a or §60.483–2a, count the new valve as leaking when calculating the percentage of valves leaking as described in §60.483–2a(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first.

(b) If an instrument reading of 500 ppm or greater is measured, a leak is detected.

(c)(1)(i) 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.

(ii) As an alternative to monitoring all of the valves in the first month of a quarter, an owner or operator may elect to subdivide the process unit into two or three subgroups of valves and monitor each subgroup in a different month during the quarter, provided each subgroup is monitored every 3 months. The owner or operator must keep records of the valves assigned to each subgroup.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §60.482–9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in §60.486a(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

(1) Has no external actuating mechanism in contact with the process fluid,

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in §60.485a(c), and

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section, and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in §60.486a(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either:

(i) Becomes an affected facility through §60.14 or §60.15 and was constructed on or before January 5, 1981; or

(ii) Has less than 3.0 percent of its total number of valves designated as difficult-to-monitor by the owner or operator.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 60.482-8a Standards: Pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service.

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in §60.485a(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9a.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §§60.482-2a(c)(2) and 60.482-7a(e).

§ 60.482-9a Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit.

(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 and connectors will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482-10a.

(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.

(f) When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.

§ 60.482-10a Standards: Closed vent systems and control devices.

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume (ppmv), 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 ppmv, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of §60.18.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (ii) of this section:

(i) Conduct an initial inspection according to the procedures in §60.485a(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in §60.485a(b); and

(ii) Conduct annual inspections according to the procedures in §60.485a(b).

(g) Leaks, as indicated by an instrument reading greater than 500 ppmv above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in §60.486a(c).

(4) For each inspection conducted in accordance with §60.485a(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

§ 60.482-11a Standards: Connectors in gas/vapor service and in light liquid service.

(a) The owner or operator shall initially monitor all connectors in the process unit for leaks by the later of either 12 months after the compliance date or 12 months after initial startup. If all connectors in the process unit have been monitored for leaks prior to the compliance date, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.

(b) Except as allowed in §60.482-1a(c), §60.482-10a, or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in gas and vapor and light liquid service as specified in paragraphs (a) and (b)(3) of this section.

(1) The connectors shall be monitored to detect leaks by the method specified in §60.485a(b) and, as applicable, §60.485a(c).

(2) If an instrument reading greater than or equal to 500 ppm is measured, a leak is detected.

(3) The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (iii) of this section, and shall comply with the requirements of paragraphs (b)(3)(iv) and (v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (iii) of this section using the monitoring results from the preceding monitoring period. The percent leaking connectors shall be calculated as specified in paragraph (c) of this section.

(i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).

(ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4-year monitoring period.

(iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (b)(3)(iii)(C) of this section, as appropriate.

(A) An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

(B) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent of leaking connectors within the total monitored connectors.

(C) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

(iv) If, during the monitoring conducted pursuant to paragraphs (b)(3)(i) through (iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.

(v) The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.

(c) For use in determining the monitoring frequency, as specified in paragraphs (a) and (b)(3) of this section, the percent leaking connectors as used in paragraphs (a) and (b)(3) of this section shall be calculated by using the following equation:

$$\%C_L = C_L / C_t * 100$$

Where:

$\%C_L$ = Percent of leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b)(3)(i) through (iii) of this section.

C_L = Number of connectors measured at 500 ppm or greater, by the method specified in §60.485a(b).

C_t = Total number of monitored connectors in the process unit or affected facility.

(d) When a leak is detected pursuant to paragraphs (a) and (b) of this section, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9a. A first attempt at repair as defined in this subpart shall be made no later than 5 calendar days after the leak is detected.

(e) Any connector that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (a) and (b) of this section if:

(1) The owner or operator of the connector demonstrates that the connector is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (a) and (b) of this section; and

(2) The owner or operator of the connector has a written plan that requires monitoring of the connector as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (d) of this section if a leak is detected.

(f) *Inaccessible, ceramic, or ceramic-lined connectors*. (1) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (b) of this section, from the leak repair requirements of paragraph (d) of this section, and from the recordkeeping and reporting requirements of §§63.1038 and 63.1039. An inaccessible connector is one that meets any of the provisions specified in paragraphs (f)(1)(i) through (vi) of this section, as applicable:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground;

(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold; or

(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(2) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.

(g) Except for instrumentation systems and inaccessible, ceramic, or ceramic-lined connectors meeting the provisions of paragraph (f) of this section, identify the connectors subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated.

Effective Date Note: At 73 FR 31376, June 2, 2008, §60.482–11a was stayed until further notice.

§ 60.483-1a Alternative standards for valves—allowable percentage of valves leaking.

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:

(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in §60.487a(d).

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with §60.482–7a(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in §60.485a(b).

(2) If an instrument reading of 500 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent, determined as described in §60.485a(h).

§ 60.483-2a Alternative standards for valves—skip period leak detection and repair.

(a)(1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in §60.487(d)a.

(b)(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in §60.482–7a.

(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in §60.482–7a but can again elect to use this section.

(5) The percent of valves leaking shall be determined as described in §60.485a(h).

(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

(7) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for a process unit following one of the alternative standards in this section must be monitored in accordance with §60.482–7a(a)(2)(i) or (ii) before the provisions of this section can be applied to that valve.

§ 60.484a Equivalence of means of emission limitation.

(a) Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

(b) Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

(2) The Administrator will compare test data for demonstrating equivalence of the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

(2) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

(3) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

(5) The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

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

(e)(1) After a request for determination of equivalence is received, the Administrator will publish a notice in the Federal Register and provide the opportunity for public hearing if the Administrator judges that the request may be approved.

(2) After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the Federal Register.

(3) Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the CAA.

(f)(1) Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will make an equivalence determination according to the provisions of paragraphs (b), (c), (d), and (e) of this section.

§ 60.485a Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§60.482–1a through 60.482–11a, 60.483a, and 60.484a 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 of appendix A–7 of this part. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(2) A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A–7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in

§60.486a(e)(7). Calculate the average algebraic difference between the three meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored.

(c) The owner or operator shall determine compliance with the no-detectable-emission standards in §§60.482–2a(e), 60.482–3a(i), 60.482–4a, 60.482–7a(f), and 60.482–10a(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 of appendix A–7 of this part shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260–73, 91, or 96, E168–67, 77, or 92, E169–63, 77, or 93 (incorporated by reference—see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d)(1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:

(1) Method 22 of appendix A–7 of this part shall be used to determine visible emissions.

(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$$V_{\max} = K_1 + K_2 H_T$$

Where:

V_{\max} = Maximum 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 m⁴/(MJ-sec) (metric units) = 0.087 ft⁴/(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^{-7} (g-mole)(MJ)/(ppm-scm-kcal) (metric units) = 4.674×10^{-6} [(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 of appendix A-6 of this part or ASTM D6420-99 (2004) (where the target compound(s) are those listed in Section 1.1 of ASTM D6420-99, and the target concentration is between 150 parts per billion by volume and 100 ppmv) and ASTM D2504-67, 77, or 88 (Reapproved 1993) (incorporated by reference-see §60.17) shall be used to determine the concentration of sample component "i."

(6) ASTM D2382-76 or 88 or D4809-95 (incorporated by reference-see §60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D of appendix A-7 of this part, 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.

(h) The owner or operator shall determine compliance with §60.483-1a or §60.483-2a as follows:

(1) The percent of valves leaking shall be determined using the following equation:

$$\%V_L = (V_L / V_T) * 100$$

Where:

$\%V_L$ = Percent leaking valves.

V_L = Number of valves found leaking.

V_T = The sum of the total number of valves monitored.

(2) The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored.

(3) The number of valves leaking shall include valves for which repair has been delayed.

(4) Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service.

(5) If the process unit has been subdivided in accordance with §60.482–7a(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups.

(6) The total number of valves monitored does not include a valve monitored to verify repair.

§ 60.486a Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(3) The owner or operator shall record the information specified in paragraphs (a)(3)(i) through (v) of this section for each monitoring event required by §§60.482–2a, 60.482–3a, 60.482–7a, 60.482–8a, 60.482–11a, and 60.483–2a.

(i) Monitoring instrument identification.

(ii) Operator identification.

(iii) Equipment identification.

(iv) Date of monitoring.

(v) Instrument reading.

(b) When each leak is detected as specified in §§60.482–2a, 60.482–3a, 60.482–7a, 60.482–8a, 60.482–11a, and 60.483–2a, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482–7a(c) and no leak has been detected during those 2 months.

(3) The identification on a connector may be removed after it has been monitored as specified in §60.482–11a(b)(3)(iv) and no leak has been detected during that monitoring.

(4) The identification on equipment, except on a valve or connector, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§60.482–2a, 60.482–3a, 60.482–7a, 60.482–8a, 60.482–11a, and 60.483–2a, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

- (1) The instrument and operator identification numbers and the equipment identification number, except when indications of liquids dripping from a pump are designated as a leak.
 - (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) Maximum instrument reading measured by Method 21 of appendix A–7 of this part at the time the leak is successfully repaired or determined to be nonrepairable, except when a pump is repaired by eliminating indications of liquids dripping.
 - (5) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - (6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.
 - (7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.
 - (8) Dates of process unit shutdowns that occur while the equipment is unrepaired.
 - (9) The date of successful repair of the leak.
- (d) The following information pertaining to the design requirements for closed vent systems and control devices described in §60.482–10a shall be recorded and kept in a readily accessible location:
- (1) Detailed schematics, design specifications, and piping and instrumentation diagrams.
 - (2) The dates and descriptions of any changes in the design specifications.
 - (3) A description of the parameter or parameters monitored, as required in §60.482–10a(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.
 - (4) Periods when the closed vent systems and control devices required in §§60.482–2a, 60.482–3a, 60.482–4a, and 60.482–5a are not operated as designed, including periods when a flare pilot light does not have a flame.
 - (5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§60.482–2a, 60.482–3a, 60.482–4a, and 60.482–5a.
- (e) The following information pertaining to all equipment subject to the requirements in §§60.482–1a to 60.482–11a shall be recorded in a log that is kept in a readily accessible location:
- (1) A list of identification numbers for equipment subject to the requirements of this subpart.
 - (2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482–2a(e), 60.482–3a(i), and 60.482–7a(f).

(ii) The designation of equipment as subject to the requirements of §60.482–2a(e), §60.482–3a(i), or §60.482–7a(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement.

(3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482–4a.

(4)(i) The dates of each compliance test as required in §§60.482–2a(e), 60.482–3a(i), 60.482–4a, and 60.482–7a(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hr/yr in accordance with §60.482–1a(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

(7) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service.

(8) Records of the information specified in paragraphs (e)(8)(i) through (vi) of this section for monitoring instrument calibrations conducted according to sections 8.1.2 and 10 of Method 21 of appendix A–7 of this part and §60.485a(b).

(i) Date of calibration and initials of operator performing the calibration.

(ii) Calibration gas cylinder identification, certification date, and certified concentration.

(iii) Instrument scale(s) used.

(iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value in accordance with section 10.1 of Method 21 of appendix A–7 of this part.

(v) Results of each calibration drift assessment required by §60.485a(b)(2) (i.e., instrument reading for calibration at end of monitoring day and the calculated percent difference from the initial calibration value).

(vi) If an owner or operator makes their own calibration gas, a description of the procedure used.

(9) The connector monitoring schedule for each process unit as specified in §60.482–11a(b)(3)(v).

(10) Records of each release from a pressure relief device subject to §60.482–4a.

(f) The following information pertaining to all valves subject to the requirements of §60.482–7a(g) and (h), all pumps subject to the requirements of §60.482–2a(g), and all connectors subject to the requirements of §60.482–11a(e) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves, pumps, and connectors that are designated as unsafe-to-monitor, an explanation for each valve, pump, or connector stating why the valve, pump, or connector is unsafe-to-monitor, and the plan for monitoring each valve, pump, or connector.

(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with §60.483–2a:

- (1) A schedule of monitoring.
- (2) The percent of valves found leaking during each monitoring period.
- (h) The following information shall be recorded in a log that is kept in a readily accessible location:
 - (1) Design criterion required in §§60.482–2a(d)(5) and 60.482–3a(e)(2) and explanation of the design criterion; and
 - (2) Any changes to this criterion and the reasons for the changes.
- (i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in §60.480a(d):
 - (1) An analysis demonstrating the design capacity of the affected facility,
 - (2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and
 - (3) An analysis demonstrating that equipment is not in VOC service.
- (j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.
- (k) The provisions of §60.7(b) and (d) do not apply to affected facilities subject to this subpart.

§ 60.487a Reporting requirements.

- (a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning 6 months after the initial startup date.
- (b) The initial semiannual report to the Administrator shall include the following information:
 - (1) Process unit identification.
 - (2) Number of valves subject to the requirements of §60.482–7a, excluding those valves designated for no detectable emissions under the provisions of §60.482–7a(f).
 - (3) Number of pumps subject to the requirements of §60.482–2a, excluding those pumps designated for no detectable emissions under the provisions of §60.482–2a(e) and those pumps complying with §60.482–2a(f).
 - (4) Number of compressors subject to the requirements of §60.482–3a, excluding those compressors designated for no detectable emissions under the provisions of §60.482–3a(i) and those compressors complying with §60.482–3a(h).
 - (5) Number of connectors subject to the requirements of §60.482–11a.
- (c) All semiannual reports to the Administrator shall include the following information, summarized from the information in §60.486a:
 - (1) Process unit identification.
 - (2) For each month during the semiannual reporting period,

- (i) Number of valves for which leaks were detected as described in §60.482–7a(b) or §60.483–2a,
 - (ii) Number of valves for which leaks were not repaired as required in §60.482–7a(d)(1),
 - (iii) Number of pumps for which leaks were detected as described in §60.482–2a(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),
 - (iv) Number of pumps for which leaks were not repaired as required in §60.482–2a(c)(1) and (d)(6),
 - (v) Number of compressors for which leaks were detected as described in §60.482–3a(f),
 - (vi) Number of compressors for which leaks were not repaired as required in §60.482–3a(g)(1),
 - (vii) Number of connectors for which leaks were detected as described in §60.482–11a(b)
 - (viii) Number of connectors for which leaks were not repaired as required in §60.482–11a(d), and
 - (ix)–(x) [Reserved]
 - (xi) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.
- (3) Dates of process unit shutdowns which occurred within the semiannual reporting period.
- (4) Revisions to items reported according to paragraph (b) of this section if changes have occurred since the initial report or subsequent revisions to the initial report.
- (d) An owner or operator electing to comply with the provisions of §§60.483–1a or 60.483–2a shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.
- (e) An owner or operator shall report the results of all performance tests in accordance with §60.8 of the General Provisions. The provisions of §60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.
- (f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a state under section 111(c) of the CAA, approves reporting requirements or an alternative means of compliance surveillance adopted by such state. In that event, affected sources within the state will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the state.

§ 60.488a Reconstruction.

For the purposes of this subpart:

- (a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable new facility” under §60.15: Pump seals, nuts and bolts, rupture disks, and packings.
- (b) Under §60.15, the “fixed capital cost of new components” includes the fixed capital cost of all depreciable components (except components specified in §60.488a(a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the “Applicability and designation of affected facility” section of the appropriate subpart.) For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

§ 60.489a List of chemicals produced by affected facilities.

Process units that produce, as intermediates or final products, chemicals listed in §60.489 are covered under this subpart. The applicability date for process units producing one or more of these chemicals is November 8, 2006.

**Indiana Department of Environmental Management
Office of Air Quality**

Attachment C

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

[Browse Previous](#) | [Browse Next](#)

Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under §60.14.

(e) Heat recovery steam generators that are associated with combined cycle gas turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/hr) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/hr) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part).

(f) Any facility covered by subpart AAAA of this part is not subject by this subpart.

(g) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject by this subpart.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the

steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17) or diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO₂ control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device

by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means:

- (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or
- (2) Liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17); or
- (3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO₂ emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material.

This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO₂.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.42c Standard for sulfur dioxide (SO₂).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO₂ emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO₂ emissions limit or the 90 percent SO₂ reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO₂ emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 50 percent (0.50) of the potential SO₂ emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO₂ reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the emission limit determined

pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the following:

(1) The percent of potential SO₂ emission rate or numerical SO₂ emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/hr); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E_s= SO₂ emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a= 520 ng/J (1.2 lb/MMBtu);

K_b= 260 ng/J (0.60 lb/MMBtu);

K_c= 215 ng/J (0.50 lb/MMBtu);

H_a = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H_c = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO_2 emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO_2 emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2 control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(i) The SO_2 emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that can combust coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO₂ emissions is not subject to the PM limit in this section.

Abengoa Bioenergy of Indiana
Mt. Vernon, Indiana
Permit Reviewer: ERG/JR

First Significant Permit Revision No.: 129-27302-00050
Revised by: Brian Williams
Attachment C
40 CFR 60, Subpart Dc

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[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and §60.8(b), performance tests required under §60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO₂emission limits under §60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO₂emission limits under §60.42c is based on the average percent reduction and the average SO₂emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO₂emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO₂emission rate (E_{ho}) and the 30-day average SO₂emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate E_{ao}when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho}(E_{ho0}) is used in Equation 19–19 of Method 19 of appendix A of this part to compute the adjusted E_{ao}(E_{ao0}). The E_{ho0} is computed using the following formula:

$$E_{ho0} = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

Where:

E_{ho0} = Adjusted E_{ho}, ng/J (lb/MMBtu);

E_{ho} = Hourly SO₂emission rate, ng/J (lb/MMBtu);

E_w = SO₂concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value E_wfor each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_wif the owner or operator elects to assume E_w= 0.

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters E_wor X_kif the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO₂emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO₂emission rate is computed using the following formula:

$$\%P_s = 100 \left(1 - \frac{\%R_g}{100} \right) \left(1 - \frac{\%R_f}{100} \right)$$

Where:

%P_s= Potential SO₂emission rate, in percent;

%R_g= SO₂removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

%R_f= SO₂removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the %P_s, an adjusted %R_g(%R_{g0}) is computed from E_{ao0} from paragraph (e)(1) of this section and an adjusted average SO₂inlet rate (E_{ai0}) using the following formula:

$$\%R_{g0} = 100 \left(1 - \frac{E_w}{E_{ai0}} \right)$$

Where:

%R_{g0} = Adjusted %R_g, in percent;

E_{ao0} = Adjusted E_{ao}, ng/J (lb/MMBtu); and

E_{ai0} = Adjusted average SO₂inlet rate, ng/J (lb/MMBtu).

(ii) To compute E_{ai0}, an adjusted hourly SO₂inlet rate (E_{hi0}) is used. The E_{hi0} is computed using the following formula:

$$E_{hi0} = \frac{E_{hi} - E_w(1 - X_1)}{X_1}$$

Where:

E_{hi0} = Adjusted E_{hi}, ng/J (lb/MMBtu);

E_{hi}= Hourly SO₂inlet rate, ng/J (lb/MMBtu);

E_w= SO₂concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The

value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$; and

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2).

(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO₂ standards under §60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO₂ emissions data in calculating %P_s and E_{h0} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %P_s or E_{h0} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3A or 3B of appendix A–2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A–3 of this part or 17 of appendix A–6 of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ± 14 °C (320 ± 25 °F).

(6) For determination of PM emissions, an oxygen (O₂) or carbon dioxide (CO₂) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O₂ or CO₂ measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A–4 of this part shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under §60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (c)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (c)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (c)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O₂(or CO₂) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall be used; and

(ii) After July 1, 2010 or after Method 202 of appendix M of part 51 has been revised to minimize artifact measurement and notice of that change has been published in the Federal Register, whichever is later, for condensable PM emissions, Method 202 of appendix M of part 51 shall be used; and

(iii) For O₂ (or CO₂), Method 3A or 3B of appendix A–2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(14) After July 1, 2011, within 90 days after the date of completing each performance evaluation required by paragraph (c)(11) of this section, the owner or operator of the affected facility must either submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at <http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main> or mail a copy to: United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; Mail Code: D243–01; RTP, NC 27711.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/hr).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO₂ emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO₂ concentrations and either O₂ or CO₂ concentrations at the outlet of the SO₂ control device (or the outlet of the

steam generating unit if no SO₂control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO₂concentrations and either O₂or CO₂concentrations at both the inlet and outlet of the SO₂control device.

(b) The 1-hour average SO₂emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO₂emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under §60.13(h)(2). Hourly SO₂emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under §60.42c, the span value of the SO₂CEMS at the inlet to the SO₂control device shall be 125 percent of the maximum estimated hourly potential SO₂emission rate of the fuel combusted, and the span value of the SO₂CEMS at the outlet from the SO₂control device shall be 50 percent of the maximum estimated hourly potential SO₂emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of §60.42c, the span value of the SO₂CEMS at the outlet from the SO₂control device (or outlet of the steam generating unit if no SO₂control device is used) shall be 125 percent of the maximum estimated hourly potential SO₂emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO₂control device (or outlet of the steam generating unit if no SO₂control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO₂control device (or outlet of the steam generating unit if no SO₂control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO₂input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO₂at the inlet or outlet of the SO₂control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO₂and CO₂measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3

of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, as described under §60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), (f), and (g) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in §60.43c(c) and that is not required to install a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to install a COMS shall conduct a performance test using Method 9 of appendix A–4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43c and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. If during the initial 60 minutes of observation all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent, the observation period may be reduced from 3 hours to 60 minutes.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A–4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 30 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A–7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A–7 of this part and

demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.* , 90 seconds per 30 minute period) the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.* , 90 seconds) or conduct a new Method 9 of appendix A–4 of this part performance test using the procedures in paragraph (a) of this section within 30 calendar days according to the requirements in §60.45c(a)(8).

(ii) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO₂ or PM emissions and that are subject to an opacity standard in §60.43c(c) are not required to operate a COMS if they follow the applicable procedures in §60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.45c(c). The CEMS specified in paragraph §60.45c(c) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO₂, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that uses a bag leak detection system to monitor the performance of a fabric filter (baghouse) according to the most recent requirements in section §60.48Da of this part is not required to operate a COMS.

(g) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the permitting authority is not required to operate a COMS. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO₂ emission limits of §60.42c, or the PM or opacity limits of §60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) In addition to the applicable requirements in §60.7, the owner or operator of an affected facility subject to the opacity limits in §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

(d) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO₂ emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO₂ emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

- (5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.
- (6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.
- (7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.
- (8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.
- (9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.
- (10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.
- (11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.
- (f) Fuel supplier certification shall include the following information:
- (1) For distillate oil:
- (i) The name of the oil supplier;
- (ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and
- (iii) The sulfur content or maximum sulfur content of the oil.
- (2) For residual oil:
- (i) The name of the oil supplier;
- (ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;
- (iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and
- (iv) The method used to determine the sulfur content of the oil.
- (3) For coal:
- (i) The name of the coal supplier;
- (ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO₂ standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-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.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

**Indiana Department of Environmental Management
Office of Air Quality**

Attachment D

Title 40: Protection of Environment

[PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES](#)

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Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Source: 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

§ 60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

- (1) Vessels at coke oven by-product plants.
- (2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.
- (3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.
- (4) Vessels with a design capacity less than or equal to 1,589.874 m^3 used for petroleum or condensate stored, processed, or treated prior to custody transfer.
- (5) Vessels located at bulk gasoline plants.
- (6) Storage vessels located at gasoline service stations.
- (7) Vessels used to store beverage alcohol.
- (8) Vessels subject to subpart GGGG of 40 CFR part 63.

(e) *Alternative means of compliance* —(1) *Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of §60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

(3) *Internal floating roof report.* If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) *External floating roof report.* If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 78275, Dec. 14, 2000; 68 FR 59332, Oct. 15, 2003]

§ 60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

Bulk gasoline plant means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

Condensate means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

Custody transfer means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

Fill means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

Gasoline service station means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see §60.17); or

- (2) As obtained from standard reference texts; or
- (3) As determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17);
- (4) Any other method approved by the Administrator.

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Petroleum liquids means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

Process tank means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323–82 or 94 (incorporated by reference—see §60.17).

Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

- (1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;
- (2) Subsurface caverns or porous rock reservoirs; or
- (3) Process tanks.

Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

Waste means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 61756, Oct. 17, 2000; 68 FR 59333, Oct. 15, 2003]

§ 60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

- (1) A fixed roof in combination with an internal floating roof meeting the following specifications:
 - (i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or

subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in §60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in §60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents 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. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, §60.485(b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in §60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m³ which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

(1) A closed vent system and control device as specified in §60.112b(a)(3).

(2) A system equivalent to that described in paragraph (b)(1) as provided in §60.114b of this subpart.

(c) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site").

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.

[52 FR 11429, Apr. 8, 1987, as amended at 62 FR 52641, Oct. 8, 1997]

§ 60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in §60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

(a) After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) 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.

(2) 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 §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.

(3) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) 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 paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator 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 Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet §60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 Cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of §60.113b(b) 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 §60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external 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, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator 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 Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in §60.112b (a)(3) or (b)(2) (other than a flare) is exempt from §60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by §60.7(a)(1) or, if the facility is exempt from §60.7(a)(1), as an attachment to the notification required by §60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in §60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, §60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.114b Alternative means of emission limitation.

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in §60.112b, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in §60.112b.

§ 60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §60.112b(a)(1) or §60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with §60.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(2) and §60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by §60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by §60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by §60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with §60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with §60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with §60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by §60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by §60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under §60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

§ 60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when

the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(ii) ASTM D323–82 or 94 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of §60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.

§ 60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]

**Indiana Department of Environmental Management
Office of Air Quality**

Attachment E

Title 40: Protection of Environment

[PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES](#)

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Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Source: 71 FR 39172, July 11, 2006, unless otherwise noted.

What This Subpart Covers

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (3) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines,

(ii) The model year listed in table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005 where the stationary CI ICE are:

(i) Manufactured after April 1, 2006 and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

Emission Standards for Manufacturers

§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

§ 60.4203 How long must my engines meet the emission standards if I am a stationary CI internal combustion engine manufacturer?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the useful life of the engines.

Emission Standards for Owners and Operators

§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in paragraphs (c)(1) and (2) of this section.

(1) Reduce nitrogen oxides (NO_x) emissions by 90 percent or more, or limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to 1.6 grams per KW-hour (g/KW-hr) (1.2 grams per HP-hour (g/HP-hr)).

(2) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in paragraphs (d)(1) and (2) of this section.

(1) Reduce NO_x emissions by 90 percent or more, or limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to 1.6 grams per KW-hour (1.2 grams per HP-hour).

(2) Reduce PM emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

(c) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(d) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the Federal Aid Highway System may petition the Administrator for approval to use any fuels mixed with used lubricating oil that do not meet the fuel requirements of paragraphs (a) and (b) of this section. Owners and operators must demonstrate in their petition to the Administrator that there is no other place to use the lubricating oil. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

Other Requirements for Owners and Operators

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in the previous model year?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (f) of this section after the dates specified in paragraphs (a) through (f) of this section.

(h) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except

that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and §60.4202(c) using the certification procedures required in 40 CFR part 94 subpart C, and must test their engines as specified in 40 CFR part 94.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 40 CFR 1039.125, 40 CFR 1039.130, 40 CFR 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89 or 40 CFR part 94 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate, but the words "stationary" must be included instead of "nonroad" or "marine" on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under parts 89, 94, or 1039 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words "and stationary" after the word "nonroad" or "marine," as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as "Fire Pump Applications Only".

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. You must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO_x and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_x and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local

standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited.

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (d) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \quad (\text{Eq. 1})$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (d) of this section.

(a) Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 2})$$

Where:

C_i = concentration of NO_x or PM at the control device inlet,

C_o = concentration of NO_x or PM at the control device outlet, and

R = percent reduction of NO_x or PM emissions.

(2) You must normalize the NO_x or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{\text{adj}} = C_d \frac{5.9}{20.9 - \% \text{O}_2} \quad (\text{Eq. 3})$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

5.9 = 20.9 percent O_2 - 15 percent O_2 , the defined O_2 correction value, percent.

$\% \text{O}_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209}{F_c} \quad (\text{Eq. 4})$$

Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2 , percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, $ds\text{m}^3 / J$ ($dscf/10^6$ Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, $ds\text{m}^3 / J$ ($dscf/10^6$ Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (\text{Eq. 5})$$

Where:

X_{CO_2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 - 15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_x and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 6})$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

$\%CO_2$ = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{KW\text{-hour}} \quad (\text{Eq. 7})$$

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_x concentration in ppm.

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{KW\text{-hour}} \quad (\text{Eq 8})$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj} = Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Special Requirements

§ 60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §60.4205. Non-emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder, must meet the applicable emission standards in §60.4204(c).

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in §60.4207.

§ 60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI engines located in areas of Alaska not accessible by the Federal Aid Highway System should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) The Governor of Alaska may submit for EPA approval, by no later than January 11, 2008, an alternative plan for implementing the requirements of 40 CFR part 60, subpart IIII, for public-sector electrical utilities located in rural areas of Alaska not accessible by the Federal Aid Highway System. This alternative plan must be based on the requirements of section 111 of the Clean Air Act including any increased risks to human health and the environment and must also be based on the unique circumstances related to remote power generation, climatic conditions, and serious economic impacts resulting from implementation of 40 CFR part 60, subpart IIII. If EPA approves by rulemaking process an alternative plan, the provisions as approved by EPA under that plan shall apply to the diesel engines used in new stationary internal combustion engines subject to this paragraph.

§ 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

(a) Owners and operators of stationary CI ICE that do not use diesel fuel, or who have been given authority by the Administrator under §60.4207(d) of this subpart to use fuels that do not meet the fuel requirements of paragraphs (a) and (b) of §60.4207, may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4202 or §60.4203 using such fuels.

(b) [Reserved]

General Provisions

§ 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

Definitions

§ 60.4219 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means either:

- (1) The calendar year in which the engine was originally produced, or
- (2) The annual new model production period of the engine manufacturer if it is different than the calendar year. This must include January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year. For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was originally produced.

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

Useful life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for useful life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for useful life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007–2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007–2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO _x	HC	NO _x	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 2 to Subpart IIII of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in §60.4202(a)(1), you must comply with the following emission standards]

Engine power	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
	Model year(s)	NO _x + NMHC	CO	PM
KW<8 (HP<11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

[As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:]

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202(d)
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC + NO _x	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011+	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ ¹	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ ¹	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+ ²	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ ³	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ ³	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

¹For model years 2011–2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

²For model years 2010–2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

³In model years 2009–2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in §60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode No.	Engine speed ¹	Torque (percent) ²	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

¹Engine speed: ±2 percent of point.

²Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

[As stated in §60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥30 liters per cylinder:]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of ≥30 liters per cylinder	a. Reduce NO _x emissions by 90 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O ₂ at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for NO _x concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO _x concentration.
		iv. Measure NO _x at the inlet and outlet of the control device	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(d) NO _x concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO _x in the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location; and,	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurement for NO _x concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO _x concentration.

For each	Complying with the requirement to	You must	Using	According to the following requirements
		iv. Measure NO _x at the exhaust of the stationary internal combustion engine	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) NO _x concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O ₂ at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4219.
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4214(a).
§60.8	Performance tests	Yes	Except that §60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	Yes	Except that §60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

**Indiana Department of Environmental Management
Office of Air Quality**

Addendum to the Technical Support Document (ATSD) for a
Significant Permit Revision to a Federally Enforceable State Operating
Permit (FESOP)

Source Background and Description

Source Name:	Abengoa Bioenergy of Indiana
Source Location:	8999 West Franklin Road, Mt. Vernon, Indiana 47620
County:	Posey
SIC Code:	2869
Operation Permit No.:	F 129-23484-00050
Operation Permit Issuance Date:	January 25, 2007
Significant Permit Revision No.:	129-27302-00050
Permit Reviewer:	Brian Williams

On May 6, 2006, the Office of Air Quality (OAQ) had a notice published in the Mt. Vernon Democrat, Mt. Vernon Indiana, stating that Abengoa Bioenergy of Indiana had applied for a significant permit revision to modify the design of the plant. This modification consists of several design changes, including but not limited to the construction of new emissions units and pollution control equipment, increased capacities for several units, and the removal of several emission units from the permit. The notice also stated that the OAQ proposed to issue a significant permit revision to a FESOP for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

No comments were received during the public notice period.

Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

- (a) IDEM, OAQ has decided taking a data point no less often than once per fifteen (15) minutes is sufficient. Therefore, Conditions D.2.13 and D.4.12 has been revised to reflect this change.
- (b) IDEM, OAQ is revising Conditions D.2.13, D.4.12, and D.4.13 to increase clarity. The Permittee should begin monitoring against the new set point or range as soon as the valid compliant results are available.
- (c) Condition D.4.13 (Recordkeeping Requirements) was identified in the permit incorrectly. The Condition should have been identified as D.4.14. Therefore, Condition D.4.13 has been revised to correct the typographical error.

D.2.13 Sodium Bisulfite Injection System

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the fermentation scrubbers (S1400 and S1401) and distillation scrubber (S1504) for measuring the sodium bisulfite injection rate. For the purpose of this condition,

continuous means no less than once per ~~minute~~ **fifteen (15) minutes**. The output of this system shall be recorded as a one-hour average. From the date of issuance of this permit until the ~~approved~~ stack test results are available; the Permittee shall inject sodium bisulfite at the rates shown in the table below:

...

- (b) The Permittee shall determine the one-hour average injection rates from the most recent valid stack test that demonstrates compliance with limits in Condition D.2.4, ~~as approved by IDEM~~.
- (c) On and after the date the ~~approved~~ stack test results are available, the Permittee shall inject sodium bisulfite at or above the one-hour average injection rates as observed during the compliant stack test.

...

D.4.12 Thermal Oxidation Temperature

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the Swiss Combi Dryer Systems (D1802A and D1802B) for measuring operating temperature. For the purpose of this condition, continuous means no less than once per ~~minute~~ **fifteen (15) minutes**. 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 oxidizers 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.4.4 and D.4.5, ~~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.4.13 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 Conditions D.4.4 and D.4.5, ~~as approved by IDEM~~.
- (b) The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizers 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.

D.4.134 Record Keeping Requirements

...

IDEM Contact

- (a) Questions regarding this proposed FESOP Significant Revision can be directed to Brian Williams at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) (234-5375) or toll free at 1-800-451-6027 extension (4-5375).
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

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)

Source Description and Location

Source Name:	Abengoa Bioenergy of Indiana
Source Location:	8999 West Franklin Road, Mt. Vernon, Indiana 47620
County:	Posey
SIC Code:	2869
Operation Permit No.:	F 129-23484-00050
Operation Permit Issuance Date:	January 25, 2007
Significant Permit Revision No.:	129-27302-00050
Permit Reviewer:	Brian Williams

On December 24, 2008, the Office of Air Quality (OAQ) has received an application from Abengoa Bioenergy of Indiana related to a modification to an existing ethanol production plant.

Existing Approvals

The source was issued FESOP No. 129-23484-00050 on January 25, 2007.

County Attainment Status

The source is located in Posey County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) 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_x emissions are considered when evaluating the rule applicability relating to ozone. Posey County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM2.5**
Posey County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements.

The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

- (c) Other Criteria Pollutants
 Posey 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.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability. However, according to a U.S. EPA Region V guidance memo addressed to IDEM (dated March 6, 2003), since the combined heat input capacity of the four (4) boilers and two (2) Swiss Combi "Eco-Dry" Dryer Systems located at Abengoa Bioenergy of Indiana are greater than 250 MMBtu/hr, the four (4) boilers and two (2) Swiss Combi "Eco-Dry" Dryer Systems fall under the one of the twenty-eight (28) listed source categories and are considered "nested" within a non-listed source. Therefore, fugitive emissions from the four (4) boilers and two (2) Swiss Combi "Eco-Dry" Dryer Systems located at this source are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Status of the Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all enforceable limits established in the effective permits:

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)								
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Grain Receiving (EP101)	6.19	6.19	6.19	0	0	0	0	0	0
Grain Receiving - Fugitive	4.50	1.48	1.48	0	0	0	0	0	0
Hammermill #1 (EP2001)	1.22	1.22	1.22	0	0	0	0	0	0
Hammermill #2 (EP2002)	1.22	1.22	1.22	0	0	0	0	0	0
Hammermill #3 (EP2003)	1.22	1.22	1.22	0	0	0	0	0	0
DDGS Loadout (EP1102)	0.75	0.75	0.75	0	0	0	0	0	0
DDGS Handling and Storage - Fugitive	14.51	4.84	4.84	0	0	0	0	0	0
Pre-Fermentation Scrubber (CE1400)	0	0	0	0	0	11.7	0	3.02	2.58 Acetaldehyde
Fermentation Scrubber (CE1401)	0	0	0	0	0	24.2	0	4.77	3.33 Acetaldehyde
Distillation Scrubber (CE1504)	0	0	0	0	0	5.67	0	3.02	2.8 Acetaldehyde
Heat Recovery Evaporators	0	0	0	0	0	1.01	0	0	0

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)								
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Boilers (BL5001 and BL5002)	3.09	12.4	12.4	0.98	31.9	8.94	22.3	3.07	negl.
Swiss-Combi dryer system (D1801 and D1802)	32.5	32.5	32.5	0.4	57.1	17.2	69.9	1.15	negl.
Ethanol loading racks (EP2210 and EP2211)	0	0	0	0	2.79	8.44	4.65	0.31	negl.
Biomethanator (insignificant)	0.07	0.07	0.07	12.1	0.73	0.13	1.84	0.08	negl.
Paved Roads (insignificant)	18.2	3.61	3.61	0	0	0	0	0	0
Cooling Tower (insignificant)	14.4	14.4	14.4	0	0	0	0	0	0
Diesel Fire Pump (insignificant)	0.23	0.23	0.23	0.22	3.26	0.26	0.70	negl.	negl.
Storage Tanks (insignificant)	0	0	0	0	0	10.6	0	0	0
Equipment Leaks (insignificant)	0	0	0	0	0	7.29	0	0.42	negl.
Wet Cake Storage*	0	0	0	0	0	see note	0	see note	
Other Insignificant Activities	1.0	1.0	1.0	0	0	1.0	0	0	0
Total PTE of Entire Source	99.1	81.1	81.1	13.7	95.8	96.5	99.4	15.9	8.71
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA
negl. = negligible These emissions are based upon TSD to FESOP No. 129-23484-00050, issued on January 25, 2007. * This plant is capable of producing booth DDGS and MDGS; however, emissions from DDGS production have been determined to be the worst cast scenario. Therefore, the PTE of wetcake storage is not included in the PTE for the entire source.									

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (b) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the Permittee has accepted limits on HAPs emissions to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Abengoa Bioenergy of Indiana on December 24, 2008, relating to modifications to the plant design. Abengoa Bioenergy of Indiana was issued a FESOP (129-23484-00050) on January 25, 2007 for the construction and operation of an ethanol production plant. The source has not started construction of this plant and has requested the following modifications to the plant design:

- (a) The emissions calculations have been updated to reflect Title V/PSD applicability based on the July 2, 2007 U.S. EPA revision to the definition of a “major stationary source” under 40 CFR Parts 51 and 52 PSD and Nonattainment New Source Review, and the definition of a “major source” under 40 CFR parts 70 and 71 (State and Federal Operating Permits). U.S. EPA has reinterpreted the component term “chemical process plants” within the statutory definition of “major emitting facility” in section 169(1) of the CAA to exclude wet and dry corn milling facilities that produce ethanol for fuel, or produce ethanol through a natural fermentation process that involves the use of such things as corn, sugar beets, sugar cane or cellulosic biomass as a feedstock regardless of whether the ethanol is produced for human consumption, fuel, or for an industrial purpose. As a result, ethanol plants are no longer required to count fugitive emissions for purposes of determining whether a source is a major source under the PSD, nonattainment NSR, or Title V programs unless there is an applicable New Source Performance Standard that was in effect on August 7, 1980 for the ethanol plant, or the ethanol plant has a “nested” source category. Since the combined heat input capacity of the four (4) boilers and two (2) Swiss Combi "Eco-Dry" Dryer Systems located at Abengoa Bioenergy of Indiana are greater than 250 MMBtu/hr, the four (4) boilers and two (2) Swiss Combi "Eco-Dry" Dryer Systems fall under the one of the twenty-eight (28) listed source categories and are considered "nested" within a non-listed source. Therefore, fugitive emissions from the four (4) boilers and two (2) Swiss Combi "Eco-Dry" Dryer Systems located at this source are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability. All other fugitive emissions will not be counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

As a result, the calculations have been revised such that the potential to emit does not reflect fugitive PM/PM10 and VOC emissions from truck traffic, uncaptured grain emissions, uncaptured DDGS loadout emissions and equipment leaks. Therefore, the permit conditions limiting the amount of grain received and the amount of DDGS produced have been removed. The conditions requiring the Permittee to use periodic sweeping to control PM and PM10 emissions from the paved roads and a choked flow system during grain receiving and handling are also no longer necessary and have been removed from the permit. In addition, the potential to emit calculations have been updated for the entire source to reflect the modifications to the plant design.

- (b) The grain receiving area will be modified such that it consists of one truck/rail receiving pit and one truck receiving pit. Each pit will be controlled by a separate baghouse.
- (c) The addition of one (1) new DDGS rail to barge unloading operation, equipped with one (1) baghouse.
- (d) The two (2) existing grain storage silos will now be controlled by four (4) new baghouses. In addition, the storage capacity has been increased from 9,520 tons to 14,308.42 tons, each.
- (e) The addition of one (1) corn scalper and four (4) mill surge bins, controlled by one (1) baghouse.
- (f) The addition of one (1) new hammermill, equipped with one (1) baghouse.
- (g) The addition of two (2) new pellet mills, each equipped with one (1) cyclone.

- (h) The DDGS loadout operation will now consist of one (1) new DDGS rail loadout operation, equipped with three (3) high efficiency dustless spout filter systems, one (1) new DDGS barge loadout operation, equipped with one (1) high efficiency dustless spout filter system, and one (1) new DDGS truck loadout operation equipped with one (1) high efficiency dustless spout filter system.
- (i) The addition of one (1) new wet cake pad.
- (j) The source has modified the existing baghouse parameters for the grain receiving area, hammermills, and DDGS loadout operation and added additional baghouses to these operations. Therefore, the potential to emit calculations and existing PM/PM10 emission limits have been updated to reflect these changes.
- (k) The pre-fermentation, fermentation, and distillation scrubbers potential to emit calculations have been revised based on the updated plant design. As a result, the existing limits found in Section D.2 have been revised.
- (l) The source has requested that the two (2) existing natural gas-fired boilers, with a maximum heat input rate of 182 MMBtu/hr, each (364 MMBtu/hr, total) be removed from the permit and replaced with four (4) new natural gas-fired boilers, with a maximum heat input rate of 92.4 MMBtu/hr, each (367 MMBtu/hr, total).
- (m) The one (1) ethanol and E85 loading rack for trucks and railcars and one (1) ethanol and E85 loading rack for barges were originally designed to be controlled by flares. However, the loading racks will now use carbon adsorption/absorption hydrocarbon vapor recovery systems to control VOC and HAPs emissions.
- (n) The existing diesel-fired stationary emergency fire pump (P7075B) maximum power output rate has increased from 420 horsepower to 460 horsepower.
- (o) The addition of one (1) new diesel-fired emergency generator (GN7000), with a maximum power output rate of 1,495 horsepower, which will be limited to 300 hours of operation per year.
- (p) The biomethanator anaerobic wastewater treatment system will not be constructed. An aerobic wastewater treatment system will be constructed instead. Therefore, all references to the biomethanator anaerobic wastewater treatment system will be removed and the potential to emit calculations will be updated. The new aerobic system will not have a potential to emit.
- (q) Several existing storage tanks will be modified as follows: increase the two (2) shift tanks from 39,500 gallons to 250,000 gallons, each, increase the denaturant tank from 55,000 gallons to 128,800 gallons, increase the three (3) denatured ethanol tank from 1,000,000 gallons to 1,015,164 gallons, each, and construct the two (2) shift tanks and one (1) off-spec tank with internal floating roofs.

The Permittee also proposed changes to the process layout, unit, control device, and stack identification numbers, maximum capacities of the emission units, and control devices.

The following is a list of the new/modified emission unit(s) and pollution control device(s):

- (a) One (1) grain receiving area, approved for construction in 2009, and consisting of the following:
 - (1) One (1) truck/rail receiving pit, identified as EP1101, with a maximum capacity of 1680 tons of corn per hour, controlled by baghouse DC1101, and exhausting through stack DC1101;

- (2) One (1) truck receiving pit, identified as EP1102, with a maximum capacity of 1120 tons of corn per hour, controlled by baghouse DC1102, and exhausting through stack DC1102;
 - (3) Two (2) grain transfer drag conveyors, identified as EP1101C and EP1102C, with a maximum capacity of 1680 tons of corn per hour and 1120 tons of corn per hour, controlled by baghouses DC1101 and DC1102, and exhausting through stacks DC1101 and DC1102, respectively; and
 - (4) Two (2) grain storage silos, identified as EP2003A and EP2004A, each with a maximum capacity of 150 tons of corn per hour, controlled by baghouses DC2003A, DC2003B, DC2004A, and DC2004B, and exhausting through stacks DC2003A, DC2003B, DC2004A, and DC2004B, respectively.
- (b) One (1) corn scalper, identified as EP2005A, approved for construction in 2009, with a maximum capacity of 150 tons of corn per hour, controlled by baghouse DC1200, and exhausting through stack DC1200.
 - (c) Four (4) hammer mill surge bins, identified as EP1200A, EP1200B, EP1200C, and EP1200D, approved for construction in 2009, each with a maximum capacity of 117.6 tons of corn per hour, controlled by baghouse DC1200, and exhausting through stack DC1200.
 - (d) Four (4) hammermills, identified as EP1205, EP1206, EP1207, and EP1208, approved for construction in 2009, each with a maximum capacity of 117.6 tons of corn per hour, controlled by baghouses DC1205, DC1206, DC1207, and DC1208, and exhausting through stacks DC1205, DC1206, DC1207, and DC1208, respectively.
 - (e) Two (2) pellet mills, identified as EP2250A and EP2250B, approved for construction in 2009, each with a maximum capacity of 30 tons per hour, controlled by cyclones DC2250A and DC2250B, and exhausting through stacks DC2250A and DC2250B, respectively.
 - (f) One (1) DDGS unloading and loading area, approved for construction in 2009, and consisting of the following:
 - (1) One (1) DDGS rail to barge unloading operation, identified as EP2252, with a maximum capacity of 400 tons per hour, controlled by baghouse S2252, and exhausting through stack S2252;
 - (2) One (1) DDGS barge loadout operation, identified as EP2251, with a maximum capacity of 200 tons per hour, controlled by high efficiency dustless spout filter system DC2251, and exhausting through stack DC2251;
 - (3) One (1) DDGS truck loadout operation, identified as EP2201, with a maximum capacity of 200 tons per hour, controlled by high efficiency dustless spout filter system LS2201, and exhausting through stack LS2201; and
 - (4) Three (3) DDGS rail loadout operations, identified as EP2202A, EP2202B, and EP2202C, with a maximum capacity of 200 tons per hour, each, controlled by high efficiency dustless spout filter systems LS2202A, LS2202B, and LS2202C, and exhausting through stacks LS2202A, LS2202B, and LS2202C, respectively.
 - (g) One (1) fermentation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, consisting of the following major equipment:
 - (1) One (1) fermenter tank, identified as T-1400, using a wet scrubber (S1400) and sodium bisulfite injection for VOC control, exhausting through stack S1400.

- (2) Six (6) main fermenters and one (1) beer well, identified as T-1401 through T-1407, using a wet scrubber (S1401), and sodium bisulfite injection for VOC control, exhausting through stack S1401.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility. (Note: The control device and stack identifications have been revised.)

- (h) One (1) distillation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, using a wet scrubber, (S1504) and sodium bisulfite injection for VOC control, exhausting through stack S1504, and consisting of the following major equipment:

- (1) One (1) beer column identified as C-1510.
- (2) One (1) stripping column identified as C-1520.
- (3) One (1) rectifying column identified as C-1530.
- (4) One (1) four-tower molecular sieve unit, with associated heat exchangers and pumps.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility. (Note: The control device and stack identifications have been revised.)

- (i) Four (4) natural gas fired boilers, identified as BL5001, BL5002, BL5003, and BL5004, approved for construction in 2009, with a maximum heat input rate of 92.4 MMBtu/hr, each, and exhausting through stacks BL5001, BL5002, BL5003, and BL5004, respectively.

Under NSPS, Subpart Dc, the boilers are considered affected facilities.

- (j) Two (2) natural gas fired Swiss Combi "Eco-Dry" Dryer Systems, identified as D1802A and D1802B, approved for construction in 2009, with a maximum heat input rate of 76.7MMBtu/hr and a design throughput rate of 20 tons per hour of DDGS each, with emissions exhausting through stacks S1802A and S1802B.

Note: The basis of the Swiss Combi Dryer System is an indirect heat drying process using a closed steam loop with thermal oxidation. The DDGS cooler is also integrated into the Eco-Dry system. (Note: The emission unit and stack identifications have been revised.)

Under NSPS, Subpart Dc, the Swiss Combi Dryer Systems are considered affected facilities.

- (k) One (1) ethanol and E85 loading rack for trucks and railcars, identified as EP2101, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute for trucks and railcars, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101, and exhausting through stack S2101.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (l) One (1) ethanol and E85 loading rack for barges, identified as EP2501, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501, and exhausting through stack S2501.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

Insignificant Activities:

- (a) One (1) diesel fired stationary fire pump, identified as P7075B, approved for construction in 2009, with a maximum power output rate of 460 horsepower, and exhausting through stack P7075B. [326 IAC 2-8-4]

Under NSPS, Subpart IIII, the diesel fire pump is considered a new certified National Fire Protection Association (NFPA) fire pump.

- (b) One (1) emergency diesel generator, identified as GN7000, approved for construction in 2009, with a maximum power output rate of 1,495 horsepower, and exhausting through stack GN7000.

Under NSPS, Subpart IIII, the emergency diesel generator is considered a new stationary compression ignition internal combustion engine.

- (c) One (1) denaturant storage tank, identified as T2104, with a maximum capacity of 128,800 gallons equipped with an internal floating roof for VOC emissions control. [326 IAC 8-4-3] [40 CFR 60, Subpart Kb]

- (d) Three (3) tanks for storage of denatured fuel ethanol and/or E-85, identified as T2102, T2103, and T2105 each with a maximum capacity of 1,015,164 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]

- (e) One (1) fixed-roof anhydrous ethanol off-spec storage tank, identified as T2101, with a maximum capacity of 39,500 gallons, equipped with an internal floating roof for VOC emissions control.

- (f) Two (2) fixed-roof anhydrous ethanol storage tanks (shift tanks), identified as T2110 and T2111, each with a maximum capacity of 250,000 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]

Under NSPS, Subpart Kb, storage tanks T2104, T2102, T2103, T105, T2110, and T2111 are considered volatile organic liquid storage vessels.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-8.11.1. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)								
	PM	PM10*	PM2.5	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
PTE of Entire Plant After Revision**	2069.30	2069.30	2069.30	15.08	102.02	15249.99	95.36	732.42	< 10
PTE of Entire Plant Before Revision**	1869.1	1780.0	1780.0	16.8	100.1	9989.9	107	423.2	< 10
Total PTE of Proposed Revision	200.2	289.3	289.3	-1.72	1.92	5260.09	-11.46	309.22	< 10

negl. = negligible
 * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".
 ** PTE at 8,760 hours per year without control devices or emission limits.

This FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(f)(1)(E)(i) and (iv), because this modification has a potential to emit (PTE) greater than 25 tons of PM, PM10, and VOC per year. In addition, this FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(f)(1)(G), because this modification has potential to emit (PTE) greater than 10 tons per year of a single HAP and 25 tons per year of any combination of HAPs.

Finally, this FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(g)(2) because it involves adjustment to the existing source-wide emissions limitations to maintain the FESOP status of the source (see PTE of the Entire Source After The Issuance of the FESOP Revision Section).

PTE of the Entire Source After Issuance of the FESOP Revision

The table below summarizes the potential to emit of the entire source (reflecting adjustment of existing limits), with updated emissions shown as **bold** values and previous emissions shown as ~~strike through~~ values.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)								
	PM	PM10*	PM2.5	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Truck/Rail Grain Receiving and Conveying (EP1101 and EP1101C)	6.19 4.51	6.19 4.51	6.19 4.51	0	0	0	0	0	0
Grain Receiving-Fugitive	4.50	4.48	4.48	0	0	0	0	0	0
Truck Receiving and Conveying (EP1102 and EP1102C)	1.88	1.88	1.88	0	0	0	0	0	0

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)								
	PM	PM10*	PM2.5	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Grain Storage Silos (EP2003A and EP2004A)	0.75	0.75	0.75	0	0	0	0	0	0
Corn Scalper and Hammer Mill Surge Bins (EP2005A, EP1200A, EP1200B, EP1200C, and EP1200D)	0.19	0.19	0.19	0	0	0	0	0	0
Hammermill #1 (EP20041205)	4.22 1.13	4.22 1.13	4.22 1.13	0	0	0	0	0	0
Hammermill #2 (EP20021206)	4.22 1.13	4.22 1.13	4.22 1.13	0	0	0	0	0	0
Hammermill #3 (EP20031207)	4.22 1.13	4.22 1.13	4.22 1.13	0	0	0	0	0	0
Hammermill #4 (EP1208)	1.13	1.13	1.13	0	0	0	0	0	0
Pellet Mills (EP2250A and EP2250B)	4.51	4.51	4.51	0	0	0	0	0	0
DDGS Loadout (EP1102)	0.75	0.75	0.75	0	0	0	0	0	0
DDGS Handling and Storage - Fugitive	14.54	4.84	4.84	0	0	0	0	0	0
DDGS Rail to Barge Unloading (EP2252)	4.51	4.51	4.51	0	0	0	0	0	0
DDGS Barge Loadout (EP2251)	2.82	2.82	2.82	0	0	0	0	0	0
DDGS Truck Loadout (EP2201)	0.26	0.26	0.26	0	0	0	0	0	0
DDGS Rail Loadout (EP2202A, EP2202B, and EP2202C)	0.79	0.79	0.79	0	0	0	0	0	0
Pre-Fermentation Scrubber (GES1400)	0	0	0	0	0	11.7 10.73	0	3.02 1.58	2.58 0.88 Acetaldehyde
Fermentation Scrubber (GES1401)	0	0	0	0	0	24.2 29.3	0	4.77 4.12	3.33 1.53 Acetaldehyde
Distillation Scrubber (GES1504)	0	0	0	0	0	5.67 6.75	0	3.02 2.06	2.8 1.75 Acetaldehyde
Heat Recovery Evaporators	0	0	0	0	0	4.04	0	0	0
Boilers (BL5001, BL5002, BL5003, and BL50024)	3.09 12.55	12.4 12.55	12.4 12.55	0.98 8.26	31.9 32.38	8.94 9.08	22.3 22.66	3.07 3.12	negl. 2.97 Hexane
Swiss-Combi dryer system (D18042A and D1802B)	32.5	32.5	32.5	0.4 3.56	57.1	17.2	69.9	4.15 11.86	negl. 5.69 Acetaldehyde
Ethanol loading racks (EP22101 and EP221501)	0	0	0	0	2.79 0	8.44 5.67	4.65 0	0.31 0.36	negl.
Biomethanator (insignificant)	0.07	0.07	0.07	12.1	0.73	0.13	1.84	0.08	negl.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)								
	PM	PM10*	PM2.5	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Paved Roads (insignificant)	18.2	3.64	3.64	0	0	0	0	0	0
Cooling Tower (insignificant)	14.4 3.93	14.4 3.93	14.4 3.93	0	0	0	0	0	0
Diesel Fire Pump (insignificant)	0.23 0.25	0.23 0.25	0.23 0.25	0.22 0.24	3.26 3.57	0.26 0.28	0.70 0.77	negl.	negl.
Storage Tanks (insignificant)	0	0	0	0	0	40.6 3.53	0	0 negl.	0 negl.
Equipment Leaks*** (insignificant)	0	0	0	0	0	7.29 see note	0	0.42	negl.
Wet Cake Storage**	0	0	0	0	0	see note	0	see note	
Other Insignificant Activities	1.0	1.0	1.0	0	0	1.0	0	0	0
Emergency Diesel Generator	0.16	0.16	0.16	1.81	5.38	0.16	1.23	negl.	negl.
Total PTE of Entire Source	99.1 74.09	81.1 74.09	81.1 74.09	13.7 13.87	95.8 98.43	96.5 82.72	99.4 94.54	15.9 23.51	8.71 9.85
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA

negl. = negligible
 * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".
 ** This plant is capable of producing both DDGS and MDGS; however, emissions from DDGS production have been determined to be the worst cast scenario. Therefore, the PTE of wetcake storage is not included in the PTE for the entire source.
 *** Since the source is no longer 1 of the 28 listed source categories fugitive PM/PM10 and VOC emissions no longer count toward the determination of PSD, Emission Offset, and Part 70 Permit applicability. However, fugitive HAP emissions still count toward the determination of Part 70 Permit applicability.

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)								
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Truck/Rail Receiving and Conveying (EP1101 and EP110C)	4.51	4.51	4.51	0	0	0	0	0	0
Truck Receiving and Conveying (EP1102 and EP1102C)	1.88	1.88	1.88	0	0	0	0	0	0
Grain Storage Silos (EP2003A and EP2004A)	0.75	0.75	0.75	0	0	0	0	0	0
Corn Scalper and Hammer Mill Surge Bins (EP2005A, EP1200A, EP1200B, EP1200C, and EP1200D)	0.19	0.19	0.19	0	0	0	0	0	0
Hammermill #1 (EP1205)	1.13	1.13	1.13	0	0	0	0	0	0
Hammermill #2 (EP1206)	1.13	1.13	1.13	0	0	0	0	0	0
Hammermill #3 (EP1207)	1.13	1.13	1.13	0	0	0	0	0	0
Hammermill #4 (EP1208)	1.13	1.13	1.13	0	0	0	0	0	0
Pellet Mills (EP2250A and EP2250B)	4.51	4.51	4.51	0	0	0	0	0	0
DDGS Rail to Barge Unloading (EP2252)	4.51	4.51	4.51	0	0	0	0	0	0
DDGS Barge Loadout (EP2251)	2.82	2.82	2.82	0	0	0	0	0	0
DDGS Truck Loadout (EP2201)	0.26	0.26	0.26	0	0	0	0	0	0
DDGS Rail Loadout (EP2202A, EP2202B, and EP2202C)	0.79	0.79	0.79	0	0	0	0	0	0
Pre-Fermentation Scrubber (S1400)	0	0	0	0	0	10.73	0	1.58	0.88 Acetaldehyde
Fermentation Scrubber (S1401)	0	0	0	0	0	29.3	0	4.12	1.53 Acetaldehyde
Distillation Scrubber (S1504)	0	0	0	0	0	6.75	0	2.06	1.75 Acetaldehyde
Boilers (BL5001, BL5002, BL5003, and BL5004)	12.55	12.55	12.55	8.26	32.38	9.08	22.66	3.12	2.97 Hexane
Swiss-Combi dryer system (D1802A and D1802B)	32.5	32.5	32.5	3.56	57.1	17.2	69.9	11.86	5.69 Acetaldehyde
Ethanol loading racks (EP2101 and EP2501)	0	0	0	0	0	5.67	0	0.36	negl.
Cooling Tower (insignificant)	3.93	3.93	3.93	0	0	0	0	0	0
Diesel Fire Pump (insignificant)	0.25	0.25	0.25	0.24	3.57	0.28	0.77	negl.	negl.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)								
	PM	PM10	PM2.5	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Storage Tanks (insignificant)	0	0	0	0	0	3.53	0	negl.	negl.
Equipment Leaks*** (insignificant)	0	0	0	0	0	see note	0	0.42	negl.
Wet Cake Storage**	0	0	0	0	0	see note	0	see note	
Emergency Diesel Generator	0.16	0.16	0.16	1.81	5.38	0.16	1.23	negl.	negl.
Total PTE of Entire Source	74.09	74.09	74.09	13.87	98.43	82.72	94.54	23.51	9.85
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA
negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". ** This plant is capable of producing booth DDGS and MDGS; however, emissions from DDGS production have been determined to be the worst cast scenario. Therefore, the PTE of wetcake storage is not included in the PTE for the entire source. *** Since the source is no longer 1 of the 28 listed source categories fugitive PM/PM10 and VOC emissions no longer count toward the determination of PSD, Emission Offset, and Part 70 Permit applicability. However, fugitive HAP emissions still count toward the determination of Part 70 Permit applicability.									

(a) FESOP Status

This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following revised limits:

- (1) The following new/modified emission units shall not exceed the PM10 and PM2.5 emission limits specified in the following table: (Note: The existing PM10 emission limits have been revised and new PM10/PM2.5 emission limits have been included.)

Unit Description	Baghouse ID	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
Truck/Rail Receiving Pit and Grain Transfer Conveyor (EP1101 and EP1101C)	DC1101	1.03	1.03
Truck Receiving Pit and Grain Transfer Conveyor (EP1102 and EP1102C)	DC1102	0.43	0.43
Grain Storage Silo (EP2003A)	DC2003A DC2003B	0.08	0.08
Grain Storage Silo (EP2004A)	DC2004A DC2004B	0.08	0.08
Hammer Mill Surge Bins and Corn Scalper (EP1200A through EP1200D and EP2005A)	DC1200	0.04	0.04
Hammermill (EP1205)	DC1205	0.26	0.26
Hammermill (EP1206)	DC1206	0.26	0.26
Hammermill (EP1207)	DC1207	0.26	0.26
Hammermill (EP1208)	DC1208	0.26	0.26
Pellet Mill (EP2250A)	DC2250A	0.51	0.51
Pellet Mill (EP2250B)	DC2250B	0.51	0.51
DDGS Rail to Barge Unloading (EP2252)	S2252	1.03	1.03
DDGS Barge Loadout (EP2251)	DC2251	0.64	0.64
DDGS Truck Loadout (EP2201)	LS2201	0.06	0.06
DDGS Rail Loadout (EP2202A)	LS2202A	0.06	0.06
DDGS Rail Loadout (EP2202B)	LS2202B	0.06	0.06
DDGS Rail Loadout (EP2202C)	LS2202C	0.06	0.06

- (2) The emissions from the Pre-Fermentation Scrubber (S1400) shall not exceed the following: (Note: The existing VOC, Acetaldehyde, and Total HAPs emission limits have been revised.)

- (i) VOC emissions shall not exceed 2.45 lbs/hr.
- (ii) Acetaldehyde emissions shall not exceed 0.20 lbs/hr.

- (iii) Total HAPs emissions shall not exceed 0.36 lbs/hr.
- (3) The emissions from the Fermentation Scrubber (S1401) shall not exceed the following: (Note: The existing VOC, Acetaldehyde, and Total HAPs emission limits have been revised.)
- (i) VOC emissions shall not exceed 6.69 lbs/hr.
 - (ii) Acetaldehyde emissions shall not exceed 0.35 lbs/hr.
 - (iii) Total HAPs emissions shall not exceed 0.94 lbs/hr.
- (4) The emissions from the Distillation Scrubber (S1504) shall not exceed the following: (Note: The existing VOC, Acetaldehyde, and Total HAPs emission limits have been revised.)
- (i) VOC emissions shall not exceed 1.54 lbs/hr.
 - (ii) Acetaldehyde emissions shall not exceed 0.40 lbs/hr.
 - (iii) Total HAPs shall not exceed 0.47 lbs/hr.
- (5) The Permittee shall comply with the following requirements for the boilers, identified as BL5001 through BL5004: (Note: The existing natural gas usage limit has been increased and a PM2.5 limit has been included.)
- (i) The boilers shall only burn natural gas.
 - (ii) The input of natural gas to the boilers shall be limited to 3302.4 MMCF per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (iii) NOx emissions shall not exceed 19.6 pounds per MMCF.
 - (iv) CO emissions shall not exceed 13.7 pounds per MMCF.
 - (v) PM10 emissions shall not exceed 7.6 pounds per MMCF.
 - (vi) PM2.5 emissions shall not exceed 7.6 pounds per MMCF.
- (6) The Permittee shall comply with the following requirements for the Swiss Combi Dryer Systems (D1802A and D1802B) which are used to control the emissions from DDGS drying and cooling: (Note: The existing SO2, Acetaldehyde, and Total HAPs emission limits have been revised and a PM2.5 emission limit has been included.)
- (i) PM10 emissions shall not exceed 3.71 lbs/hr for each stack (S1802A and S1802B).
 - (ii) PM2.5 emissions shall not exceed 3.71 lbs/hr for each stack (S1802A and S1802B).
 - (iii) VOC emissions shall not exceed 1.97 lbs/hr for each stack (S1802A and S1802B).
 - (iv) CO emissions shall not exceed 7.97 lbs/hr for each stack (S1802A and S1802B).

- (v) SO₂ emissions shall not exceed 0.407 lbs/hr for each stack (S1802A and S1802B).
 - (vi) NO_x emissions shall not exceed 6.52 lbs/hr for each stack (S1802A and S1802B).
 - (vii) Acetaldehyde emissions shall not exceed 0.65 lbs/hr for each stack (S1802A and S1802B).
 - (viii) Total HAP emissions shall not exceed 1.35 lbs/hr for each stack (S1802A and S1802B).
- (7) The Permittee shall comply with the following emission limits for the ethanol loading racks (EP2101 and EP2501): (Note: This revision required adjustments to the existing emission limits.)
- (i) The combined total denatured ethanol and E85 load-out rate shall not exceed 135,714,290 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.
 - (ii) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system identified as S2101 to control the emissions from ethanol loading to trucks and railcars (EP2101).
 - (iii) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system identified as S2501 to control the emissions from ethanol loading to barges (EP2501).
 - (iv) The VOC emissions from S2101 shall not exceed 0.0835 lbs/kgal.
 - (v) The VOC emissions from S2501 shall not exceed 0.0835 lbs/kgal.
 - (vi) The ethanol loading racks shall utilize submerged loading methods.
 - (vii) The railcars, trucks, and barges shall not use vapor balance services.
- (8) The operating hours for the diesel fired stationary fire pump (P7075B) shall not exceed 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month. (Note: This revision did not require any adjustment to the existing hours of operation limit.)
- (9) The operating hours for the emergency diesel generator (GN7000) shall not exceed 300 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, CO, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, and CO to less than 100 tons per 12 consecutive month period, each, any single HAP to less than ten (10) tons per 12 consecutive month period, and total HAPs to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

(b) PSD Minor Source

This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

- (1) The following new/modified emission units shall not exceed the PM emissions limits specified in the following table: (Note: The existing PM emission limits have been revised and new PM emission limits have been included.)

Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)
Truck/Rail Receiving Pit and Grain Transfer Conveyor (EP1101 and EP1101C)	DC1101	1.03
Truck Receiving Pit and Grain Transfer Conveyor (EP1102 and EP1102C)	DC1102	0.43
Grain Storage Silo (EP2003A)	DC2003A DC2003B	0.08
Grain Storage Silo (EP2004A)	DC2004A DC2004B	0.08
Hammer Mill Surge Bins and Corn Scalper (EP1200A through EP1200D and EP2005A)	DC1200	0.04
Hammermill (EP1205)	DC1205	0.26
Hammermill (EP1206)	DC1206	0.26
Hammermill (EP1207)	DC1207	0.26
Hammermill (EP1208)	DC1208	0.26
Pellet Mill (EP2250A)	DC2250A	0.51
Pellet Mill (EP2250B)	DC2250B	0.51
DDGS Rail to Barge Unloading (EP2252)	S2252	1.03
DDGS Barge Loadout (EP2251)	DC2251	0.64
DDGS Truck Loadout (EP2201)	LS2201	0.06
DDGS Rail Loadout (EP2202A)	LS2202A	0.06
DDGS Rail Loadout (EP2202B)	LS2202B	0.06
DDGS Rail Loadout (EP2202C)	LS2202C	0.06

- (2) The Permittee shall comply with the following requirements for the boilers, identified as BL5001 through BL5004: (Note: This revision required an adjustments to the existing PM emission limit.)

- (i) PM emissions shall not exceed 7.6 pounds per MMCF.

- (3) The Permittee shall comply with the following requirements for the Swiss Combi Dryer Systems (D1802A and D1802B) which are used to control the emissions from DDGS drying and cooling: (Note: This revision did not require any adjustments to the existing PM emission limit.)

- (i) PM emissions shall not exceed 3.71 lbs/hr for each stack (S1802A and S1802B).

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The four (4) new boilers, identified as BL5001, BL5002, BL5003, and BL5004 and the two (2) existing Swiss Combi Dryer Systems, identified as DC1802A and DC1802B, are used to produce steam and each of them has a maximum heat input capacity greater than or equal to 10 MMBtu/hr and less than or equal to 100 MMBtu/hr, and will be constructed after June 9, 1989. Therefore, they are both subject to the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12, 40 CFR 60.40c-48c, Subpart Dc).

The proposed boilers (BL5001 through BL5004) and Swiss Combi Dryer Systems (D1802A and D1802B) are subject to the following portions of 40 CFR 60, Subpart Dc.

- (1) 40 CFR 60.40c
- (2) 40 CFR 60.41c
- (3) 40 CFR 60.48c (a)
- (4) 40 CFR 60.48c (g)(2)
- (5) 40 CFR 60.48c (i)
- (4) 40 CFR 60.48c (j)

Nonapplicable portions of the NSPS will not be included in the permit.

The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the boilers (BL5001 through BL5004) and Swiss Combi Dryer Systems (D1802A and D1802B), except when otherwise specified in 40 CFR 60, Subpart Dc.

- (b) Due to this revision Tanks T2110 and T2111 now 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 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). Tanks T2102, T2103, T2104, and T2105 shall continue to be subject to Subpart Kb, as specified in FESOP No. 129-23484-00050, issued on January 25, 2007.

The Permittee has elected to install internal floating roofs with the fixed roof tanks T2110 and T2111. These tanks are subject to the following portions of 40 CFR 60, Subpart Kb.

- (1) 40 CFR 60.110b
- (2) 40 CFR 60.111b
- (3) 40 CFR 60.112b(a)(1)
- (4) 40 CFR 60.113b(a)
- (5) 40 CFR 60.115b(a)

- (6) 40 CFR 60.116b(a – e)
- (7) 40 CFR 60.117b

Nonapplicable portions of the NSPS will not be included in the permit.

The provisions of 40 CFR 60 Subpart A – General Provisions, which are incorporated as 326 IAC 12, apply to T2110 and T21111, except when otherwise specified in 40 CFR 60, Subpart Kb.

- (c) Ethanol is one of the chemicals listed in 40 CFR 60.489. Therefore, this ethanol production plant is subject to the requirements of Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (326 IAC 12, 40 CFR 60.480a - 489a Subpart VVa).

Pumps, compressors, pressure relief devices, sampling connection systems, and valves are subject to the following portions of 40 CFR 60, Subpart VVa.

- (1) 40 CFR 60.480a
- (2) 40 CFR 60.481a
- (3) 40 CFR 60.482-1a
- (4) 40 CFR 60.482-2a
- (5) 40 CFR 60.482-3a
- (6) 40 CFR 60.482-4a
- (7) 40 CFR 60.482-5a
- (8) 40 CFR 60.482-6a
- (9) 40 CFR 60.482-7a
- (10) 40 CFR 60.482-8a
- (11) 40 CFR 60.482-9a
- (12) 40 CFR 60.482-10a
- (13) 40 CFR 60.482-11a
- (14) 40 CFR 60.483-1a
- (15) 40 CFR 60.483-2a
- (16) 40 CFR 60.485a
- (17) 40 CFR 60.486a
- (18) 40 CFR 60.487a
- (19) 40 CFR 60.488a
- (20) 40 CFR 60.489a

- (f) The new stationary emergency diesel generator, identified as GN7000, will commence construction after July 11, 2005 and was manufactured after April 1, 2006. Therefore, the emergency diesel generator, identified as GN7000, is subject to the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (326 IAC 12, 40 CFR 60.4200 - 4209, Subpart IIII). The diesel fired fire pump (P7075B) shall continue to be subject to Subpart IIII, as specified in FESOP No. 129-23484-00050, issued on January 25, 2007.

The proposed emergency diesel generator (GN7000) is subject to the following portions of 40 CFR 60, Subpart IIII

- (1) 40 CFR 60.4200(a)(2)
- (2) 40 CFR 60.4200(a)(3)
- (3) 40 CFR 60.4200(b)
- (4) 40 CFR 60.4205(b)
- (5) 40 CFR 60.4206
- (6) 40 CFR 60.4207(a)
- (7) 40 CFR 60.4207(b)
- (8) 40 CFR 60.4207(c)

- (9) 40 CFR 60.4208
- (10) 40 CFR 60.4209(a)
- (11) 40 CFR 60.4211(a)
- (12) 40 CFR 60.4211(c)
- (13) 40 CFR 60.4211(e)
- (14) 40 CFR 60.4212
- (15) 40 CFR 60.4214(b)
- (16) 40 CFR 60.4218
- (17) 40 CFR 60.4219
- (18) Tables 5 and 8

Nonapplicable portions of the NSPS will not be included in the permit.

The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to this source, except when otherwise specified in 40 CFR 60, Subpart IIII.

- (g) There are no other New Source Performance Standards (NSPS)(40 CFR Part 60) included for this proposed revision).

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

- (b) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The unlimited potential to emit of HAPs from the new/modified units is greater than ten (10) tons per year for any single HAP and/or greater than twenty-five (25) tons per year of a combination of HAPs. However, the source shall limit the potential to emit of HAPs from the new/modified units to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the proposed revision is not subject to the requirements of 326 IAC 2-4.1. See PTE of the Entire Source After Issuance of the FESOP Revision Section

above.

- (d) **326 IAC 2-6 (Emission Reporting)**
 Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (e) **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 shall meet the following, unless otherwise stated in this permit:
 - (1) 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.
 - (2) 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.
- (f) **326 IAC 6-4 (Fugitive Dust Emissions Limitations)**
 Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.
- (f) **326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)**
 Due to this revision, the source is subject to the requirements of 326 IAC 6-5, because the grain handling/receiving, DDGS handling/loading, and paved and unpaved roads have potential fugitive particulate emissions greater than 25 tons per year. Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, submitted on February 19, 2009, which is included as Attachment A to the permit.

Grain Receiving and Handling Operations

- (a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
 Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the each of the following operation shall not exceed the pounds per hour limitation listed in the table below: (Note: This revision required adjustments to the existing 326 IAC 6-3-2 particulate emission rates.)

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EP1101	Truck/Rail Receiving Pit	1680	84.5
EP1102	Truck Receiving Pit	1120	79.1
EP1101C	Grain Conveyor	1680	84.5
EP1102C	Grain Conveyor	1120	79.1
EP2003A	Grain Storage Silo	140	54.7
EP2004A	Grain Storage Silo	140	54.7
EP2005A	Corn Scalper	150	55.4
EP12050A through EP1200D	Hammer Mill Surge Bins	117.6, each	52.9, each

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EP1205	Hammermill	117.6	52.9
EP1206	Hammermill	117.6	52.9
EP1207	Hammermill	117.6	52.9
EP1208	Hammermill	117.6	52.9
EP2250A	Pellet Mill*	30	40.0
EP2250B	Pellet Mill*	30	40.0
EP2252	DDGS Rail to Barge Unloading	400	66.3
EP2251	DDGS Barge Loadout	200	58.5
EP2201	DDGS Truck Loadout	200	58.5
EP2202A	DDGS Rail Loadout	200	58.5
EP2202B	DDGS Rail Loadout	200	58.5
EP2202C	DDGS Rail Loadout	200	58.5

The pound per hour limitations were calculated with 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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

or

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.

According to the emission calculations (see Appendix A), the potential to emit PM before control from the truck receiving pit and grain conveyor, grain storage silos, hammer mill surge bins and corn scalper, hammermills and DDGS truck and rail loadout are less than the emission limits shown above; therefore these operations are capable of complying with 326 IAC 6-3-2. The potential to emit PM after control from the truck/rail receiving pit and grain conveyor, pellet mills, DDGS rail to barge unloading, and DDGS barge loadout are less than the emission limit above. Therefore, in order to comply with this limit, baghouses DC1101, S2252, high efficiency dustless spout filter system DC2251, and cyclones DC2250A and DC2250B shall be in operation at all times when the truck/rail receiving pit and grain conveyor, pellet mills, DDGS rail to barge unloading, and DDGS barge loadout are in operation.

Fermentation and Distillation Processes

- (a) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The fermentation and distillation processes located at this source are being modified after April 1, 2007; therefore they are now subject to the requirements in 326 IAC 8-5-6. As a result, these operations are no longer subject to the requirements of 326 IAC 8-1-6 (BACT).
- (b) 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills)
On February 20, 2007, IDEM, OAQ adopted a new rule (326 IAC 8-5-6) for fuel grade ethanol production at dry mills. The facility is modifying the fuel grade ethanol production plant after April 1, 2007 and has a combined potential VOC emissions from the fermentation process, distillation process, DDGS dryers, and ethanol loadout operation greater than 25 tons per year. As a result, the fermentation and distillation processes at this source are now subject to the requirements in 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills). Therefore, the fermentation and distillation processes at this source are no longer subject to the requirements of 326 IAC 8-1-6 (BACT). The Permittee shall comply with the following:
- (1) Pursuant to 326 IAC 8-5-6(c), the Permittee has chosen to control the VOC emissions from the fermentation and distillation processes with wet scrubbers. Therefore, the following conditions apply:
 - (A) The VOC emissions from the fermentation and distillation processes shall be controlled by wet scrubbers, identified as S1400, S1401, and S1504.
 - (B) The overall efficiency for each of the wet scrubbers S1400, S1401, and S1504 (including the capture efficiency and absorption efficiency), shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.
 - (2) Pursuant to 326 IAC 8-5-6(d), the Permittee shall determine initial compliance with the control efficiency requirements within sixty (60) days after achieving maximum production levels but no later than one hundred and eighty (180) days after startup.
 - (3) Pursuant to 326 IAC 8-5-6(e), the Permittee shall ensure and verify initial and continuing compliance with the control efficiency requirements by doing the following:
 - (A) The Permittee shall meet the following requirements for the wet scrubbers S1400, S1401, and S1504:
 - (i) The pressure drop across the scrubber must be within the normal range established during the latest stack test. The pressure drop of the scrubber must be monitored at least once per day when the associated emission unit is in operation to ensure that the pressure drop across the scrubber is within the normal range established during the latest stack test.
 - (ii) The scrubber flow rate must be greater than the minimum flow rate for the scrubber during normal operation. The scrubber flow rate must be monitored at least once per day when the associated emission unit is in operation to ensure that the flow rate of the scrubber is greater than the minimum flow rate established during the latest stack test.
 - (iii) Maintain daily records of pressure drop and flow rate for the scrubber during normal operation.
- (c) There are no other 326 IAC 8 Rules that are applicable to the fermentation and distillation processes.

Boilers

- (a) 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:

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

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

The total source heat input capacity is $(92.4)(4) = 369.6$ MMBtu/hr. Therefore, the PM emission limit for each of the boilers identified as BL5001, BL5002, BL5003, and BL5004 is calculated as follows:

$$P_t = \frac{1.09}{369.6^{0.26}} = 0.234 \text{ lbs/MMBtu.}$$

A PM emission limit of 0.234 lbs/MMBtu is equivalent to 21.62 lbs/hr ($0.234 \text{ lbs/MMBtu} \times 92.4 \text{ MMBtu/hr} = 21.62 \text{ lbs/hr}$) of PM emissions from each of the boilers identified as BL5001, BL5002, BL5003, and BL5004. According to the emission calculations in Appendix A, the total PM emissions from BL5001, BL5002, BL5003, and BL5004 are 0.72 lbs/hr. Therefore, the boilers are capable of complying with the PM requirements in 326 IAC 6-2-4.

- (b) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (c) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

DDGS Drying and Cooling Systems

- (a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
This revision did not require adjustments to the existing 326 IAC 6-3-2 particulate emission rates. Therefore, the source shall continue to comply with the applicable 326 IAC 6-3-2 permit conditions as contained in FESOP No. 129-23484-00050.)
- (b) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The DDGS dryers located at this source are being modified after April 1, 2007; therefore they are now subject to the requirements in 326 IAC 8-5-6. As a result, these operations are no longer subject to the requirements of 326 IAC 8-1-6 (BACT).
- (c) 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills)
On February 20, 2007, IDEM, OAQ adopted a new rule (326 IAC 8-5-6) for fuel grade ethanol production at dry mills. The facility is modifying the fuel grade ethanol production plant after April 1, 2007 and has a combined potential VOC emissions from the fermentation process, distillation process, DDGS dryers, and ethanol loadout operation greater than 25 tons per year. As a result, the DDGS dryers at this source are now subject to the requirements in 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills). Therefore, the DDGS dryers at this source are no longer subject to the requirements of 326 IAC 8-1-6 (BACT). The Permittee shall comply with the following:

- (1) Pursuant to 326 IAC 8-5-6(c), the Permittee has chosen to control the VOC emissions from the DDGS dryers by thermal oxidation. Therefore, the following conditions apply:
 - (A) The VOC emissions from the Swiss Combi Dryer Systems (D1802A and D1802B) shall be controlled by thermal oxidation.
 - (B) The overall efficiency for the Swiss Combi Dryer Systems, identified as D1802A and D1802B, (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.
- (2) Pursuant to 326 IAC 8-5-6(d), the Permittee shall determine initial compliance with the control efficiency requirements within sixty (60) days after achieving maximum production levels but no later than one hundred and eighty (180) days after startup.
- (3) Pursuant to 326 IAC 8-5-6(e), the Permittee shall ensure and verify initial and continuing compliance with the control efficiency requirements by doing the following:
 - (A) The Permittee shall meet the following requirements for the Swiss Combi Dryer Systems, identified as D1802A and D1802B:
 - (i) The three (3) hour average operating temperature of the oxidizer, as measured by a continuous temperature monitor, must be greater than or equal to the minimum operating temperature established during the most recent compliance demonstration.
 - (ii) Maintain continuous temperature records for the thermal oxidizer and the three (3) hour average operating temperature used to demonstrate compliance during the most recent compliant stack test.
 - (iii) The three (3) hour average duct pressure or fan amperage, as measured by a continuous parameter monitoring system, must be within the normal range established during the most recent compliance demonstration.
 - (iv) Maintain daily records of the duct pressure or fan amperage for the thermal oxidizer.
- (d) There are no other 326 IAC 8 Rules that are applicable to the DDGS dryers.
- (e) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (f) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Ethanol Loading Racks (Ethanol Barge Loadout, Truck Loadout and Ethanol Rail Loadout)

- (a) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The ethanol loadout operations located at this source are being modified after April 1, 2007; therefore they are now subject to the requirements in 326 IAC 8-5-6. As a result, these operations are no longer subject to the requirements of 326 IAC 8-1-6 (BACT).

- (b) 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills)
On February 20, 2007, IDEM, OAQ adopted a new rule (326 IAC 8-5-6) for fuel grade ethanol production at dry mills. The facility is modifying the fuel grade ethanol production plant after April 1, 2007 and has a combined potential VOC emissions from the fermentation process, distillation process, DDGS dryers, and ethanol loadout operation greater than 25 tons per year. As a result, the ethanol loadout operations at this source are now subject to the requirements in 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills). Therefore, the ethanol loadout operations at this source are no longer subject to the requirements of 326 IAC 8-1-6 (BACT).

Pursuant to 326 IAC 8-5-6, the Permittee may use a thermal oxidizer, wet scrubber, or enclosed flare to control VOC emissions from the ethanol loadout operations. In FESOP No. 129-23484-00050, issued on January 25, 2007, the source was required pursuant to 326 IAC 8-1-6 (BACT) to control VOC emissions from the ethanol loadout operations using two (2) enclosed flares.

However, the source has requested to use two carbon adsorption/absorption hydrocarbon vapor recovery systems, identified as S2101 and S2501 to control VOC emission from the ethanol truck and rail loading rack (EP2210) and the ethanol barge loading rack (EP2211) in lieu of the requirement to use enclosed flares. Pursuant to Indiana Code 13-14-8-8, IDEM allows sources to request a variance from a rule if they believe it will impose an "undue hardship or burden" upon the source. As a result, the Permittee submitted a request for a variance from the requirements of 326 IAC 8-5-6 for the ethanol loading racks on February 23, 2009.

- (1) Pursuant to Commissioner's Order #2009-OAQ-01 and Variance issued on April 29, 2009, in lieu of the requirement to control VOC emissions from the ethanol loading racks as specified in 326 IAC 8-5-6, the Permittee shall control the VOC emissions from the ethanol loading racks with carbon adsorption/absorption hydrocarbon vapor recovery systems. Therefore, the following conditions apply:
- (A) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101 to control the emissions from ethanol loading to trucks and railcars (EP2101).
 - (B) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501 to control the emissions from ethanol loading to barges (EP2501).
 - (C) The overall efficiency for each of the carbon adsorption/absorption hydrocarbon vapor recovery systems, S2101 and S2501 (including the capture efficiency and adsorption/absorption efficiency) shall be at least 98%.
 - (D) The carbon adsorption/absorption hydrocarbon vapor recovery systems (S2101 and S2501) shall be in operation and control emissions from the ethanol loading systems (EP2101 and EP2501) at all times when these units are in operation.
 - (E) The Permittee shall determine initial compliance with the control efficiency requirements within sixty (60) days after achieving maximum production levels but no later than one hundred and eighty (180) days after startup.
 - (F) The Permittee shall monitor and record the carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall achieve 3 inches Hg during the regeneration cycle of the carbon beds.

- (G) The Permittee shall monitor and record the high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall be maintained at a temperature below 200°F.
 - (H) The Permittee shall maintain records of the carbon bed regeneration pressure and high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501).
- (c) There are no other 326 IAC 8 Rules that are applicable to the ethanol loading racks.

Cooling Tower (Insignificant Activity)

- (a) 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.

Storage Tanks (Insignificant Activities)

- (a) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
This revision did not require any modifications to the existing 326 IAC 8-4-3 requirements for the denaturant storage tank (T2104). Therefore, the source shall continue to comply with the applicable 326 IAC 8-4-3 permit conditions as contained in FESOP No. 129-23484-00050.

Emergency Diesel Generator (Insignificant Activity)

- (a) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
The emergency generator is not subject to 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating), because, pursuant to 326 IAC 1-2-19, this emission unit does not meet the definition of an indirect heating unit.
- (b) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The emergency generator is exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight.
- (c) 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations)
The emergency generator is not subject to 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations) because the potential to emit sulfur dioxide is less than twenty-five (25) tons per year and ten (10) pounds per hour, each.
- (d) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The emergency generator is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions are less than twenty-five (25) tons per year.
- (e) 326 IAC 9-1-1 (Carbon Monoxide Emission Limits)
The emergency generator is not subject to 326 IAC 9-1-1 (Carbon Monoxide Emission Limits) because there is no applicable emission limits for the source under 326 IAC 9-1-2.
- (f) 326 IAC 10-1-1 (Nitrogen Oxides Control)
The emergency generator is not subject to 326 IAC 10-1-1 (Nitrogen Oxides Control) because the source is not located in Clark or Floyd counties.

- (g) 326 IAC 10-5-1 (Nitrogen Oxide Reduction Program for Internal Combustion Engines (ICE))
 The emergency generator is not subject to 326 IAC 10-5-1 (Nitrogen Oxide Reduction Program for Internal Combustion Engines (ICE)) because it is not a large NOx SIP Call engines, as defined in 326 IAC 10-5-2(4).
- (h) 326 IAC 12 (New Source Performance Standards)
 See Federal Rule Applicability Section of this TSD.
- (i) 326 IAC 20 (Hazardous Air Pollutants)
 See Federal Rule Applicability Section of this TSD.

Compliance Determination, Monitoring and Testing Requirements
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- (a) The compliance determination and monitoring requirements applicable to this proposed revision are as follows:

Emission Unit/Control	Operating Parameters	Frequency
EP1101/DC1101, EP1102/DC1102, EP2003A/DC2003A - DC2003B, EP2004A/DC2004A - DC2004B, EP1200A - EP1200D/DC1200, EP1205 - EP1208/DC1205 - DC1208, EP2250A/DC2250A, EP2250B/DC2250B, EP2252/S2252, EP2251/DC2251, EP2201/LS2201, and EP2202A -EP2202C/LS2202A -LS2202C	Pressure Drop and Visible Emissions	Once per day, each
Ethanol Loading Truck/Rail and Barge Racks Carbon Adsorption/Absorption Hydrocarbon Vapor Recovery Systems S2101 and S2501	Carbon bed regeneration pressure and high adsorber bed temperature	Once per day, each

- (1) The existing compliance monitoring requirements for the pre-fermentation, fermentation, and distillation scrubbers and the Swiss Combi Dryer Systems will not change as a result of this revision. The source shall continue to comply with the applicable requirements and permit conditions as contained in FESOP No. 129-23484-00050, issued on January 25, 2007.

(b) The testing requirements applicable to this proposed revision are as follows:

Testing Requirements				
Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Truck/Rail Receiving Pit (EP1101)	DC1101	PM, PM10, and PM2.5	see note below ^{1,3}	Once every 5 years
Truck Receiving Pit (EP1102)	DC1102	PM, PM10, and PM2.5		
Hammermill (EP1205)	DC1205	PM, PM10, and PM2.5	see note below ^{2,4}	Once every 5 years
Hammermill (EP1206)	DC1206	PM, PM10, and PM2.5		
Hammermill (EP1207)	DC1207	PM, PM10, and PM2.5		
Hammermill (EP1208)	DC1208	PM, PM10, and PM2.5		
Pellet Mill (EP2250A)	DC2250A	PM, PM10, and PM2.5		
Pellet Mill (EP2250B)	DC2250B	PM, PM10, and PM2.5		
DDGS Rail to Barge Unloading (EP2252)	S2252	PM, PM10, and PM2.5	see note below ^{1,3}	Once every 5 years
DDGS Barge Loadout (EP2251)	DC2251	PM, PM10, and PM2.5		
DDGS Truck Loadout (EP2201)	LS2201	PM, PM10, and PM2.5	see note below ^{2,4}	Once every 5 years
DDGS Rail Loadout (EP2202A)	LS2202A	PM, PM10, and PM2.5		
DDGS Rail Loadout (EP2202B)	LS2202B	PM, PM10, and PM2.5		
DDGS Rail Loadout (EP2202C)	LS2202C	PM, PM10, and PM2.5		
Boilers (BL5001 - BL5004)	None	NOx and CO	Within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup	Once every 5 years
Swiss Combi Dryer Systems (D1802A and D1802B)	D1802A and D1802B	PM, PM10, PM2.5, VOC, NOx, CO, and Acetaldehyde	see note below ^{5,6}	Once every 5 years
Ethanol Loading Truck/Rail Rack	S2101	VOC	Within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup	Once every 5 years
Ethanol Loading Barge Rack	S2501	VOC		Once every 5 years

- (1) In order to demonstrate compliance with the PSD minor limits, the Permittee shall perform PM testing for baghouses DC1101, DC1102, S2252, and high efficiency dustless spout filter system DC2251 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.
- (2) In order to demonstrate compliance with the PSD minor limits, the Permittee shall perform PM testing for one of the baghouses DC1205, DC1206, DC1207 and DC1208, for one of the cyclones DC2250A and DC2250B, and one of the high efficiency dustless spout filter

systems LS2201, LS2202A, LS2202B, and LS2202C 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 on a different baghouse 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.

- (3) In order to demonstrate compliance with the FESOP and PSD minor limits, the Permittee shall perform PM_{2.5} and PM₁₀ testing for baghouses DC1101, DC1102, S2252, and high efficiency dustless spout filter system DC2251 within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup or within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM_{2.5}), signed on May 8th, 2008, whichever is later. This testing shall be conducted 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 and PM_{2.5} includes filterable and condensable PM.
- (4) In order to demonstrate compliance with the FESOP and PSD minor limits, the Permittee shall perform PM_{2.5} and PM₁₀ testing for one of the baghouses DC1205, DC1206, DC1207 and DC1208, for one of the cyclones DC2250A and DC2250B, and one of the high efficiency dustless spout filter systems LS2201, LS2202A, LS2202B, and LS2202C within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup or within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM_{2.5}), signed on May 8th, 2008, whichever is later. This testing shall be conducted utilizing methods as approved by the Commissioner. These tests shall be repeated on a different baghouse 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 and PM_{2.5} includes filterable and condensable PM.
- (5) In order to demonstrate compliance with the FESOP and PSD minor limits, the Permittee shall perform PM, VOC (including emission rate, destruction efficiency, and capture efficiency), NO_x, CO, and Acetaldehyde testing for each of the thermal oxidizer stacks (S1802A and S1802B) 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.
- (6) In order to demonstrate compliance with the FESOP and PSD minor limits, the Permittee shall perform PM_{2.5} and PM₁₀ testing for each of the thermal oxidizer stacks (S1802A and S1802B) within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup or within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM_{2.5}), signed on May 8th, 2008, whichever is later. This testing shall be conducted 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 and PM_{2.5} includes filterable and condensable PM.
- (7) In order to demonstrate compliance with the FESOP and PSD minor limits and Commissioner's Order #2009-OAQ-01 and Variance issued on April 29, 2009, the

Permittee shall perform VOC (including emission rate, adsorption/absorption efficiency, and capture efficiency) testing for each of the carbon adsorption/absorption hydrocarbon vapor recovery systems stacks (S2101 and S2501) within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup. This testing shall be conducted utilizing methods as approved by the Commissioner. These tests shall be repeated 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.

- (8) The existing testing requirements for the pre-fermentation, fermentation, and distillation scrubbers will not change as a result of this revision. The source shall continue to comply with the applicable requirements and permit conditions as contained in FESOP No. 129-23484-00050, issued on January 25, 2007.

Proposed Changes

- (a) The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:
- (1) The source and mailing addresses have been updated throughout the permit as follows:
~~8999 West Franklin Rd, and Darnell School Rd West Franklin~~ **Mt. Vernon, Indiana 47620**
~~1400 Elbridge Payne, Suite 212~~ **16150 Main Circle Drive, Suite 300**, Chesterfield, Missouri 63017
- (2) Section A.1 has been updated to reflect that the source is no longer 1 of the 28 listed source categories.
- (3) The emission unit descriptions in Conditions A.2 and A.3 have been modified and reflect the deletion of emission units and pollution control devices that will not be constructed, the addition of new emission units and pollution control devices, modifications to emission units and pollution control devices, and revised unit IDs.
- (4) The source is now subject to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations). Therefore, Condition C.7 has been added to the permit. In addition, a fugitive dust control plan has been included as Attachment A.
- (5) Condition C.12 has been revised to correct a typographical error.
- (6) Section D.1 has been modified to reflect the deletion of emission units and pollution control devices that will not be constructed, the addition of new emission units and pollution control devices, modifications to emission units and pollution control devices, and revised unit IDs.
- (7) The PM and PM10 hourly emissions limits in Condition D.1.4 have been revised based on the addition of new control devices. In addition, PM2.5 hourly emission limits have been included due to this revision. The conditions limiting the total grain received, DDGS loadout, and the conditions requiring the Permittee to use periodic sweeping to control PM and PM10 emissions from the paved roads and a choked flow system during grain receiving and handling are also no longer necessary and have been removed from the permit.
- (8) The particulate matter emission limits in Condition D.1.5 have been revised based on the addition of new emission units and control devices.

- (9) New PM, PM10, and PM2.5 testing requirements have been added to Condition D.1.8.
- (10) Conditions D.1.7 through D.1.10 and Conditions D.1.12 through D.1.13 have been modified to reflect the deletion of emission units and pollution control devices that will not be constructed, the addition of new emission units and pollution control devices, modifications to emission units and pollution control devices, and revised unit IDs.
- (11) Section D.2 has been modified to reflect the deletion of emission units and pollution control devices that will not be constructed, the addition of new emission units and pollution control devices, modifications to emission units and pollution control devices, and revised unit IDs.
- (12) The VOC and HAPs emission limits found in Condition D.2.4 have been revised due to modifications to the pre-fermentation, fermentation, and distillation scrubbers.
- (13) Condition D.2.5 has been revised to reflect that the source is no longer subject to the requirements of 326 IAC 8-1-6 and is now subject to the requirements of 326 IAC 8-5-6.
- (14) Condition D.2.6 has been revised to reflect that the source is now subject to the requirements of 40 CFR 60, Subpart VVa.
- (15) Conditions D.2.8 through D.2.11, D.2.13, and D.2.14 have been revised to reflect the revised unit IDs.
- (16) Section D.3 has been modified to reflect the deletion of emission units and pollution control devices that will not be constructed, the addition of new emission units and pollution control devices, modifications to emission units and pollution control devices, and revised unit IDs.
- (17) The natural gas usage limit found in Condition D.3.4 and particulate emission limit in Condition D.3.5 have been revised due to the addition of the four (4) new boilers (92.4 MMBtu/hr, each) and removal of the two (2) existing boilers (182 MMBtu/hr, each). In addition, the existing PM emission limit was revised and a PM2.5 emission limit was included in Condition D.3.4.
- (18) Condition D.3.6 has been revised to reflect that the boilers are no longer subject to the requirements of 40 CFR 60, Subpart Db. The boilers are now subject to the requirements of 40 CFR 60, Subpart Dc.
- (19) The requirements to install, maintain, and operate a continuous emission monitoring system for NO_x (Conditions D.3.8 and D.3.9) have been removed, since the boilers are no longer subject to 40 CFR 60, Subpart Db. In addition, the source is no longer required to keep records of all NO_x continuous emissions monitoring data as specified in Condition D.3.11(b). As a result, Condition D.3.10 (Testing Requirements) has been revised to reflect that the source must perform NO_x testing for one of the boilers, since the source has taken a NO_x emission limit that is less than the AP-42 emission factor for natural gas combustion.
- (20) Section D.4 has been modified to reflect the deletion of emission units and pollution control devices that will not be constructed, the addition of new emission units and pollution control devices, modifications to emission units and pollution control devices, and revised unit IDs.
- (21) Condition D.4.4 has been revised to include a PM2.5 emission limit.

- (22) Condition D.4.5 has been revised to reflect that the source is no longer subject to the requirements of 326 IAC 8-1-6 and is now subject to the requirements of 326 IAC 8-5-6.
- (23) Condition D.4.6 has been added to reflect that the Swiss Combi Dryer Systems are subject to the requirements of 40 CFR 60, Subpart Dc.
- (24) Condition D.4.9 has been revised to reflect the addition of new PM10 and PM2.5 testing requirements.
- (25) Section D.5 has been modified to reflect the deletion of emission units and pollution control devices that will not be constructed, the addition of new emission units and pollution control devices, modifications to emission units and pollution control devices, and revised unit IDs.
- (26) The emission limits found in Condition D.5.4 have been revised to reflect the removal of the flares and addition of the carbon adsorption/absorption hydrocarbon vapor recovery systems.
- (27) Condition D.5.5 has been revised to reflect that the source is no longer subject to the requirements of 326 IAC 8-1-6 and is now subject to the requirements of Commissioner's Order #2009-OAQ-01 and Variance issued on April 29, 2009.
- (28) Condition D.5.6 has been revised to reflect that the source is now subject to the requirements of 40 CFR 60, Subpart VVa.
- (29) The testing requirements in Condition D.5.9 have been revised to reflect the removal of the flares and addition of the carbon adsorption/absorption hydrocarbon vapor recovery systems. The source is no longer required to perform CO and NOx testing.
- (30) Conditions D.5.10, D.5.11 and D.5.12 (formerly D.5.11) have been revised to include new compliance monitoring and record keeping requirements for the carbon adsorption/absorption hydrocarbon vapor recovery systems.
- (31) Section D.6 has been modified to reflect the deletion of emission units and pollution control devices that will not be constructed, the addition of new emission units and pollution control devices, modifications to emission units and pollution control devices, and revised unit IDs.
- (32) The CO emission limit for the diesel fire pump and all references to the biomenthanor flare in Condition D.6.1 has been removed. In addition, a new requirement has been included limiting the hours of operation for the diesel fired emergency generator.
- (33) A new recordkeeping requirement has been added to Condition D.6.3.
- (34) Condition D.7.2 has been revised to reflect that the source is now subject to the requirements of 40 CFR 60, Subpart VVa.
- (35) Sections E.1, E.2, E.3, and E.4 have been modified to reflect the deletion of emission units and pollution control devices that will not be constructed, the addition of new emission units and pollution control devices, modifications to emission units and pollution control devices, and revised unit IDs.
- (36) Conditions E.1.1 and E.1.2 have been removed from the permit and replaced with new Conditions relating to 40 CFR 60, Subpart VVa. The NSPS will no longer be included in Section E.1, it will now be found in Attachment B.

- (37) Conditions E.2.1 and E.2.2 have been removed from the permit and replaced with new Conditions relating to 40 CFR 60, Subpart Dc. The NSPS will no longer be included in Section E.2, it will now be found in Attachment C.
- (38) Conditions E.3.1 and E.3.2 have been updated to include additional emission units. The NSPS will no longer be included in Section E.3, it will now be found in Attachment D.
- (39) Conditions E.4.1 and E.4.2 have been updated to include additional emission units. The NSPS will no longer be included in Section E.4, it will now be found in Attachment E.

...

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: ~~_____~~ **8999 West Franklin Rd and Darnell School Rd West Franklin, Mt. Vernon, Indiana 47620**
Mailing Address: ~~_____~~ **1400 Elbridge Payne, Suite 212 16150 Main Circle Drive, Suite 300, Chesterfield, Missouri 63017**
General Source Phone Number: ~~_____~~ **(636) 728-0508**
SIC Code: ~~_____~~ **2869**
County Location: ~~_____~~ **Posey**
Source Location Status: ~~_____~~ **Attainment for all criteria pollutants**
Source Status: ~~_____~~ **Federally Enforceable State Operating Permit Program
Minor Source, under PSD
Minor Source, Section 112 of the Clean Air Act
Not 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) grain receiving area, identified as EP1101, approved for construction in 2007, controlled by a baghouse, identified as CE1101, exhausting through stack S-1101, and consisting of the following:
 - ~~(1) Two (2) truck receiving pits with a capacity of 560 tons per hour each;~~
 - ~~(2) One (1) grain transfer drag conveyor with a capacity of 1120 tons per hour; and~~
 - ~~(3) Two (2) grain storage silos each with a capacity of 9,520 tons.~~~~
- ~~(b) Three (3) hammermills, identified as EP2001, EP2002, and EP2003, approved for construction in 2007, each with a maximum throughput rate of 42 tons per hour of grain, controlled by baghouses CE2001, CE2002, and CE2003 and exhausting through stacks S-2001, S-2002, and S-2003 respectively.~~
- ~~(c) One (1) DDGS loadout operation, identified as EP1102, approved for construction in 2007 with a maximum throughput rate of 200 tons/hr, controlled by baghouse CE1102, exhausting to stack S-1102.~~
- ~~(d) One (1) fermentation process, approved for construction in 2007, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, consisting of the following major equipment:
 - ~~(1) One (1) prefermenter tank, identified as T-1400, using a wet scrubber (CE1400) and sodium bisulfite injection for VOC control, exhausting through stack S-1400.~~~~

- (2) ~~Six (6) main fermenters and one (1) beer well, identified as T-1401 through T-1407, using a wet scrubber (CE1401), and sodium bisulfite injection for VOC control, exhausting through stack S-1401.~~
- (e) ~~One (1) distillation process, approved for construction in 2007, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, using a wet scrubber, (CE1504) and sodium bisulfite injection for VOC control, exhausting through stack S-1504, and consisting of the following major equipment:~~
- (1) ~~One (1) beer column identified as C-1510.~~
- (2) ~~One (1) stripping column identified as C-1520.~~
- (3) ~~One (1) rectifying column identified as C-1530.~~
- (4) ~~One (1) four tower molecular sieve unit, with associated heat exchangers and pumps.~~
- (f) ~~Two (2) natural gas fired boilers, identified as BL5001 and BL5002, approved for construction in 2007, each with a maximum heat input rate of 182 MMBtu/hr, with emissions exhausting to stacks S-5001 and S-5002, respectively.~~
- (g) ~~Two (2) natural gas fired Swiss Combi "Eco-Dry" Dryer Systems, identified as D1801 and D1802, approved for construction in 2007, with a maximum heat input rate of 76.7MMBtu/hr and a design throughput rate of 20 tons per hour of DDGS each, with emissions exhausting through stacks S-1801 and S-1802.~~
- Note: ~~The basis of the Swiss Combi Dryer System is an indirect heat drying process using a closed steam loop with thermal oxidation. The DDGS cooler is also integrated into the Eco-Dry system.~~
- (h) ~~One (1) ethanol and E85 loading rack for trucks and railcars, identified as EP-2210, approved for construction in 2007, with a maximum throughput rate of 600 gallons per minute for trucks and 1,200 gallons per minute for railcars, controlled by a flare, identified as CE-2210, which is fueled by natural gas and has a maximum heat input capacity of 1.26 MMBtu/hr, and exhausts through stack S-2210.~~
- (i) ~~One (1) ethanol and E85 loading rack for barges, identified as EP-2211, approved for construction in 2007, with a maximum throughput rate of 2,000 gallons per minute, controlled by a flare, identified as CE-2211, which is fueled by natural gas and has a maximum heat input capacity of 3.78 MMBtu/hr, and exhausts through stack S-2211.~~
- (a) **One (1) grain receiving area, approved for construction in 2009, and consisting of the following:**
- (1) **One (1) truck/rail receiving pit, identified as EP1101, with a maximum capacity of 1680 tons of corn per hour, controlled by baghouse DC1101, and exhausting through stack DC1101;**
- (2) **One (1) truck receiving pit, identified as EP1102, with a maximum capacity of 1120 tons of corn per hour, controlled by baghouse DC1102, and exhausting through stack DC1102;**

- (1) One (1) prefermenter tank, identified as T-1400, using a wet scrubber (S1400) and sodium bisulfite injection for VOC control, exhausting through stack S1400.
- (2) Six (6) main fermenters and one (1) beer well, identified as T-1401 through T-1407, using a wet scrubber (S1401), and sodium bisulfite injection for VOC control, exhausting through stack S1401.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (h) One (1) distillation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, using a wet scrubber, (S1504) and sodium bisulfite injection for VOC control, exhausting through stack S1504, and consisting of the following major equipment:
 - (1) One (1) beer column identified as C-1510.
 - (2) One (1) stripping column identified as C-1520.
 - (3) One (1) rectifying column identified as C-1530.
 - (4) One (1) four-tower molecular sieve unit, with associated heat exchangers and pumps.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (i) Four (4) natural gas fired boilers, identified as BL5001, BL5002, BL5003, and BL5004, approved for construction in 2009, with a maximum heat input rate of 92.4 MMBtu/hr, each, and exhausting through stacks BL5001, BL5002, BL5003, and BL5004, respectively.

Under NSPS, Subpart Dc, the boilers are considered affected facilities.

- (j) Two (2) natural gas fired Swiss Combi "Eco-Dry" Dryer Systems, identified as D1802A and D1802B, approved for construction in 2009, with a maximum heat input rate of 76.7MMBtu/hr and a design throughput rate of 20 tons per hour of DDGS each, with emissions exhausting through stacks S1802A and S1802B.

Note: The basis of the Swiss Combi Dryer System is an indirect heat drying process using a closed steam loop with thermal oxidation. The DDGS cooler is also integrated into the Eco-Dry system.

Under NSPS, Subpart Dc, the Swiss Combi Dryer Systems are considered affected facilities.

- (k) One (1) ethanol and E85 loading rack for trucks and railcars, identified as EP2101, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute for trucks and railcars, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101, and exhausting through stack S2101.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (l) **One (1) ethanol and E85 loading rack for barges, identified as EP2501, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501, and exhausting through stack S2501.**

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

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

This stationary source also includes the following insignificant activities:

- (a) One (1) diesel fired stationary fire pump, identified as ~~EP-1075~~ **P7075B**, approved for construction in 2007~~9~~, with a maximum power output rate of ~~420~~ **460** horsepower, and exhausting ~~to~~ **through** stack **P7075B**. [326 IAC 2-8-4]

Under NSPS, Subpart IIII, the diesel fire pump is considered a new certified National Fire Protection Association (NFPA) fire pump.

- (b) **One (1) emergency diesel generator, identified as GN7000, approved for construction in 2009, with a maximum power output rate of 1,495 horsepower, and exhausting through stack GN7000.**

Under NSPS, Subpart IIII, the emergency diesel generator is considered a new stationary compression ignition internal combustion engine.

- (bc) Noncontact cooling tower system with natural draft not regulated under a NESHAP.
- (ed) Replacement or repair of bags in baghouses and filters in other air filtration equipment.
- (de) Paved roads and parking lots with public access. [326 IAC 6-4]
- (ef) Blowdown for any of the following: sight glass, boiler, compressors, pumps, and cooling tower.
- (fg) 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.
- (gh) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (hi) 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:

- (1) One (1) denaturant storage tank, identified as T2104, with a maximum capacity of ~~55,000~~ **128,800** gallons equipped with an internal floating roof for VOC emissions control. [326 IAC 8-4-3] [40 CFR 60, Subpart Kb]
- (2) Three (3) tanks for storage of denatured fuel ethanol and/or E-85, identified as T2102, T2103, and T2105 each with a maximum capacity of ~~4,000,000~~ **1,015,164** gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]
- (3) One (1) fixed-roof anhydrous ethanol off-spec storage tank, identified as T2101, with a maximum capacity of 39,500 gallons-, **equipped with an internal floating roof for VOC emissions control.**
- (4) Two (2) fixed-roof anhydrous ethanol storage tanks (shift tanks), identified as T2110 and T2111, each with a maximum capacity of ~~39,500~~ **250,000** gallons-, **and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]**

Under NSPS, Subpart Kb, storage tanks T2104, T2102, T2103, T105, T2110, and T2111 are considered volatile organic liquid storage vessels.

- ~~(5) One (1) three unit biomethanator anaerobic wastewater treatment system followed by a single unit aerobic polishing treatment system, identified as EP-7001, approved for construction in 2007, offgasses from this unit are routed to a combustion unit within the plant or to a flare when the combustion units are offline, identified as CE-7001, which is fueled by natural gas and has a maximum heat input capacity of 3.48 MMBtu/hr, and exhausts through stack S-7001.~~
- (65) Cook area process equipment, including: one (1) slurry tank (T-1301), one (1) mash cooker (V-1302), two (2) conversion tanks (T-1304 and T-1305), one (1) hot water tank (T-1303), one (1) saccharification flash vessel (V-1306), three (3) mash coolers (E-1311 through E-1313), and three (3) mash trim coolers (E-1515 through E-1517).
- (76) Equipment for handling spent grain from the fermentation process, including: one (1) triple effect light evaporation system, one (1) final concentrator, one (1) whole stillage tank (T-1701), one (1) thin stillage tank (T-1600), one (1) intermediate stillage tank (T-1702), one (1) syrup tank (T-1650), and Four (4) stillage decanters (SP-1701 through SP-1704).
- (87) One (1) corrosion inhibitor storage tank.
- (98) One (1) sulfuric acid tank (T-1911).
- (409) One (1) Clean-in place (CIP) system.
- (4410) Compressed air and dry air systems.

...
C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan, which is included as Attachment A. The provisions of 326 IAC 6-5 are not federally enforceable.

C.78 Stack Height [326 IAC 1-7]

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C.89 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

...

C.910 Performance Testing [326 IAC 3-6]

...

C.101 Compliance Requirements [326 IAC 2-1.1-11]

...

C.142 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented immediately upon startup of plant operations. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated after operation of the ethanol plant begins, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

...

C.123 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

...

C.134 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

...

C.145 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

...

C.156 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

...

C.167 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

...

C.178 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

...

C.189 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

...

C.4920 Compliance with 40 CFR 82 and 326 IAC 22-1

...

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

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

- (a) One (1) grain receiving area, identified as EP1101, approved for construction in 2007, controlled by a baghouse, identified as CE1101, exhausting through stack S-1101, and consisting of the following:
- (1) Two (2) truck receiving pits with a capacity of 560 tons per hour each;
 - (2) One (1) grain transfer drag conveyor with a capacity of 1120 tons per hour; and
 - (3) Two (2) grain storage silos each with a capacity of 9,520 tons.
- (b) Three (3) hammermills, identified as EP2001, EP2002, and EP2003, approved for construction in 2007, each with a maximum throughput rate of 42 tons per hour of grain, controlled by baghouses CE2001, CE2002, and CE2003 and exhausting through stacks S-2001, S-2002, and S-2003 respectively.
- (c) One (1) DDGS loadout operation, identified as EP1102, approved for construction in 2007 with a maximum throughput rate of 200 tons/hr, controlled by baghouse CE1102, exhausting to stack S-1102.

Insignificant Activity:

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

(a) One (1) grain receiving area, approved for construction in 2009, and consisting of the following:

- (1) One (1) truck/rail receiving pit, identified as EP1101, with a maximum capacity of 1680 tons of corn per hour, controlled by baghouse DC1101, and exhausting through stack DC1101;**
- (2) One (1) truck receiving pit, identified as EP1102, with a maximum capacity of 1120 tons of corn per hour, controlled by baghouse DC1102, and exhausting through stack DC1102;**
- (3) Two (2) grain transfer drag conveyors, identified as EP1101C and EP1102C, with a maximum capacity of 1680 tons of corn per hour and 1120 tons of corn per hour, controlled by baghouses DC1101 and DC1102, and exhausting through stacks DC1101 and DC1102, respectively; and**
- (4) Two (2) grain storage silos, identified as EP2003A and EP2004A, each with a maximum capacity of 150 tons of corn per hour, controlled by baghouses DC2003A, DC2003B, DC2004A, and DC2004B, and exhausting through stacks DC2003A, DC2003B, DC2004A, and DC2004B, respectively.**

(b) One (1) corn scalper, identified as EP2005A, approved for construction in 2009, with a maximum capacity of 150 tons of corn per hour, controlled by baghouse DC1200, and exhausting through stack DC1200.

(c) Four (4) hammer mill surge bins, identified as EP1200A, EP1200B, EP1200C, and EP1200D, approved for construction in 2009, each with a maximum capacity of 117.6 tons of grain per hour, controlled by baghouse DC1200, and exhausting through stack DC1200.

(d) Four (4) hammermills, identified as EP1205, EP1206, EP1207, and EP1208, approved for construction in 2009, each with a maximum capacity of 117.6 tons per hour of grain, controlled by baghouses DC1205, DC1206, DC1207, and DC1208, and exhausting through stacks DC1205, DC1206, DC1207, and DC1208, respectively.

(e) Two (2) pellet mills, identified as EP2250A and EP2250B, approved for construction in 2009, each with a maximum capacity of 30 tons per hour, controlled by cyclones DC2250A and DC2250B, and exhausting through stacks DC2250A and DC2250B, respectively.

(f) One (1) DDGS unloading and loading area, approved for construction in 2009, and consisting of the following:

- (1) One (1) DDGS rail to barge unloading operation, identified as EP2252, with a maximum capacity of 400 tons per hour, controlled by baghouse S2252, and exhausting through stack S2252;**
- (2) One (1) DDGS barge loadout operation, identified as EP2251, with a maximum capacity of 200 tons per hour, controlled by high efficiency dustless spout filter system DC2251, and exhausting through stack DC2251;**
- (3) One (1) DDGS truck loadout operation, identified as EP2201, with a maximum**

capacity of 200 tons per hour, controlled by high efficiency dustless spout filter system LS2201, and exhausting through stack LS2201; and

(4) Three (3) DDGS rail loadout operations, identified as EP2202A, EP2202B, and EP2202C, with a maximum capacity of 200 tons per hour, each, controlled by high efficiency dustless spout filter systems LS2202A, LS2202B, and LS2202C, and exhausting through stacks LS2202A, LS2202B, and LS2202C, respectively.

...

...
 D.1.4 PM, and PM10, and PM2.5 Emissions [326 IAC 2-2] [326 IAC 2-8-4]

- (a) The PM, and PM10, and PM2.5 emissions from the grain receiving, handling, unloading, and load-out operations shall not exceed the emission limits listed in the table below:

Unit Description	Baghouse ID	PM/PM10 Emission Limit (lbs/hr)
Grain Receiving (EP1101)	CE1101	1.41
Hammermill A (EP2001)	CE2001	0.28
Hammermill B (EP2002)	CE2002	0.28
Hammermill C (EP2003)	CE2003	0.28
DDGS Loadout (EP1102)	CE1102	0.17

- (b) ~~The total grain received by grain receiving (EP1101) shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.~~
- (c) ~~The total DDGS loadout shall not exceed 325,000 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 performed in a manner and at a frequency sufficient to ensure compliance with 326 IAC 2-8.~~
- (e) ~~The Permittee shall use a choked flow system during grain receiving and handling.~~

Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
Truck/Rail Receiving Pit and Grain Conveyor (EP1101 and EP1101C)	DC1101	1.03	1.03	1.03
Truck Receiving Pit and Grain Conveyor (EP1102 and EP1102C)	DC1102	0.43	0.43	0.43
Grain Storage Silo (EP2003A)	DC2003A DC2003B	0.08	0.08	0.08
Grain Storage Silo (EP2004A)	DC2004A DC2004B	0.08	0.08	0.08
Corn Scalper and Hammer Mill Surge Bins (EP2005A and EP1200A through EP1200D)	DC1200	0.04	0.04	0.04
Hammermill (EP1205)	DC1205	0.26	0.26	0.26
Hammermill (EP1206)	DC1206	0.26	0.26	0.26
Hammermill (EP1207)	DC1207	0.26	0.26	0.26
Hammermill (EP1208)	DC1208	0.26	0.26	0.26

Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
Pellet Mill (EP2250A)	DC2250A	0.51	0.51	0.51
Pellet Mill (EP2250B)	DC2250B	0.51	0.51	0.51
DDGS Rail to Barge Unloading (EP2252)	S2252	1.03	1.03	1.03
DDGS Barge Loadout (EP2251)	DC2251	0.64	0.64	0.64
DDGS Truck Loadout (EP2201)	LS2201	0.06	0.06	0.06
DDGS Rail Loadout (EP2202A)	LS2202A	0.06	0.06	0.06
DDGS Rail Loadout (EP2202B)	LS2202B	0.06	0.06	0.06
DDGS Rail Loadout (EP2202C)	LS2202C	0.06	0.06	0.06

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.

Compliance with these limits, combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and PM10 and PM2.5 to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.5 Particulate Emission Limitations [326 IAC 6-3-2]

(a) 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:

Emission Unit	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
Grain Receiving (EP1101)	560	70.3
Hammermill A (EP2001)	42	42.9
Hammermill B (EP2002)	42	42.9
Hammermill C (EP2003)	42	42.9
DDGS Loadout (EP1102)	200	58.5

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EP1101	Truck/Rail Receiving Pit	1680	84.5
EP1102	Truck Receiving Pit	1120	79.1
EP1101C	Grain Conveyor	1680	84.5
EP1102C	Grain Conveyor	1120	79.1
EP2003A	Grain Storage Silo	140	54.7
EP2004A	Grain Storage Silo	140	54.7
EP2005A	Corn Scalper	150	55.4
EP1200A through EP1200D	Hammer Mill Surge Bins	117.6, each	52.9, each

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EP1205	Hammermill	117.6	52.9
EP1206	Hammermill	117.6	52.9
EP1207	Hammermill	117.6	52.9
EP1208	Hammermill	117.6	52.9
EP2250A	Pellet Mill*	30	40.0
EP2250B	Pellet Mill*	30	40.0
EP2252	DDGS Rail to Barge Unloading	400	66.3
EP2251	DDGS Barge Loadout	200	58.5
EP2201	DDGS Truck Loadout	200	58.5
EP2202A	DDGS Rail Loadout	200	58.5
EP2202B	DDGS Rail Loadout	200	58.5
EP2202C	DDGS Rail Loadout	200	58.5

The pounds per hour limitations were calculated using 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

or

...

- (b)** 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.1.6 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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D.1.7 Particulate Control

- (a) In order to comply with Conditions D.1.4(a) and D.1.5, 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 Description	Baghouse ID
Grain Receiving (EP1101)	CE1101
Hammermill A (EP2001)	CE2001
Hammermill B (EP2002)	CE2002
Hammermill C (EP2003)	CE2003
DDGS Loadout (EP1102)	CE1102

Unit Description	Baghouse ID
Truck/Rail Receiving Pit and Grain Conveyor (EP1101 and EP1101C)	DC1101
Truck Receiving Pit and Grain Conveyor (EP1102 and EP1102C)	DC1102
Grain Storage Silo (EP2003A)	DC2003A

Unit Description	Baghouse ID
	DC2003B
Grain Storage Silo (EP2004A)	DC2004A DC2004B
Corn Scalper and Hammer Mill Surge Bins (EP2005A and EP1200A through EP1200D)	DC1200
Hammermill (EP1205)	DC1205
Hammermill (EP1206)	DC1206
Hammermill (EP1207)	DC1207
Hammermill (EP1208)	DC1208
Pellet Mill (EP2250A)	DC2250A
Pellet Mill (EP2250B)	DC2250B
DDGS Rail to Barge Unloading (EP2252)	S2252
DDGS Barge Loadout (EP2251)	DC2251
DDGS Truck Loadout (EP2201)	LS2201
DDGS Rail Loadout (EP2202A)	LS2202A
DDGS Rail Loadout (EP2202B)	LS2202B
DDGS Rail Loadout (EP2202C)	LS2202C

~~...~~
~~D.1.8 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]~~

~~In order to demonstrate compliance with Conditions D.1.4(a) and D.1.5:~~

- ~~(a) The Permittee shall perform PM and PM10 testing for baghouses CE1101 and CE1102 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.~~
- ~~(b) The Permittee shall perform PM and PM10 testing for one of the baghouses CE2001, CE2002, and CE2003, 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 on a different baghouse 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.~~

D.1.8 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.4 and D.1.5:

- (a) The Permittee shall perform PM testing for baghouses DC1101, DC1102, S2252, and high efficiency dustless spout filter system DC2251 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.**
- (b) The Permittee shall perform PM testing for one of the baghouses DC1205, DC1206, DC1207 and DC1208, for one of the cyclones DC2250A and DC2250B, and one of the high efficiency dustless spout filter systems LS2201, LS2202A, LS2202B, and LS2202C 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 on a different baghouse 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) **The Permittee shall perform PM2.5 and PM10 testing for baghouses DC1101, DC1102, S2252, and high efficiency dustless spout filter system DC2251 within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup or within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008, whichever occurs later. This testing shall be conducted 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 and PM2.5 includes filterable and condensable PM.**
- (d) **The Permittee shall perform PM2.5 and PM10 testing for one of the baghouses DC1205, DC1206, DC1207 and DC1208, for one of the cyclones DC2250A and DC2250B, and one of the and high efficiency dustless spout filter systems LS2201, LS2202A, LS2202B, and LS2202C within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup or within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008, whichever occurs later. This testing shall be conducted utilizing methods as approved by the Commissioner. These tests shall be repeated on a different baghouse 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 and PM2.5 includes filterable and condensable PM.**

D.1.9 Visible Emissions Notations

- (a) Visible emission notations of the baghouse stack exhausts (~~stacks S-1101, S-2001, S-2002, S-2003, and S-1102~~ **DC1101, DC1102, DC2003A, DC2003B, DC2004A, DC2004B, DC1200, DC1205, DC1206, DC1207, DC1208, DC2250A, DC2250B, S2252, DC2251, LS2201, LS2202A, LS2202B, and LS2202C**) 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.

...

D.1.10 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the grain receiving and handling operations (**EP1101, EP1102, EP1101C, EP1102C, EP2003A, and EP2004A**), the **corn scalper and hammermill surge bins (EP2005A and EP1200A through EP1200D)** and the hammermills (~~EP2001, EP2002, EP2003~~ **EP1205 through EP1208**), the **pellet mills (EP2250A and EP2250B)**, and the **DDGS unloading handling and loadout operations (EP1102 EP2252, EP2251, EP2201, and EP2202A through EP2202C)**, 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.

...

D.1.12 Record Keeping Requirements

- (a) ~~To document compliance with Condition D.1.4(b), the Permittee shall maintain monthly records of the amount of grain received at this plant.~~

- ~~(b) To document compliance with Condition D.1.4(c), the Permittee shall maintain monthly records of the amount of DDGS loadout.~~
- ~~(c) To document compliance with Condition D.1.4(d), the Permittee shall maintain records of the dates and times that sweeping is performed on the paved roads.~~
- (da) To document compliance with Condition D.1.9, the Permittee shall maintain records of daily visible emission notations of the baghouse stack exhausts. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).**
- (eb) To document compliance with Condition D.1.10, the Permittee shall maintain daily records of pressure drop for baghouses during normal operation. **The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading (e.g., the process did not operate that day).**
- (fc) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

~~D.1.13 Reporting Requirements~~

~~A quarterly summary of the information to document compliance with Conditions D.1.4(b) and D.1.4(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

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

- (dg) One (1) fermentation process, approved for construction in 2007~~9~~, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, consisting of the following major equipment:
 - (1) One (1) prefermenter tank, identified as T-1400, using a wet scrubber (~~GES~~1400) and sodium bisulfite injection for VOC control, exhausting through stack S-1400.
 - (2) Six (6) main fermenters and one (1) beer well, identified as T-1401 through T-1407, using a wet scrubber (~~GES~~1401) and sodium bisulfite injection for VOC control, exhausting through stack S-1401.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.
- (eh) One (1) distillation process, approved for construction in 2007~~9~~, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, using a wet scrubber (~~GES~~1504) and sodium bisulfite injection for VOC control, exhausting through stack S-1504, and consisting of the following major equipment:
 - ...
 - Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.**
 - ...

...

D.2.4 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following emission limits for the scrubbers (~~GES~~1400, ~~GES~~1401, and ~~GES~~1504), which are used to control the emissions from the fermentation and distillation processes:

- (a) The emissions from the Pre-Fermentation Scrubber (~~GES~~1400) shall not exceed the following:
 - (1) VOC emissions shall not exceed ~~2.68~~ **2.45** lbs/hr.
 - (2) Acetaldehyde emissions shall not exceed ~~0.59~~ **0.20** lbs/hr.
 - (3) Total HAP emissions shall not exceed ~~0.69~~ **0.36** lbs/hr.
- (b) The emissions from the Fermentation Scrubber (~~GES~~1401) shall not exceed the following:
 - (1) VOC emissions shall not exceed ~~5.53~~ **6.69** lbs/hr.
 - (2) Acetaldehyde emissions shall not exceed ~~0.76~~ **0.35** lbs/hr.
 - (3) Total HAP emissions shall not exceed ~~4.09~~ **0.94** lbs/hr.
- (c) The emissions from the Distillation Scrubber (~~GES~~1504) shall not exceed the following:
 - (1) VOC emissions shall not exceed ~~4.3~~ **1.54** lbs/hr.
 - (2) Acetaldehyde emissions shall not exceed ~~0.64~~ **0.40** lbs/hr.
 - (3) Total HAP emissions shall not exceed ~~0.69~~ **0.47** lbs/hr.

~~Combined with the VOC emissions from other units, the VOC 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.~~

Compliance with these limits, combined with the potential to emit VOC and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of VOC to less than 100 tons per 12 consecutive month period, any single HAP to less than ten (10) tons per 12 consecutive month period, and total HAPs to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

D.2.5 VOC Emissions [326 IAC 8-1-6 ~~8-5-6~~]

Pursuant to 326 IAC ~~8-1-6 (BACT)~~ **8-5-6 (Fuel Grade Ethanol Production)**, the Permittee shall control the VOC emissions from the fermentation and distillation processes with a Best Available Control Technology (BACT), which has been determined to be the following: **comply with the following:**

- (a) ~~The VOC emissions from the fermentation and distillation processes shall be controlled using wet scrubbers, identified as CE1400, CE1401, and CE1504, with sodium bisulfite injection.~~

- (b) ~~The VOC control efficiency for each of the wet scrubbers, identified as CE1400, CE1401, and CE1504 shall be at least 99%, or the VOC outlet concentration shall not exceed 10 ppmv.~~
- (c) ~~The VOC emissions from the wet scrubber stack S-1400 will not exceed 2.68 lbs/hr.~~
- (d) ~~The VOC emissions from the wet scrubber stack S-1401 will not exceed 5.53 lbs/hr.~~
- (e) ~~The VOC emissions from the wet scrubber stack S-1504 will not exceed 1.30 lbs/hr.~~
- (a) The VOC emissions from the fermentation and distillation processes shall be controlled by wet scrubbers, identified as S1400, S1401, and S1504.**
- (b) The overall efficiency for each of the wet scrubbers S1400, S1401, and S1504 (including the capture efficiency and absorption efficiency), shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.**

D.2.6 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VVa]

Pursuant to 40 CFR 60, Subpart VVa, 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.2.8 VOC and HAP Control

- (a)** In order to comply with Conditions D.2.4 and D.2.5, the scrubbers (~~GES~~**S**1400, ~~GES~~**S**1401, and ~~GES~~**S**1504) and associated sodium bisulfite injection systems shall be in operation and control emissions from the fermentation and distillation processes at all times that these units are in operation.
- (b)** In order to comply with Condition D.2.4, the sodium bisulfite injection systems shall be in operation and injecting sodium bisulfite into scrubbers **S1400, S1401, and S1504** at all times that the fermentation and distillation processes are in operation.

D.2.9 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.2.4 and D.2.5, the Permittee shall perform VOC and acetaldehyde testing (including emission rate, overall destruction efficiency and overall capture efficiency), on the wet scrubber stacks (S-1400, S-1401, and S-1504) within 60 days after achieving 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.

D.2.10 Visible Emissions Notations

- (a) Visible emission notations of the stack exhaust from the wet scrubber stacks (S-1400, S-1401, and S-1504) 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.

...

D.2.11 Scrubber Pressure Drop and Flow Rate

The Permittee shall monitor and record the pressure drop and the flow rate of the scrubbers ~~CE~~**S**1400, and ~~CE~~**S**1401 when the fermentation process is in operation, and ~~CE~~**S**1504 when the distillation process is in operation, at least once per day. When for any one reading, the pressure drop across a 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 a scrubber is less than the normal minimum of 8.0 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.

...

D.2.13 Sodium Bisulfite Injection System

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the fermentation scrubbers (~~GES~~1400 and ~~GES~~1401) and distillation scrubber (~~GES~~1504) for measuring the sodium bisulfite injection rate. For the purpose of this condition, continuous means no less than once per minute. The output of this system shall be recorded as a one-hour average. From the date of issuance of this permit unit the approved stack test results are available; the Permittee shall inject sodium bisulfite at the rates shown in the table below:

Scrubber ID	Sodium Bisulfite Injection Rate (milliliters per minute)
GES 1400	53.7
GES 1401	95.2
GES 1504	90.9

- (b) The Permittee shall determine the one-hour average injection rates from the most recent valid stack test that demonstrates compliance with limits in Condition D.2.54(~~e~~), (~~d~~), and (~~e~~), as approved by IDEM.
- (c) On and after the date the approved stack test results are available, the Permittee shall inject sodium bisulfite at or above the one-hour average injection rates as observed during the compliant stack test.

D.2.14 Record Keeping Requirements

- (a) To document compliance with Condition D.2.10, the Permittee shall maintain records of once per day visible emission notations of the stacks S-1400, S-1401, and S-1504. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).**
- (b) To document compliance with Condition D.2.11, the Permittee shall maintain daily records of pressure drop and flow rate for the scrubbers identified as ~~GES~~1400, ~~GES~~1401, and ~~GES~~1504 during normal operation. **The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading (e.g., the process did not operate that day).**
- (c) To document compliance with Condition ~~D.2.5(e), (d), and (e)~~ **D.2.13**, the Permittee shall maintain records of the **one-hour average** sodium bisulfite injection rates of scrubbers ~~GES~~1400, ~~GES~~1401, and ~~GES~~1504.
- (~~ed~~) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS – Boilers

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

~~(f) Two (2) natural gas fired boilers, identified as BL5001 and BL5002, approved for construction in 2007, each with a maximum heat input rate of 182 MMBtu/hr, with emissions exhausting to stacks S-5001 and S-5002, respectively.~~

(i) Four (4) natural gas fired boilers, identified as BL5001, BL5002, BL5003, and BL5004, approved for construction in 2009, with a maximum heat input rate of 92.4 MMBtu/hr, each, and exhausting through stacks BL5001, BL5002, BL5003, and BL5004, respectively.

Under NSPS, Subpart Dc, the boilers are considered affected facilities.

D.3.4 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

~~(b) The input of natural gas to the boilers shall be limited to 3252.4~~ **3302.4** MMCF per twelve (12) consecutive month period, with compliance determined at the end of each month.

~~(e) PM emissions shall not exceed 4.9~~ **7.6** pounds per MMCF.

(g) PM2.5 emissions shall not exceed 7.6 pounds per MMCF.

~~Combined with the PM, PM10, NOx and CO emissions from other units, the PM, PM10, NOx and CO emissions from the entire source are limited to less than one hundred (100) tons per year. Therefore, the requirements of 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) are not applicable.~~

Compliance with these limits, combined with the potential to emit NOx, CO, PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of NOx, CO, PM10, and PM2.5 to less than 100 tons per 12 consecutive month period, each, and PM to less than 250 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.3.5 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission Limitations for facilities specified in 326 IAC 6-2-1(d)), the PM emissions from the boilers shall not exceed 0.2354 pounds per million Btu heat input (lb/MMBtu). This limitation was calculated using the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} \quad \text{where } Q = \text{total source heat input capacity (MMBtu/hr)}$$

For these units, ~~Q = 364~~ **369.6** MMBtu/hr.

D.3.6 New Source Performance Standards for **Small** Industrial - Commercial - Institutional Steam Generating Units [326 IAC 12][40 CFR 60, Subpart Dbc]

Pursuant to 40 CFR 60, Subpart Dbc, the Permittee shall comply with the requirements of Section E.2 for the boilers.

~~D.3.8 Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 12] [40 CFR 60, Subpart Db] [326 IAC 2-2] [326 IAC 2-8-4]~~

~~Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 40 CFR 60.48b (Emission Monitoring for Particulate Matter and Nitrogen Oxides) and in order to demonstrate compliance~~

~~with Conditions D.3.4 and D.3.6, a continuous monitoring system, which meets the performance specifications of 326 IAC 3-5-2, shall be calibrated, maintained, and operated for each boiler BL5001 and BL5002 for measuring NO_x.~~

~~D.3.9 NO_x Monitoring System Downtime [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 12] [40 CFR 60, Subpart Db]~~

~~In instances of NO_x continuous emission monitoring system (CEMS) downtime, the Permittee shall obtain NO_x emissions data according to the requirements of 40 CFR 60.48b(f).~~

~~D.3.108 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]~~

~~In order to demonstrate compliance with Condition D.3.4, the Permittee shall perform PM, PM₁₀ NO_x and CO testing for one of the boilers (BL5001, and BL5002, **BL5003, and BL5004**) within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. These tests shall be repeated on a different boiler 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.3.149 Record Keeping Requirements~~

- ~~(a) To document compliance with Condition D.3.4, the Permittee shall maintain daily records of the amount of natural gas combusted in the boilers.~~
- ~~(b) To document compliance with Conditions D.3.4 and D.3.8, the Permittee shall maintain records of all NO_x continuous emissions monitoring data, pursuant to 326 IAC 3-5-6.~~
- ~~(eb) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~

~~D.3.120 Reporting Requirements~~

~~A quarterly summary of the information to document compliance with Conditions D.3.4 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.4 FACILITY OPERATION CONDITIONS – Dryer and Cooling System

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

- (gj) Two (2) natural gas fired Swiss Combi "Eco-Dry" Dryer Systems, identified as D1804**2A** and D1802**B**, approved for construction in 2007**9**, with a maximum heat input rate of 76.7MMBtu/hr and a design throughput rate of 20 tons per hour of DDGS each, with emissions exhausting through stacks S-1804**2A** and S-1802**B**.

...
Under NSPS, Subpart Dc, the Swiss Combi Dryer Systems are considered affected facilities.
...

~~D.4.4 FESOP and PSD Minor Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]~~

~~Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following emission limits for the Swiss Combi Dryer Systems (D1804**2A** and D1802**B**) which are used to control the emissions from DDGS drying and cooling:~~

- (a) ~~PM/PM10~~ emissions shall not exceed 3.71 lbs/hr for each stack (S-1804**2A** and S-1802**B**).
- (b) PM10 emissions shall not exceed 3.71 lbs/hr for each stack (S1802A and S1802B).**
- (c) PM2.5 emissions shall not exceed 3.71 lbs/hr for each stack (S1802A and S1802B).**
- (bd) VOC emissions shall not exceed 1.97 lbs/hr for each stack (S-1804**2A** and S-1802**B**).
- (ee) CO emissions shall not exceed 7.97 lbs/hr for each stack (S-1804**2A** and S-1802**B**).
- (df) SO2 emissions shall not exceed ~~0.046~~ **0.407** lbs/hr for each stack (S-1804**2A** and S-1802**B**).
- (eg) NOx emissions shall not exceed 6.52 lbs/hr for each stack (S-1804**2A** and S-1802**B**).
- (fh) Acetaldehyde emissions shall not exceed ~~0.017~~ **0.65** lbs/hr for each stack (S-1804**2A** and S-1802**B**).
- (gi) Total HAP emissions shall not exceed ~~0.13~~ **1.35** lbs/hr for each stack (S-1804**2A** and S-1802**B**).

~~Combined with the PM/PM10, VOC, SO2, CO, and NOx emissions from other units, the PM/PM10, SO2, 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, 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.~~

Compliance with these limits, combined with the potential to emit PM, PM10, PM2.5, SO2, NOx, VOC, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per consecutive month period, PM10, PM2.5, SO2, NOx, and VOC to less than 100 tons per 12 consecutive month period, each, any single HAP to less than ten (10) tons per 12 consecutive month period, and total HAPs to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

D.4.5 VOC Emissions [326 IAC ~~8-1-6~~ **8-5-6**]

~~Pursuant to 326 IAC ~~8-1-6~~ (BACT) **8-5-6 (Fuel Grade Ethanol Production at Dry Mills)**, the Permittee shall control the VOC emissions from each of the Swiss Combi Dryer Systems (D1801 and D1802) with a Best Available Control Technology (BACT), which has been determined to be the following: **comply with the following:**~~

- (a) The VOC emissions from the Swiss Combi Dryer Systems (D1804**2A** and D1802**B**) shall be controlled by thermal oxidation.
- (b) The overall efficiency for the Swiss Combi Dryer Systems, identified as D1804**2A** and D1802**B**, (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 each of the thermal oxidation systems stacks (S-1801 and S-1802) shall not exceed 1.97 lbs/hr.~~

D.4.6 Particulate Emission Limitations [326 IAC 6-3-2]

...

Emission Unit	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
D18042A	20.1	30.5
D1802B	20.1	30.5

...

D.4.7 New Source Performance Standards for Industrial - Commercial - Institutional Steam Generating Units [326 IAC 12][40 CFR 60, Subpart Dc]

Pursuant to 40 CFR 60, Subpart Dc, the Permittee shall comply with the requirements of Section E.2 for the Swiss Combi Dryer Systems.

D.4.78 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

...

D.4.89 Particulate Control

In order to comply with Conditions D.4.4 and D.4.5, the Swiss Combi Dryer Systems (D18042A and D1802B) shall be in operation and control emissions from the DDGS dryers and coolers at all times that these units are in operation.

D.4.910 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

~~In order to demonstrate compliance with Conditions D.4.4, D.4.5, and D.4.6, the Permittee shall perform PM, PM10, VOC (including emission rate, destruction efficiency, and capture efficiency), NOx, CO, and Acetaldehyde testing for each of the thermal oxidizer stacks (S-1801 and S-1802) within 60 days after achieving the 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.~~

- (a) **In order to demonstrate compliance with Conditions D.4.4(a) and (d) through (i), D.4.5, and D.4.6, the Permittee shall perform PM, VOC (including emission rate, destruction efficiency, and capture efficiency), NOx, CO, and Acetaldehyde testing for each of the thermal oxidizer stacks (S1802A and S1802B) 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.**
- (b) **In order to demonstrate compliance with Conditions D.4.4(b) and (c), the Permittee shall perform PM2.5 and PM10 testing for each of the thermal oxidizer stacks (S1802A and S1802B) within 60 days after achieving the maximum capacity, but not later than 180 days after initial startup or within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008, whichever is later. This testing shall be conducted 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 and PM2.5 includes filterable and condensable PM.**

D.4.101 Visible Emissions Notations

- (a) Visible emission notations of the stack exhaust from the thermal oxidizers (stacks S-18042A and S-1802B) 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.

...

D.4.142 Thermal Oxidation Temperature

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the Swiss Combi Dryer Systems (D1804**2A** and D1802**B**) 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 oxidizers at or above the 3-hour average temperature of 1,400°F.

...

D.4.123 Parametric Monitoring

...

D.4.134 Record Keeping Requirements

- (a) To document compliance with Condition D.4.101, the Permittee shall maintain records of once per day visible emission notations of stacks S-1804**2A** and S-1802**B**. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).**
- (b) To document compliance with Condition D.4.142, the Permittee shall maintain continuous temperature records for the thermal oxidizers and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test. **The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of temperature reading (e.g., the process did not operate that day).**
- (c) To document compliance with Condition D.4.123, the Permittee shall maintain daily records of the duct pressure or fan amperage for the thermal oxidizers. **The Permittee shall include in its daily record when a pressure or fan amperage reading is not taken and the reason for the lack of pressure or fan amperage reading (e.g., the process did not operate that day).**

...

SECTION D.5 FACILITY OPERATION CONDITIONS – Ethanol Loading Racks

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

- (h) ~~One (1) ethanol and E85 loading rack for trucks and railcars, identified as EP 2210, approved for construction in 2007, with a maximum throughput rate of 600 gallons per minute for trucks and 1,200 gallons per minute for railcars, controlled by a flare, identified as CE 2210, which is fueled by natural gas and has a maximum heat input capacity of 1.26 MMBtu/hr, and exhausts through stack S 2210.~~
- (i) ~~One (1) ethanol and E85 loading rack for barges, identified as EP 2211, approved for construction in 2007, with a maximum throughput rate of 2,000 gallons per minute, controlled by a flare, identified as CE 2211, which is fueled by natural gas and has a maximum heat input capacity of 3.78 MMBtu/hr, and exhausts through stack S 2211.~~
- (k) **One (1) ethanol and E85 loading rack for trucks and railcars, identified as EP2101, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute for trucks and railcars, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101, and exhausting through stack S2101.**

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (I) One (1) ethanol and E85 loading rack for barges, identified as EP2501, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501, and exhausting through stack S2501.**

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

...
D.5.4 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following emission limits for the ethanol loading racks:

- (a) The combined total denatured ethanol and E85 load-out rate shall not exceed ~~135,700,000~~ **135,714,290** gallons per twelve (12) consecutive month period with compliance determined at the end of each month.
- ~~(b) The Permittee shall use a flare identified as CE-2210 to control the emissions from ethanol loading to trucks and railcars.~~
- ~~(1) CO emissions from CE-2210 shall not exceed 0.63 lbs/hr.~~
- ~~(2) NOx emissions from CE-2210 shall not exceed 0.38 lbs/hr.~~
- ~~(c) The Permittee shall use a flare identified as EP-2211 to control the emissions from ethanol loading to barges.~~
- ~~(1) The operation of CE-2211 shall be limited to 2000 operating hours per twelve (12) consecutive month period with compliance determined at the end of each month.~~
- ~~(2) CO emissions from CE-2211 shall not exceed 1.89 lbs/hr.~~
- ~~(3) NOx emissions from CE-2211 shall not exceed 1.13 lbs/hr.~~
- (b) The VOC emissions from S2101 shall not exceed 0.0835 lbs/kgal.**
- (c) The VOC emissions from S2501 shall not exceed 0.0835 lbs/kgal.**
- (d) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system identified as S2101 to control the emissions from ethanol loading to trucks and railcars (EP2101).**
- (e) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system identified as S2501 to control the emissions from ethanol loading to barges (EP2501).**
- (df) The ethanol loading racks shall utilize submerged loading methods.
- (eg) The railcars, trucks, and barges shall not use vapor balance services.

~~(f) The flares (CE-2210 and CE-2211) shall be designed as smokeless flares.~~

~~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.~~

Compliance with these limits, combined with the potential to emit VOC from all other emission units at this source, shall limit the source-wide total potential to emit of VOC to less than 100 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

~~D.5.5 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 racks with a Best Available Control Technology (BACT). The BACT for these units has been determined to be the following:~~

- ~~(a) The VOC emissions from the ethanol loading racks shall be collected and controlled by the enclosed flares identified as CE-2210 and CE-2211.~~
- ~~(b) The overall efficiency for each of the enclosed flares identified as CE-2210 and CE-2211 (including the capture efficiency and destruction efficiency) shall be at least 98%.~~
- ~~(c) The VOC emissions from the enclosed flare identified as CE-2210 shall not exceed 8.96 lbs/hr.~~
- ~~(d) The VOC emissions from the enclosed flare identified as CE-2211 shall not exceed 9.36 lbs/hr.~~

D.5.5 VOC Emissions [Commissioner's Order and Variance]

Pursuant to Commissioner's Order #2009-OAQ-01 and Variance issued on April 29, 2009, in lieu of the requirement to control VOC emissions from the ethanol loading racks as specified in 326 IAC 8-5-6, the Permittee shall comply with the following:

- (a) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101 to control the emissions from ethanol loading to trucks and railcars (EP2101).**
- (b) The Permittee shall use a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501 to control the emissions from ethanol loading to barges (EP2501).**
- (c) The overall efficiency for each of the carbon adsorption/absorption hydrocarbon vapor recovery systems S2101 and S2501, (including the capture efficiency and adsorption/absorption efficiency) shall be at least 98%.**
- (d) The carbon adsorption/absorption hydrocarbon vapor recovery systems (S2101 and S2501) shall be in operation and control emissions from the ethanol loading systems (EP2101 and EP2501) at all times when these units are in operation.**
- (e) The Permittee shall determine initial compliance with the control efficiency requirements within sixty (60) days after achieving maximum production levels but no later than one hundred and eighty (180) days after startup.**

- (f) **The Permittee shall monitor and record the carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall achieve 3 inches Hg during the regeneration cycle of the carbon beds.**
- (g) **The Permittee shall monitor and record the high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall be maintained at a temperature below 200°F.**
- (h) **The Permittee shall maintain records of the carbon bed regeneration pressure and high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501).**

D.5.6 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart VVa]

Pursuant to 40 CFR 60, Subpart VVa, the Permittee shall comply with the requirements 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.5.8 VOC Control

In order to comply with Conditions D.5.4 and D.5.5, ~~enclosed flares (CE-2210 and CE2211)~~ **carbon adsorption/absorption hydrocarbon vapor recovery systems (S2101 and S2501)** shall be in operation and control emissions from the ethanol loading system at all times when these units are in operation.

D.5.9 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.5.4 and D.5.5, the Permittee shall perform VOC (including emission rate, ~~destruction~~ **adsorption/absorption** efficiency, and capture efficiency), CO, and NO_x testing for the ~~enclosed flares (CE-2210 and CE-2211)~~ **carbon adsorption/absorption hydrocarbon vapor recovery systems (S2101 and S2501)**, 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.5.10 Flare Pilot Flame

~~In order to comply with Conditions D.5.4 and D.5.5, the Permittee shall monitor the presence of a flare pilot flame for the flares (CE-2210 and CE-2211) using a thermocouple or any other equivalent device to detect the presence of a flame when the ethanol loading system is in operation.~~

D.5.10 Carbon Bed Regeneration Pressure

The Permittee shall monitor and record the carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall achieve 3 inches Hg during the regeneration cycle of the carbon beds. When for any one reading, the carbon bed regeneration pressure is outside the above mentioned range 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 instruments used for determining the carbon bed regeneration 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.5.11 High Adsorber Bed Temperature

The Permittee shall monitor and record the high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) when the ethanol loading systems (EP2101 and EP2501) are in operation at least once per day. The high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501) shall be maintained at a temperature below 200°F. When for any one reading, the high adsorber bed temperature is outside the above mentioned range 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 temperature 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 instruments used for determining the high adsorber bed temperature 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.5.142 Record Keeping Requirements

- ~~(a) To document compliance with Condition D.5.4(a), the Permittee shall maintain monthly records of the combined total amount of denatured ethanol and E85 loaded out from the ethanol loading racks.~~
- ~~(b) To document compliance with Condition D.5.4(c)(1), the Permittee shall maintain records of the number of hours that the flare identified as CE-2211 operates each month.~~
- ~~(c) To document compliance with Condition D.5.10, the Permittee shall maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when the ethanol loading racks are in operation.~~
- (b) To document compliance with Condition D.5.10, the Permittee shall maintain records of the carbon bed regeneration pressure for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501). The Permittee shall include in its daily record when a pressure reading is not taken and the reason for the lack of pressure reading (e.g., the process did not operate that day).**
- (c) To document compliance with Condition D.5.11, the Permittee shall maintain records of the high adsorber bed temperature for each carbon adsorption/absorption hydrocarbon vapor recovery system (S2101 and S2501). The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of temperature reading (e.g., the process did not operate that day).**

...

D.5.123 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.5.4(a) and

D-5.4(c)(1) 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 – Diesel Generator

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

(a) One (1) diesel fired stationary fire pump, identified as ~~EP-1075~~ **P7075B**, approved for construction in 2007~~9~~, with a maximum power output rate of ~~420~~ **460** horsepower, and exhausting ~~to~~ **through** stack **P7075B**. [326 IAC 2-8-4]

Under NSPS, Subpart IIII, the diesel fire pump is considered a new certified National Fire Protection Association (NFPA) fire pump.

(b) One (1) emergency diesel generator, identified as **GN7000**, approved for construction in 2009, with a maximum power output rate of 1,495 horsepower, and exhausting through stack **GN7000**.

Under NSPS, Subpart IIII, the emergency diesel generator is considered a new stationary compression ignition internal combustion engine.

~~(h) Other emission units, not regulated by a NESHAP, with PM₁₀, NO_x, 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:~~

~~(5) One (1) three unit biomethanator anaerobic wastewater treatment system followed by a single unit aerobic polishing treatment system, identified as EP-7001, approved for construction in 2007, offgasses from this unit are routed to a combustion unit within the plant or to a flare when the combustion units are offline, identified as CE-7001, which is fueled by natural gas and has a maximum heat input capacity of 3.48 MMBtu/hr, and exhausts through stack S-7001.~~

...

D.6.1 FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4] [326 IAC 2-4.1]

(a) Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the operating hours for the diesel fired stationary fire pump, identified as ~~EP-1075~~ **P7075B**, shall not exceed 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

~~(b) CO emissions from EP-1075 shall not exceed 6.68E-03 lbs/hp-hr.~~

(b) Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the operating hours for the emergency diesel generator, identified as **GN7000**, shall not exceed 300 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

~~(c) The Permittee shall comply with the following requirements for the biomethanator flare, identified as CE-7001:~~

- ~~(1) The input of biogas to the biomethanator flare shall be limited to 24.3 MMCF per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- ~~(2) CO emissions shall not exceed 152 pounds per MMCF.~~
- ~~(3) The flare (CE-7001) shall be designed as a smokeless flare.~~

~~Combined with the CO and NOx emissions from other emission units, the CO and NOx 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.~~

Compliance with these limits, combined with the potential to emit NOx and CO from all other emission units at this source, shall limit the source-wide total potential to emit of NOx and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

D.6.2 Internal Combustion Engine [326 IAC 12] [40 CFR 60, Subpart III]

Pursuant to 40 CFR 60, Subpart III, the Permittee shall comply with the requirements of Section E.4 for the fire pump, identified as ~~EP-1075 P7075B~~ and the emergency diesel generator, identified as **GN7000**.

~~D.6.3 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 Condition D.6.1(b)(2), the Permittee shall perform CO testing for enclosed flare CE-7001, 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.6.4 Flare Pilot Flame

In order to comply with Conditions D.6.1(b), the Permittee shall monitor the presence of a flare pilot flame for flare CE-7001 using a thermocouple or any other equivalent device to detect the presence of a flame when the biomethanator is in operation.

D.6.53 Record Keeping Requirements

- (a) To document compliance with Condition D.6.1(a), the Permittee shall maintain monthly records of the operating hours for ~~EP-1075 P7075B~~.
- ~~(b) To document compliance with Condition D.6.1(c)(1), the Permittee shall maintain monthly records of the total amount of biogas delivered to the flare CE-7001.~~
- ~~(c) To document compliance with Condition D.6.4, the Permittee shall maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when the biomethanator is in operation.~~
- (b) To document compliance with Condition D.6.1(b), the Permittee shall maintain monthly records of the operating hours for GN7000.**
- (dc) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.6.64 Reporting Requirements

...
SECTION D.7 FACILITY OPERATION CONDITIONS – Storage Tanks

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

Insignificant Activities

(Hi) Other emission units, not regulated by a NESHAP, with PM₁₀, NO_x, 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:

- (1) One (1) denaturant storage tank, identified as T2104, with a maximum capacity of ~~55,000~~ **128,800** gallons equipped with an internal floating roof for VOC emissions control. [326 IAC 8-4-3] [40 CFR 60, Subpart Kb]
- (2) Three (3) tanks for storage of denatured fuel ethanol and/or E-85, identified as T2102, T2103, and T2105 each with a maximum capacity of ~~1,000,000~~ **1,015,164** gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]
- (4) **Two (2) fixed-roof anhydrous ethanol storage tanks (shift tanks), identified as T2110 and T2111, each with a maximum capacity of 250,000 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]**

Under NSPS, Subpart Kb, storage tanks T2104, T2102, T2103, T105, T2110, and T2111 are considered volatile organic liquid storage vessels.

...
D.7.2 Storage Tanks [326 IAC 12][40 CFR 60, Subpart Kb]

Pursuant to 40 CFR 60, Subpart Kb, the Permittee shall comply with the requirements of Section E.3 for T2102, T2103, T2104, ~~and T2105,~~ **T2110, and T2111.**

...
SECTION E.1 FACILITY OPERATION CONDITIONS

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

~~(d) One (1) fermentation process, approved for construction in 2007, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, consisting of the following:~~

~~(1) One (1) prefermenter tank, identified as T-1400, using a wet scrubber (CE1400), and sodium bisulfite injection for VOC control, exhausting through stack S-1400.~~

~~(2) Six (6) main fermenters and one (1) beer well, identified as T-1401 through T-1407, using a wet scrubber, (CE1401), and sodium bisulfite injection for VOC control, exhausting through stack S-1401.~~

~~(e) One (1) distillation process, approved for construction in 2007, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, using a wet scrubber (CE1504), and sodium bisulfite injection for VOC control exhausting through stack S-1504, and consisting of the~~

following:

- ~~(1) One (1) beer column identified as C-1510.~~
- ~~(2) One (1) stripping column identified as C-1520.~~
- ~~(3) One (1) rectifying column identified as C-1530.~~
- ~~(4) One (1) four tower molecular sieve unit, with associated heat exchangers and pumps.~~
- ~~(h) One (1) ethanol loading rack for trucks and railcars, identified as EP-2210, approved for construction in 2007, with a maximum throughput rate of 600 gallons per minute for trucks and 1,200 gallons per minute for railcars, controlled by a flare, identified as CE-2210, which is fueled by natural gas and has a maximum heat input capacity of 1.26 MMBtu/hr, and exhausts through stack S-2210.~~
- ~~(i) One (1) ethanol loading rack for barges, identified as EP-2211, approved for construction in 2007, with a maximum throughput rate of 2,000 gallons per minute, controlled by a flare, identified as CE-2211, which is fueled by natural gas and has a maximum heat input capacity of 3.78 MMBtu/hr, and exhausts through stack S-2211.~~
- (g) One (1) fermentation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, consisting of the following major equipment:**
 - (1) One (1) prefermenter tank, identified as T-1400, using a wet scrubber (S1400) and sodium bisulfite injection for VOC control, exhausting through stack S1400.**
 - (2) Six (6) main fermenters and one (1) beer well, identified as T-1401 through T-1407, using a wet scrubber (S1401), and sodium bisulfite injection for VOC control, exhausting through stack S1401.**

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.
- (h) One (1) distillation process, approved for construction in 2009, with a maximum throughput rate of 12,000 gallons of anhydrous ethanol per hour, using a wet scrubber, (S1504) and sodium bisulfite injection for VOC control, exhausting through stack S1504, and consisting of the following major equipment:**
 - (1) One (1) beer column identified as C-1510.**
 - (2) One (1) stripping column identified as C-1520.**
 - (3) One (1) rectifying column identified as C-1530.**
 - (4) One (1) four-tower molecular sieve unit, with associated heat exchangers and pumps.**

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.
- (k) One (1) ethanol and E85 loading rack for trucks and railcars, identified as EP2101, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute for trucks and railcars, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2101, and exhausting through stack S2101.**

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

(I) One (1) ethanol and E85 loading rack for barges, identified as EP2501, approved for construction in 2009, with a maximum throughput rate of 4,200 gallons per minute, controlled by a carbon adsorption/absorption hydrocarbon vapor recovery system, identified as S2501, and exhausting through stack S2501.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

...

E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

~~(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 this Section E.1 except when otherwise specified in 40 CFR 60, Subpart VV.~~

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart VVa.

(b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance Branch **Compliance and Enforcement Branch**, Office of Air Quality
100 North Senate Avenue,
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

~~**E.1.2 Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry [40 CFR Part 60, Subpart VV] [326 IAC 12]**~~

~~Pursuant to 40 CFR Part 60, Subpart VV, the Permittee shall comply with the provisions of Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, which are incorporated by reference as 326 IAC 12, as specified as follows:~~

E.1.2 Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 [40 CFR Part 60, Subpart VVa] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart VVa (included as Attachment B of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart VVa:

- (1) 40 CFR 60.480a**
- (2) 40 CFR 60.481a**
- (3) 40 CFR 60.482-1a**
- (4) 40 CFR 60.482-2a**
- (5) 40 CFR 60.482-3a**
- (6) 40 CFR 60.482-4a**
- (7) 40 CFR 60.482-5a**
- (8) 40 CFR 60.482-6a**
- (9) 40 CFR 60.482-7a**

- (10) 40 CFR 60.482-8a
- (11) 40 CFR 60.482-9a
- (12) 40 CFR 60.482-10a
- (13) 40 CFR 60.482-11a
- (14) 40 CFR 60.483-1a
- (15) 40 CFR 60.483-2a
- (16) 40 CFR 60.485a
- (17) 40 CFR 60.486a
- (18) 40 CFR 60.487a
- (19) 40 CFR 60.488a
- (20) 40 CFR 60.489a

Subpart VV—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

Source: ~~48 FR 48335, Oct. 18, 1983, unless otherwise noted.~~

~~§ 60.480—Applicability and designation of affected facility.~~

~~(a)(1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.~~

~~(2) The group of all equipment (defined in §60.481) within a process unit is an affected facility.~~

~~(b) Any affected facility under paragraph (a) of this section that commences construction or modification after January 5, 1981, shall be subject to the requirements of this subpart.~~

~~(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.~~

~~(d)(1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the owner or operator shall maintain records as required in §60.486(i).~~

~~(2) Any affected facility that has the design capacity to produce less than 1,000 Mg/yr (1,102 ton/yr) is exempt from §60.482.~~

~~(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from §60.482.~~

~~(4) Any affected facility that produces beverage alcohol is exempt from §60.482.~~

~~(5) Any affected facility that has no equipment in VOC service is exempt from §60.482.~~

~~(e) *Alternative means of compliance*—(1) *Option to comply with part 65.* Owners or operators may choose to comply with the provisions of 40 CFR part 65, subpart F, to satisfy the requirements of §§60.482 through 60.487 for an affected facility. When choosing to comply with 40 CFR part 65, subpart F, the requirements of §60.485(d), (e), and (f), and §60.486(i) and (j) still apply. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.~~

~~(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart F must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 65, subpart F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart F, must comply with 40 CFR part 65, subpart A.~~

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22607, May 30, 1984; 65 FR 61762, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000]

~~§ 60.481—Definitions.~~

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of part 60, and the following terms shall have the specific meanings given them.

Capital expenditure means, in addition to the definition in 40 CFR 60.2, an expenditure for a physical or operational change to an existing facility that:

(a) Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation: $P = R \times A$, where

(1) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, divided by 100 as reflected by the following equation:

$$A = Y \times (B \div 100);$$

(2) The percent Y is determined from the following equation: $Y = 1.0 - 0.575 \log X$, where X is 1982 minus the year of construction; and

(3) The applicable basic annual asset guideline repair allowance, B, is selected from the following table consistent with the applicable subpart:

Table for Determining Applicable for B	
Subpart applicable to facility	Value of B to be used in equation
VV.....	12.5
DDD.....	12.5
GGG.....	7.0
KKK.....	4.5

Closed vent system means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

Connector means flanged, screwed, welded, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment.

Control device means an enclosed combustion device, vapor recovery system, or flare.

Distance piece means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Duct work means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Equipment means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart.

First attempt at repair means to take rapid action for the purpose of stopping or reducing leakage of organic material to atmosphere using best practices.

Fuel gas means gases that are combusted to derive useful work or heat.

~~*Fuel gas system* means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in process combustion equipment, such as furnaces and gas turbines, either singly or in combination.~~

~~*Hard piping* means pipe or tubing that is manufactured and properly installed using good engineering judgement and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, PO Box 2900, Fairfield, NJ 07007-2900).~~

~~*In gas/vapor service* means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.~~

~~*In heavy liquid service* means that the piece of equipment is not in gas/vapor service or in light liquid service.~~

~~*In light liquid service* means that the piece of equipment contains a liquid that meets the conditions specified in §60.485(e).~~

~~*In situ sampling systems* means nonextractive samplers or in-line samplers.~~

~~*In vacuum service* means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa)(0.7 psia) below ambient pressure.~~

~~*In VOC service* means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of §60.485(d) specify how to determine that a piece of equipment is not in VOC service.)~~

~~*Liquids dripping* means any visible leakage from the seal including spraying, misting, clouding, and ice formation.~~

~~*Open ended valve or line* means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.~~

~~*Pressure release* means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.~~

~~*Process improvement* means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.~~

~~*Process unit* means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in §60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.~~

~~*Process unit shutdown* means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.~~

~~*Quarter* means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.~~

~~*Repaired* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.~~

~~*Replacement cost* means the capital needed to purchase all the depreciable components in a facility.~~

~~Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.~~

~~Sensor means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.~~

~~Synthetic organic chemicals manufacturing industry means the industry that produces, as intermediates or final products, one or more of the chemicals listed in §60.489.~~

~~Volatile organic compounds or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in §60.2 Definitions.~~

~~[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22607, May 30, 1984; 49 FR 26738, June 29, 1984; 60 FR 43258, Aug. 18, 1995; 65 FR 61762, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000]~~

~~§ 60.482-1 Standards: General.~~

~~(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§60.482-1 through 60.482-10 or §60.480(e) for all equipment within 180 days of initial startup.~~

~~(b) Compliance with §§60.482-1 to 60.482-10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485.~~

~~(c)(1) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482-2, 60.482-3, 60.482-5, 60.482-6, 60.482-7, 60.482-8, and 60.482-10 as provided in §60.484.~~

~~(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§60.482-2, 60.482-3, 60.482-5, 60.482-6, 60.482-7, 60.482-8, or 60.482-10, an owner or operator shall comply with the requirements of that determination.~~

~~(d) Equipment that is in vacuum service is excluded from the requirements of §§60.482-2 to 60.482-10 if it is identified as required in §60.486(e)(5).~~

~~[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 78276, Dec. 14, 2000]~~

~~§ 60.482-2 Standards: Pumps in light liquid service.~~

~~(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485(b), except as provided in §60.482-1(c) and paragraphs (d), (e), and (f) of this section.~~

~~(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.~~

~~(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~

~~(2) If there are indications of liquids dripping from the pump seal, a leak is detected.~~

~~(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9.~~

~~(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~

~~(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), *Provided* the following requirements are met:~~

~~(1) Each dual mechanical seal system is—~~

~~(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or~~

~~(ii) Equipment with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482-10; or~~

~~(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.~~

~~(2) The barrier fluid system is in heavy liquid service or is not in VOC service.~~

~~(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.~~

~~(4) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.~~

~~(5)(i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm, and~~

~~(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.~~

~~(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii), a leak is detected.~~

~~(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9.~~

~~(iii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~

~~(e) Any pump that is designated, as described in §60.486(e)(1) and (2), for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:~~

~~(1) Has no externally actuated shaft penetrating the pump housing,~~

~~(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §60.485(c), and~~

~~(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.~~

~~(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §60.482-10, it is exempt from paragraphs (a) through (e) of this section.~~

~~(g) Any pump that is designated, as described in §60.486(f)(1), as an unsafe to monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:~~

~~(1) The owner or operator of the pump demonstrates that the pump is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and~~

~~(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe to monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.~~

~~(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of~~

paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000]

~~§ 60.482-3 Standards: Compressors.~~

~~(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in §60.482-1(c) and paragraph (h) and (i) of this section.~~

~~(b) Each compressor seal system as required in paragraph (a) shall be:~~

~~(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or~~

~~(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482-10; or~~

~~(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.~~

~~(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.~~

~~(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.~~

~~(e)(1) Each sensor as required in paragraph (d) shall be checked daily or shall be equipped with an audible alarm.~~

~~(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.~~

~~(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.~~

~~(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9.~~

~~(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~

~~(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §60.482-10, except as provided in paragraph (i) of this section.~~

~~(i) Any compressor that is designated, as described in §60.486(e) (1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a)–(h) if the compressor:~~

~~(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in §60.485(c); and~~

~~(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.~~

~~(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of §60.14 or §60.15 is exempt from §60.482(a), (b), (c), (d), (e), and (h), provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options~~

~~available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.~~

~~[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000]~~

~~**§ 60.482-4 Standards: Pressure relief devices in gas/vapor service.**~~

~~(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485(c).~~

~~(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482-9.~~

~~(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485(c).~~

~~(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482-10 is exempted from the requirements of paragraphs (a) and (b) of this section.~~

~~(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.~~

~~(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §60.482-9.~~

~~[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000]~~

~~**§ 60.482-5 Standards: Sampling connection systems.**~~

~~(a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in §60.482-1(c). Gases displaced during filling of the sample container are not required to be collected or captured.~~

~~(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section:~~

~~(1) Return the purged process fluid directly to the process line; or~~

~~(2) Collect and recycle the purged process fluid to a process; or~~

~~(3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of §60.482-10; or~~

~~(4) Collect, store, and transport the purged process fluid to any of the following systems or facilities:~~

~~(i) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to, and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;~~

~~(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or~~

~~(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.~~

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

~~[60 FR 43258, Aug. 18, 1995, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000]~~

~~**§ 60.482-6 Standards: Open-ended valves or lines.**~~

~~(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §60.482-1(c).~~

~~(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.~~

~~(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.~~

~~(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.~~

~~(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.~~

~~(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.~~

~~[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22607, May 30, 1984; 65 FR 78277, Dec. 14, 2000]~~

~~**§ 60.482-7 Standards: Valves in gas/vapor service and in light liquid service.**~~

~~(a) Each valve shall be monitored monthly to detect leaks by the methods specified in §60.485(b) and shall comply with paragraphs (b) through (e), except as provided in paragraphs (f), (g), and (h), §60.483-1, 2, and §60.482-1(c).~~

~~(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~

~~(c)(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.~~

~~(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.~~

~~(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §60.482-9.~~

~~(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~

~~(e) First attempts at repair include, but are not limited to, the following best practices where practicable:~~

~~(1) Tightening of bonnet bolts;~~

~~(2) Replacement of bonnet bolts;~~

~~(3) Tightening of packing gland nuts;~~

~~(4) Injection of lubricant into lubricated packing.~~

~~(f) Any valve that is designated, as described in §60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) if the valve:~~

~~(1) Has no external actuating mechanism in contact with the process fluid,~~

~~(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in §60.485(e), and~~

~~(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.~~

~~(g) Any valve that is designated, as described in §60.486(f)(1), as an unsafe to monitor valve is exempt from the requirements of paragraph (a) if:~~

~~(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and~~

~~(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe to monitor times.~~

~~(h) Any valve that is designated, as described in §60.486(f)(2), as a difficult to monitor valve is exempt from the requirements of paragraph (a) if:~~

~~(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.~~

~~(2) The process unit within which the valve is located either becomes an affected facility through §60.14 or §60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult to monitor, and~~

~~(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.~~

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 61762, Oct. 17, 2000]

~~§ 60.482-8 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.~~

~~(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures:~~

~~(1) The owner or operator shall monitor the equipment within 5 days by the method specified in §60.485(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.~~

~~(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak.~~

~~(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~

~~(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9.~~

~~(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~

~~(d) First attempts at repair include, but are not limited to, the best practices described under §60.482-7(e).~~

[48 CFR 48335, Oct. 18, 1983, as amended at 65 FR 78277, Dec. 14, 2000]

~~§ 60.482-9 Standards: Delay of repair.~~

~~(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.~~

~~(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.~~

~~(c) Delay of repair for valves will be allowed if:~~

~~(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and~~

~~(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482-10.~~

~~(d) Delay of repair for pumps will be allowed if:~~

~~(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and~~

~~(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.~~

~~(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.~~

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 78277, Dec. 14, 2000]

~~**§ 60.482-10—Standards: Closed vent systems and control devices.**~~

~~(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.~~

~~(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.~~

~~(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.~~

~~(d) Flares used to comply with this subpart shall comply with the requirements of §60.18.~~

~~(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.~~

~~(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.~~

~~(1) If the vapor collection system or closed vent system is constructed of hard piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section:~~

~~(i) Conduct an initial inspection according to the procedures in §60.485(b); and~~

~~(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.~~

~~(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:~~

~~(i) Conduct an initial inspection according to the procedures in §60.485(b); and~~

~~(ii) Conduct annual inspections according to the procedures in §60.485(b).~~

~~(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.~~

~~(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.~~

~~(2) Repair shall be completed no later than 15 calendar days after the leak is detected.~~

~~(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.~~

~~(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.~~

~~(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (j)(2) of this section:~~

~~(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and~~

~~(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.~~

~~(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (k)(3) of this section:~~

~~(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and~~

~~(2) The process unit within which the closed vent system is located becomes an affected facility through §§60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and~~

~~(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.~~

~~(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (l)(5) of this section.~~

~~(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.~~

~~(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.~~

~~(3) For each inspection during which a leak is detected, a record of the information specified in §60.486(c).~~

~~(4) For each inspection conducted in accordance with §60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.~~

~~(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.~~

~~(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.~~

~~[48 FR 48335, Oct. 18, 1983, as amended at 51 FR 2702, Jan. 21, 1986; 60 FR 43258, Aug. 18, 1995; 61 FR 29878, June 12, 1996; 65 FR 78277, Dec. 14, 2000]~~

~~§ 60.483-1 Alternative standards for valves—allowable percentage of valves leaking.~~

~~(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.~~

~~(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:~~

~~(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in §60.487(d).~~

~~(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.~~

~~(3) If a valve leak is detected, it shall be repaired in accordance with §60.482-7(d) and (e).~~

~~(c) Performance tests shall be conducted in the following manner:~~

~~(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in §60.485(b).~~

~~(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~

~~(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.~~

~~(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent.~~

~~[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000]~~

~~§ 60.483-2 Alternative standards for valves—skip period leak detection and repair.~~

~~(a)(1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.~~

~~(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in §60.487(d).~~

~~(b)(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in §60.482-7.~~

~~(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.~~

~~(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.~~

~~(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in §60.482-7 but can again elect to use this section.~~

~~(5) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.~~

~~(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.~~

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000]

§ 60.485—Test methods and procedures.

~~(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).~~

~~(b) The owner or operator shall determine compliance with the standards in §§60.482, 60.483, and 60.484 as follows:~~

~~(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:~~

~~(i) Zero air (less than 10 ppm of hydrocarbon in air); and~~

~~(ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.~~

~~(c) The owner or operator shall determine compliance with the no detectable emission standards in §§60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows:~~

~~(1) The requirements of paragraph (b) shall apply.~~

~~(2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.~~

~~(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:~~

~~(1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference—see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.~~

~~(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.~~

~~(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d) (1) and (2) of this section shall be used to resolve the disagreement.~~

~~(e) The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply:~~

~~(1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 °F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.~~

~~(2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 °F) is equal to or greater than 20 percent by weight.~~

~~(3) The fluid is a liquid at operating conditions.~~

~~(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.~~

~~(g) The owner or operator shall determine compliance with the standards of flares as follows:~~

~~(1) Method 22 shall be used to determine visible emissions.~~

~~(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.~~

~~(3) The maximum permitted velocity for air-assisted flares shall be computed using the following equation:~~

$$V_{\max} = K_1 + K_2 H_T$$

Where:

V_{\max} = Maximum 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 m⁴/(MJ-sec) (metric units)

= 0.087 ft⁴/(Btu-sec) (English units)

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

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

Where:

K = Conversion constant, 1.740 × 10⁻⁷ (g-mole)(MJ)/(ppm-scm-kcal) (metric units)

= 4.674 × 10⁻⁸ [(g-mole)(Btu)/(ppm-scf-kcal)] (English units)

C_i = Concentration of sample component "i," ppm

H_i = net heat of combustion of sample component "i" at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole

~~(5) Method 18 and ASTM D2504-67, 77, or 88 (Reapproved 1993) (incorporated by reference—see §60.17) shall be used to determine the concentration of sample component "i."~~

~~(6) ASTM D2382-76 or 88 or D4809-95 (incorporated by reference—see §60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.~~

~~(7) Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.~~

~~[54 FR 6678, Feb. 14, 1989, as amended at 54 FR 27016, June 27, 1989; 65 FR 61763, Oct. 17, 2000]~~

~~**§ 60.486 – Recordkeeping requirements.**~~

~~(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.~~

~~(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.~~

~~(b) When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following requirements apply:~~

~~(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.~~

~~(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482–7(c) and no leak has been detected during those 2 months.~~

~~(3) The identification on equipment except on a valve, may be removed after it has been repaired.~~

~~(c) When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:~~

~~(1) The instrument and operator identification numbers and the equipment identification number.~~

~~(2) The date the leak was detected and the dates of each attempt to repair the leak.~~

~~(3) Repair methods applied in each attempt to repair the leak.~~

~~(4) “Above 10,000” if the maximum instrument reading measured by the methods specified in §60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.~~

~~(5) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.~~

~~(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.~~

~~(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.~~

~~(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.~~

~~(9) The date of successful repair of the leak.~~

~~(d) The following information pertaining to the design requirements for closed vent systems and control devices described in §60.482–10 shall be recorded and kept in a readily accessible location:~~

~~(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.~~

~~(2) The dates and descriptions of any changes in the design specifications.~~

~~(3) A description of the parameter or parameters monitored, as required in §60.482–10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.~~

~~(4) Periods when the closed vent systems and control devices required in §§60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame.~~

~~(5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§60.482-2, 60.482-3, 60.482-4, and 60.482-5.~~

~~(e) The following information pertaining to all equipment subject to the requirements in §§60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location:~~

~~(1) A list of identification numbers for equipment subject to the requirements of this subpart.~~

~~(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482-2(e), 60.482-3(i) and 60.482-7(f).~~

~~(ii) The designation of equipment as subject to the requirements of §60.482-2(e), §60.482-3(i), or §60.482-7(f) shall be signed by the owner or operator.~~

~~(3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482-4.~~

~~(4)(i) The dates of each compliance test as required in §§60.482-2(e), 60.482-3(i), 60.482-4, and 60.482-7(f).~~

~~(ii) The background level measured during each compliance test.~~

~~(iii) The maximum instrument reading measured at the equipment during each compliance test.~~

~~(5) A list of identification numbers for equipment in vacuum service.~~

~~(f) The following information pertaining to all valves subject to the requirements of §60.482-7(g) and (h) and to all pumps subject to the requirements of §60.482-2(g) shall be recorded in a log that is kept in a readily accessible location:~~

~~(1) A list of identification numbers for valves and pumps that are designated as unsafe to monitor, an explanation for each valve or pump stating why the valve or pump is unsafe to monitor, and the plan for monitoring each valve or pump.~~

~~(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.~~

~~(g) The following information shall be recorded for valves complying with §60.483-2:~~

~~(1) A schedule of monitoring.~~

~~(2) The percent of valves found leaking during each monitoring period.~~

~~(h) The following information shall be recorded in a log that is kept in a readily accessible location:~~

~~(1) Design criterion required in §§60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and~~

~~(2) Any changes to this criterion and the reasons for the changes.~~

~~(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in §60.480(d):~~

~~(1) An analysis demonstrating the design capacity of the affected facility,~~

~~(2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and~~

~~(3) An analysis demonstrating that equipment is not in VOC service.~~

~~(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.~~

~~(k) The provisions of §60.7 (b) and (d) do not apply to affected facilities subject to this subpart.~~

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61763, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000]

§ 60.487—Reporting requirements.

~~(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.~~

~~(b) The initial semiannual report to the Administrator shall include the following information:~~

~~(1) Process unit identification.~~

~~(2) Number of valves subject to the requirements of §60.482–7, excluding those valves designated for no detectable emissions under the provisions of §60.482–7(f).~~

~~(3) Number of pumps subject to the requirements of §60.482–2, excluding those pumps designated for no detectable emissions under the provisions of §60.482–2(e) and those pumps complying with §60.482–2(f).~~

~~(4) Number of compressors subject to the requirements of §60.482–3, excluding those compressors designated for no detectable emissions under the provisions of §60.482–3(i) and those compressors complying with §60.482–3(h).~~

~~(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in §60.486:~~

~~(1) Process unit identification.~~

~~(2) For each month during the semiannual reporting period,~~

~~(i) Number of valves for which leaks were detected as described in §60.482(7)(b) or §60.483–2,~~

~~(ii) Number of valves for which leaks were not repaired as required in §60.482–7(d)(1),~~

~~(iii) Number of pumps for which leaks were detected as described in §60.482–2(b) and (d)(6)(i),~~

~~(iv) Number of pumps for which leaks were not repaired as required in §60.482–2(c)(1) and (d)(6)(ii),~~

~~(v) Number of compressors for which leaks were detected as described in §60.482–3(f),~~

~~(vi) Number of compressors for which leaks were not repaired as required in §60.482–3(g)(1), and~~

~~(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.~~

~~(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.~~

~~(4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.~~

~~(d) An owner or operator electing to comply with the provisions of §§60.483–1 or 60.483–2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.~~

~~(e) An owner or operator shall report the results of all performance tests in accordance with §60.8 of the General Provisions. The provisions of §60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.~~

~~(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting~~

~~requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the State.~~

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 61763, Oct. 17, 2000]

SECTION E.2 FACILITY OPERATION CONDITIONS

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

~~(f) Two (2) natural gas fired boilers, identified as BL5001 and BL5002, approved for construction in 2007, each with a maximum heat input rate of 182 MMBtu/hr, with emissions exhausting to stacks S-5001 and S-5002, respectively.~~

(i) **Four (4) natural gas fired boilers, identified as BL5001, BL5002, BL5003, and BL5004, approved for construction in 2009, with a maximum heat input rate of 92.4 MMBtu/hr, each, and exhausting through stacks BL5001, BL5002, BL5003, and BL5004, respectively.**

Under NSPS, Subpart Dc, the boilers are considered affected facilities.

(j) **Two (2) natural gas fired Swiss Combi “Eco-Dry” Dryer Systems, identified as D1802A and D1802B, approved for construction in 2009, with a maximum heat input rate of 76.7MMBtu/hr and a design throughput rate of 20 tons per hour of DDGS each, with emissions exhausting through stacks S1802A and S1802B.**

Note: The basis of the Swiss Combi Dryer System is an indirect heat drying process using a closed steam loop with thermal oxidation. The DDGS cooler is also integrated into the Eco-Dry system.

Under NSPS, Subpart Dc, the Swiss Combi Dryer Systems are considered affected facilities.

...

E.2.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1 for boilers BL5001, and BL5002, **BL5003, BL5004**, and the **Swiss Combi Dryer Systems (D1802A and D1802B)**, except as otherwise specified in 40 CFR Part 60, Subpart D**bc**.

(b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
~~Compliance Branch~~ **Compliance and Enforcement Branch**, Office of Air Quality
100 North Senate Avenue,
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.2.2 ~~Standard of Performance for Industrial-Commercial-Institutional Steam Generating Units Requirements [40 CFR Part 60, Subpart Db] [326 IAC 12]~~

~~Pursuant to 40 CFR Part 60, Subpart Db, the Permittee shall comply with the provisions of Standard of Performance for Industrial-Commercial-Institutional Steam Generating Units, which~~

are incorporated by reference as 326 IAC 12, for boilers BL5001 and BL5002 as specified as follows:

E.2.2 New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (included as Attachment C of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart Dc:

- (1) 40 CFR 60.40c
- (2) 40 CFR 60.41c
- (3) 40 CFR 60.48c (a)
- (4) 40 CFR 60.48c (g)(2)
- (5) 40 CFR 60.48c (i)
- (4) 40 CFR 60.48c (j)

~~Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units~~

~~§ 60.40b—Applicability and delegation of authority.~~

~~(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).~~

~~(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:~~

~~(1) Coal-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the particulate matter and nitrogen oxides standards under this subpart.~~

~~(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil fuel-fired steam generators; §60.40) are subject to the particulate matter and nitrogen oxides standards under this subpart and to the sulfur dioxide standards under subpart D (§60.43).~~

~~(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the nitrogen oxides standards under this subpart.~~

~~(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil fuel-fired steam generators; §60.40) are also subject to the nitrogen oxides standards under this subpart and the particulate matter and sulfur dioxide standards under subpart D (§60.42 and §60.43).~~

~~(c) Affected facilities which also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; §60.104) are subject to the particulate matter and nitrogen oxides standards under this subpart and the sulfur dioxide standards under subpart J (§60.104).~~

~~(d) Affected facilities which also meet the applicability requirements under subpart E (Standards of performance for incinerators; §60.50) are subject to the nitrogen oxides and particulate matter standards under this subpart.~~

~~(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; §60.40Da) are not subject to this subpart.~~

~~(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing TRS as defined under §60.281 is not considered a modification under §60.14 and the steam generating unit is not subject to this subpart.~~

~~(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the following authorities shall be retained by the Administrator and not transferred to a State.~~

~~(1) Section 60.44b(f).~~

~~(2) Section 60.44b(g).~~

~~(3) Section 60.49b(a)(4).~~

~~(h) Affected facilities which meet the applicability requirements under subpart Eb (Standards of performance for municipal waste combustors; §60.50b) are not subject to this subpart.~~

~~(i) Heat recovery steam generators that are associated with combined cycle gas turbines and that meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)~~

~~(j) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, §60.40).~~

~~(k) Any facility covered by subpart Eb or subpart AAAA of this part is not covered by this subpart.~~

~~(l) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart Cb or subpart BBBB of this part is not covered by this subpart.~~

[52 FR 47842, Dec. 16, 1987, as amended at 63 FR 49454, Sept. 16, 1998; 65 FR 61752, Oct. 17, 2000; 71 FR 9881, Feb. 27, 2006; 71 FR 33400, June 9, 2006]

~~§ 60.41b Definitions.~~

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from the fuels listed in §60.42b(a), §60.43b(a), or §60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

Byproduct/waste means any liquid or gaseous substance produced at chemical manufacturing plants, petroleum refineries, or pulp and paper mills (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purpose of this subpart.

Chemical manufacturing plants means industrial plants which are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388-77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR—see §60.17), coal refuse, and petroleum coke. Coal derived synthetic fuels, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any byproduct of coal mining or coal cleaning operations with an ash content greater than 50 percent, by weight, and a heating value less than 13,900 kJ/kg (6,000 Btu/lb) on a dry basis.

~~*Cogeneration*, also known as combined heat and power, means a facility that simultaneously produces both electric (or mechanical) and useful thermal energy from the same primary energy source.~~

~~*Combined cycle system* means a system in which a separate source, such as a gas turbine, internal combustion engine, kiln, etc., provides exhaust gas to a heat recovery steam generating unit.~~

~~*Conventional technology* means wet flue gas desulfurization (FGD) technology, dry FGD technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.~~

~~*Distillate oil* means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 78, 89, 90, 92, 96, or 98, Standard Specifications for Fuel Oils (incorporated by reference—see §60.17).~~

~~*Dry flue gas desulfurization technology* means a sulfur dioxide control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline slurries or solutions used in dry flue gas desulfurization technology include but are not limited to lime and sodium.~~

~~*Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.~~

~~*Emerging technology* means any sulfur dioxide control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under §60.49b(a)(4).~~

~~*Federally enforceable* means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.~~

~~*Fluidized bed combustion technology* means combustion of fuel in a bed or series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials are forced upward by the flow of combustion air and the gaseous products of combustion.~~

~~*Fuel pretreatment* means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.~~

~~*Full capacity* means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.~~

~~*Heat input* means heat derived from combustion of fuel in a steam generating unit and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.~~

~~*Heat release rate* means the steam generating unit design heat input capacity (in MW or Btu/hour) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.~~

~~*Heat transfer medium* means any material that is used to transfer heat from one point to another point.~~

~~*High heat release rate* means a heat release rate greater than 730,000 J/sec-m³ (70,000 Btu/hour-ft³).~~

~~*Lignite* means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388—77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR—see §60.17).~~

~~*Low heat release rate* means a heat release rate of 730,000 J/sec-m³ (70,000 Btu/hour-ft³) or less.~~

~~*Mass-feed stoker steam generating unit* means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.~~

~~*Maximum heat input capacity* means the ability of a steam generating unit to combust a stated maximum amount of fuel on a steady state basis, as determined by the physical design and characteristics of the steam generating unit.~~

~~*Municipal-type solid waste* means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.~~

~~*Natural gas* means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835—82, 86, 87, 91, or 97, "Standard Specification for Liquid Petroleum Gases" (IBR—see §60.17).~~

~~*Noncontinental area* means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.~~

~~*Oil* means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil.~~

~~*Petroleum refinery* means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.~~

~~*Potential sulfur dioxide emission rate* means the theoretical sulfur dioxide emissions (ng/J, lb/million Btu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.~~

~~*Process heater* means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.~~

~~*Pulp and paper mills* means industrial plants which are classified by the Department of Commerce under North American Industry Classification System (NAICS) Code 322 or Standard Industrial Classification (SIC) Code 26.~~

~~*Pulverized coal-fired steam generating unit* means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units.~~

~~*Residual oil* means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396—78, Standard Specifications for Fuel Oils (IBR—see §60.17).~~

~~*Spreader stoker steam generating unit* means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.~~

~~*Steam generating unit* means a device that combusts any fuel or byproduct/waste to produce steam or to heat water or any other heat transfer medium. This term includes any municipal type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.~~

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

~~*Very low sulfur oil* for units constructed, reconstructed, or modified on or before February 28, 2005, means an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 215 ng/J (0.5 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005, *very low sulfur oil* means an oil that contains no more than 0.3 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input.~~

Wet flue gas desulfurization technology means a sulfur dioxide control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of particulate matter or sulfur dioxide.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including, but not limited to, sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000; 66 FR 49834, Oct. 1, 2001; 71 FR 9881, Feb. 27, 2006]

§ 60.44b—Standard for nitrogen oxides.

(a) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO₂) in excess of the following emission limits:

Fuel/Steam generating unit type	Nitrogen oxide emission limits ng/J (lb/million Btu) (expressed as NO ₂) heat input
(1) Natural gas and distillate oil, except (4):	
(i) Low heat release rate.....	43 (0.10)
(ii) High heat release rate.....	86 (0.20)
(2) Residual oil:	
(i) Low heat release rate.....	130 (0.30)
(ii) High heat release rate.....	170 (0.40)
(3) Coal:	
(i) Mass feed stoker.....	210 (0.50)
(ii) Spreader stoker and fluidized bed combustion.....	260 (0.60)
(iii) Pulverized coal.....	300 (0.70)
(iv) Lignite, except (v).....	260 (0.60)
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace.....	340 (0.80)

(vi) Coal derived synthetic fuels.....	210 (0.50)
(4) Duct burner used in a combined cycle system:	
(i) Natural gas and distillate oil.....	86 (0.20)
(ii) Residual oil.....	170 (0.40)

~~(h) For purposes of paragraph (i) of this section, the nitrogen oxide standards under this section apply at all times including periods of startup, shutdown, or malfunction.~~

~~(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.~~

~~§ 60.46b—Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.~~

~~(a) The particulate matter emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction, and as specified in paragraphs (i) and (j) of this section. The nitrogen oxides emission standards under §60.44b apply at all times.~~

~~(c) Compliance with the nitrogen oxides emission standards under §60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.~~

~~(e) To determine compliance with the emission limits for nitrogen oxides required under §60.44b, the owner or operator of an affected facility shall conduct the performance test as required under §60.8 using the continuous system for monitoring nitrogen oxides under §60.48(b).~~

~~(1) For the initial compliance test, nitrogen oxides from the steam generating unit 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 §60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.~~

~~§ 60.48b—Emission monitoring for particulate matter and nitrogen oxides.~~

~~(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a nitrogen oxides standard under §60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.~~

~~(1) 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~~

~~(c) The continuous monitoring systems required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.~~

~~(d) The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor required by paragraph (b) of this section and required under §60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.44b. The 1-hour averages shall be calculated using the data points required under §60.13(h)(2).~~

~~(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.~~

~~(2) For affected facilities combusting coal, oil, or natural gas, the span value for nitrogen oxides is determined as follows:~~

Span values for

Fuel	nitrogen oxides (PPM)
Natural gas.....	500
Oil.....	500
Coal.....	1,000
Mixtures.....	$500(x+y) + 1,000z$

where:

x is the fraction of total heat input derived from natural gas,

y is the fraction of total heat input derived from oil, and

z is the fraction of total heat input derived from coal.

(f) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(g) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 million Btu/hour) or less, and which has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, or any mixture of these fuels, greater than 10 percent (0.10) shall:

(1) Comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of this section, or

(2) Monitor steam generating unit operating conditions and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to §60.49b(c).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989; 63 FR 49455, Sept. 16, 1998; 66 FR 18553, Apr. 10, 2001; 71 FR 9884, Feb. 27, 2006]

§ 60.49b—Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by §60.7. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility,

(3) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired, and,

(b) The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emission limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator 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 owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) 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) The owner or operator of each affected facility subject to the nitrogen oxides standard of §60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions under the provisions of §60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored under §60.48b(g)(2) and the records to be maintained under §60.49b(j). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. The plan shall:

~~(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and nitrogen oxides emission rates (i.e., ng/J or lbs/million Btu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (i.e., the ratio of primary air to secondary and/or tertiary air) and the level of excess air (i.e., flue gas oxygen level);~~

~~(2) Include the data and information that the owner or operator used to identify the relationship between nitrogen oxides emission rates and these operating conditions;~~

~~(3) Identify how these operating conditions, including steam generating unit load, will be monitored under §60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under §60.49b(j).~~

~~If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan.~~

~~(d) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste 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.~~

~~(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the nitrogen oxides standards under §60.44b 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 NO₂) (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 §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.~~

~~(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for nitrogen oxides under §60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.~~

~~(v) The owner or operator of an affected facility may submit electronic quarterly reports for SO₂ and/or NO_x and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. 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 owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.~~

~~(w) The reporting period for the reports required under this subpart is each 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.~~

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 60 FR 28062, May 30, 1995; 61 FR 14031, Mar. 29, 1996; 62 FR 52641, Oct. 8, 1997; 63 FR 49455, Sept. 16, 1998; 64 FR 7464, Feb. 12, 1999; 65 FR 13243, Mar. 13, 2000; 69 FR 40773, July 7, 2004]

SECTION E.3 FACILITY OPERATION CONDITIONS

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

(hi) Other emission units, not regulated by a NESHAP, with PM₁₀, NO_x, 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:

- (1) One (1) denaturant storage tank, identified as T2104, with a maximum capacity of ~~55,000~~ **128,800** gallons equipped with an internal floating roof for VOC emissions control. [326 IAC 8-4-3] [40 CFR 60, Subpart Kb]
- (2) Three (3) tanks for storage of denatured fuel ethanol and/or E-85, identified as T2102, T2103, and T2105 each with a maximum capacity of ~~1,000,000~~ **1,015,164** gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]
- (4) **Two (2) fixed-roof anhydrous ethanol storage tanks (shift tanks), identified as T2110 and T2111, each with a maximum capacity of 250,000 gallons, and each equipped with an internal floating roof for VOC emissions control. [40 CFR 60, Subpart Kb]**

Under NSPS, Subpart Kb, storage tanks T2104, T2102, T2103, T105, T2110, and T2111 are considered volatile organic liquid storage vessels.

...

E.3.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1

for tanks T2102, T2103, T2104, ~~and~~ T2105, **T2110, and T2111** except as otherwise specified in 40 CFR Part 60, Subpart Kb.

- (b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
~~Compliance Branch~~ **Compliance and Enforcement Branch**, Office of Air Quality
100 North Senate Avenue,
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.3.2 Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) [40 CFR Part 60, Subpart Kb] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart Kb, the Permittee shall comply with the provisions of Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels), which are incorporated by reference as 326 IAC 12, for tanks T2102, T2103, T2104, ~~and~~ T2105, **T2110, and T2111** as specified as follows:

- (1) 40 CFR 60.110b
- (2) 40 CFR 60.111b
- (3) 40 CFR 60.112b(a)(1)
- (4) 40 CFR 60.113b(a)
- (5) 40 CFR 60.115b(a)
- (6) 40 CFR 60.116b(a – e)
- (7) 40 CFR 60.117b

~~**Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)**~~

Source: ~~52 FR 11429, April 8, 1987, unless otherwise noted.~~

~~**§ 60.110b – Applicability and designation of affected facility.**~~

~~(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.~~

~~(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.~~

~~(c) [Reserved]~~

~~(d) This subpart does not apply to the following:~~

~~(1) Vessels at coke oven by product plants.~~

~~(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.~~

~~(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.~~

~~(4) Vessels with a design capacity less than or equal to 1,589.874 m^3 used for petroleum or condensate stored, processed, or treated prior to custody transfer.~~

~~(5) Vessels located at bulk gasoline plants.~~

~~(6) Storage vessels located at gasoline service stations.~~

~~(7) Vessels used to store beverage alcohol.~~

~~(8) Vessels subject to subpart GGGG of 40 CFR part 63.~~

~~(e) Alternative means of compliance—(1) Option to comply with part 65. Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of §60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.~~

~~(i) A storage vessel with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or~~

~~(ii) A storage vessel with a design capacity greater than 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.~~

~~(2) Part 60, subpart A. Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.~~

~~(3) Internal floating roof report. If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).~~

~~(4) External floating roof report. If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).~~

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 78275, Dec. 14, 2000; 68 FR 59332, Oct. 15, 2003]

~~§ 60.111b—Definitions.~~

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

~~*Bulk gasoline plant* means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.~~

~~*Condensate* means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.~~

~~*Custody transfer* means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.~~

~~*Fill* means the introduction of VOL into a storage vessel but not necessarily to complete capacity.~~

~~*Gasoline service station* means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.~~

~~Maximum true vapor pressure means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:~~

- ~~(1) In accordance with methods described in American Petroleum Institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see §60.17); or~~
- ~~(2) As obtained from standard reference texts; or~~
- ~~(3) As determined by ASTM D2879—83, 96, or 97 (incorporated by reference—see §60.17);~~
- ~~(4) Any other method approved by the Administrator.~~

~~Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.~~

~~Petroleum liquids means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.~~

~~Process tank means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.~~

~~Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323—82 or 94 (incorporated by reference—see §60.17).~~

~~Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:~~

- ~~(1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;~~
- ~~(2) Subsurface caverns or porous rock reservoirs; or~~
- ~~(3) Process tanks.~~

~~Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.~~

~~Waste means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.~~

~~[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 61756, Oct. 17, 2000; 68 FR 59333, Oct. 15, 2003]~~

~~**§ 60.112b—Standard for volatile organic compounds (VOC).**~~

~~(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:~~

- ~~(1) A fixed roof in combination with an internal floating roof meeting the following specifications:~~

~~(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.~~

~~(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:~~

~~(A) A foam or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.~~

~~(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.~~

~~(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.~~

~~(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.~~

~~(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.~~

~~(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.~~

~~(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.~~

~~(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.~~

~~(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.~~

~~(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.~~

§ 60.113b—Testing and procedures.

The owner or operator of each storage vessel as specified in §60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

(a) After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) 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.

~~(2) 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 §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.~~

~~(3) For vessels equipped with a double seal system as specified in §60.112b(a)(1)(ii)(B):~~

~~(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or~~

~~(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.~~

~~(4) 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 paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.~~

~~(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator 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 Administrator at least 7 days prior to the refilling.~~

~~§ 60.115b—Reporting and recordkeeping requirements.~~

~~The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.~~

~~(a) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements:~~

~~(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3).~~

~~(2) Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).~~

~~(3) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.~~

~~(4) After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §61.112b(a)(1) or §60.113b(a)(3) and list each repair made.~~

~~§ 60.116b—Monitoring of operations.~~

~~(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.~~

~~(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.~~

~~(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.~~

~~(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.~~

~~(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.~~

~~(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.~~

~~(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:~~

~~(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).~~

~~(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.~~

~~(3) For other liquids, the vapor pressure:~~

~~(i) May be obtained from standard reference texts, or~~

~~(ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or~~

~~(iii) Measured by an appropriate method approved by the Administrator; or~~

~~(iv) Calculated by an appropriate method approved by the Administrator.~~

[52 FR 11429, Apr. 8, 1987, as amended at 65 FR 61756, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000; 68 FR 59333, Oct. 15, 2003]

~~§ 60.117b—Delegation of authority.~~

~~(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.~~

~~(b) Authorities which will not be delegated to States: §§60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).~~

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]

SECTION E.4

FACILITY OPERATION CONDITIONS

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

Insignificant Activities

(a) One (1) diesel fired stationary fire pump, identified as ~~EP-1075~~ **P7075B**, approved for construction in 20079, with a maximum power output rate of 420 **460** horsepower, and exhausting ~~to~~ **through** stack **P7075B**. [326 IAC 2-8-4]

Under NSPS, Subpart IIII, the diesel fire pump is considered a new certified National Fire Protection Association (NFPA) fire pump.

(b) One (1) emergency diesel generator, identified as **GN7000**, approved for construction in 2009, with a maximum power output rate of 1,495 horsepower, and exhausting through stack **GN7000**.

Under NSPS, Subpart IIII, the emergency diesel generator is considered a new stationary compression ignition internal combustion engine.

...

E.4.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the fire pump, identified as ~~EP-1075~~ **P7075B** and the **diesel generator, identified as GN7000**, except when otherwise specified in 40 CFR 60, Subpart IIII.

(b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
~~Compliance Branch~~ **Compliance and Enforcement Branch**, Office of Air Quality
100 North Senate Avenue,
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.4.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart IIII] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart IIII, the Permittee shall comply with the provisions of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, which are incorporated by reference as 326 IAC 12, for the fire pump, identified as ~~EP-1075~~ **P7075B** and the diesel generator, identified as **GN7000**, as specified as follows:

- (1) 40 CFR 60.4200(a)(2)
- (2) 40 CFR 60.4200(a)(3)
- (3) 40 CFR 60.4200(b)
- (4) 40 CFR 60.4205(b)
- (5) 40 CFR 60.4206
- (6) 40 CFR 60.4207(a)
- (7) 40 CFR 60.4207(b)
- (8) 40 CFR 60.4207(c)
- (9) 40 CFR 60.4208
- (10) 40 CFR 60.4209(a)
- (11) 40 CFR 60.4211(a)
- (12) 40 CFR 60.4211(c)
- (13) 40 CFR 60.4211(e)
- (14) 40 CFR 60.4212
- (15) 40 CFR 60.4214(b)
- (16) 40 CFR 60.4218
- (17) 40 CFR 60.4219
- (18) Tables 5 and 8

~~Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines~~

~~Source: 71 FR 39172, July 11, 2006, unless otherwise noted.~~

~~§ 60.4200—Am I subject to this subpart?~~

~~(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (3) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.~~

~~(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005 where the stationary CI ICE are:~~

~~(i) Manufactured after April 1, 2006 and are not fire pump engines, or~~

~~(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.~~

~~(3) Owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005.~~

~~(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.~~

~~Emission Standards for Owners and Operators~~

~~§ 60.4205—What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?~~

~~(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.~~

~~§ 60.4206 – How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?~~

~~Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.~~

Fuel Requirements for Owners and Operators

~~§ 60.4207 – What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?~~

~~(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.~~

~~(c) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.~~

Other Requirements for Owners and Operators

~~§ 60.4208 – What is the deadline for importing or installing stationary CI ICE produced in the previous model year?~~

~~(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.~~

~~(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.~~

~~(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.~~

~~(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.~~

~~(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.~~

~~(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.~~

~~(g) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (f) of this section after the dates specified in paragraphs (a) through (f) of this section.~~

~~(h) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.~~

§ 60.4209 – What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

~~If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.~~

~~(a) If you are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine.~~

Compliance Requirements

§ 60.4211 – What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

~~(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. You must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.~~

~~(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.~~

~~(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.~~

~~(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.~~

~~(3) Keeping records of engine manufacturer data indicating compliance with the standards.~~

~~(4) Keeping records of control device vendor data indicating compliance with the standards.~~

~~(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.~~

~~(e) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited.~~

Testing Requirements for Owners and Operators

§ 60.4212 – What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (d) of this section:

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \quad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

Notification, Reports, and Records for Owners and Operators

§ 60.4214 – What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour

meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

General Provisions

~~§ 60.4218 – What parts of the General Provisions apply to me?~~

~~Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.~~

Definitions

~~§ 60.4219 – What definitions apply to this subpart?~~

~~As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.~~

~~*Combustion turbine* means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.~~

~~*Compression ignition* means relating to a type of stationary internal combustion engine that is not a spark ignition engine.~~

~~*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.~~

~~*Diesel particulate filter* means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.~~

~~*Emergency stationary internal combustion engine* means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CHCE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.~~

~~*Engine manufacturer* means the manufacturer of the engine. See the definition of “manufacturer” in this section.~~

~~*Fire pump engine* means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.~~

~~*Manufacturer* has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.~~

~~*Maximum engine power* means maximum engine power as defined in 40 CFR 1039.801.~~

~~*Model year* means either:~~

~~(1) The calendar year in which the engine was originally produced, or~~

(2) The annual new model production period of the engine manufacturer if it is different than the calendar year. This must include January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year. For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was originally produced.

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

Useful life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for useful life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for useful life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Tables to Subpart IIII of Part 60

~~Table 3 to Subpart IIII of Part 60. Certification Requirements for
Stationary Fire Pump Engines
[As stated in § 60.4202(d), you must certify new stationary fire
pump engines beginning with the following model years:]~~

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to § 60.4202(d)
KW<75 (HP<100)	2011
75[le]KW<130 (100[le]HP<175)	2010

130[kW]KW[le]560 (175[le]HP[le]750).....	2009
KW>560 (HP>750).....	2008

Table 4 to Subpart IIII of Part 60. Emission Standards for Stationary Fire Pump Engines

[As stated in §§ 60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC	NOX	CO	PM
KW<8 (HP<11).....	2010 and earlier.....	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)	
	2011+.....	7.5 (5.6)		0.40 (0.30)	
8[le]KW<19 (11[le]HP<25).....	2010 and earlier.....	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)	
	2011+.....	7.5 (5.6)		0.40 (0.30)	
19[le]KW<37 (25[le]HP<50).....	2010 and earlier.....	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)	
	2011+.....	7.5 (5.6)		0.30 (0.22)	
37[le]KW<56 (50[le]HP<75).....	2010 and earlier.....	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)	
	2011+ \1\.....	4.7 (3.5)		0.40 (0.30)	
56[le]KW<75 (75[le]HP<100).....	2010 and earlier.....	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)	
	2011+ \1\.....	4.7 (3.5)		0.40 (0.30)	
75[le]KW<130 (100[le]HP<175).....	2009 and earlier.....	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)	
	2010+ \2\.....	4.0 (3.0)		0.30 (0.22)	
130[le]KW<225 (175[le]HP<300).....	2008 and earlier.....	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)	
	2009+ \3\.....	4.0 (3.0)		0.20 (0.15)	
225[le]KW<450 (300[le]HP<600).....	2008 and earlier.....	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)	
	2009+ \3\.....	4.0 (3.0)		0.20 (0.15)	
450[le]KW[le]560 (600[le]HP[le]750).....	2008 and earlier.....	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)	
	2009+.....	4.0 (3.0)		0.20 (0.15)	
KW>560 (HP>750).....	2007 and earlier.....	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)	
	2008+.....	6.4 (4.8)		0.20 (0.15)	

\1\ For model years 2011-2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

\2\ For model years 2010-2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

\3\ In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60. Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in § 60.4210(f) and the recordkeeping requirements in § 60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19[le]KW<56 (25[le]HP<75).....	2013
56[le]KW<130 (75[le]HP<175).....	2012
KW>=130 (HP>=175).....	2011

~~Table 8 to Subpart IIII of Part 60. Applicability of General Provisions to Subpart IIII~~

~~[As stated in § 60.4218, you must comply with the following applicable General Provisions:]~~

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§ 60.1.....	General applicability of the General Provisions.	Yes.....	
§ 60.2.....	Definitions.....	Yes.....	Additional terms defined in § 60.4219.
§ 60.3.....	Units and abbreviations...	Yes.....	
§ 60.4.....	Address.....	Yes.....	
§ 60.5.....	Determination of construction or modification.	Yes.....	
§ 60.6.....	Review of plans.....	Yes.....	
§ 60.7.....	Notification and Recordkeeping.	Yes.....	Except that § 60.7 only applies as specified in § 60.4214(a).
§ 60.8.....	Performance tests.....	Yes.....	Except that § 60.8 only applies to stationary CI ICE with a displacement of (≥)30 liters per cylinder and engines that are not certified.
§ 60.9.....	Availability of information.	Yes.....	
§ 60.10.....	State Authority.....	Yes.....	
§ 60.11.....	Compliance with standards and maintenance requirements.	No.....	Requirements are specified in subpart IIII.
§ 60.12.....	Circumvention.....	Yes.....	
§ 60.13.....	Monitoring requirements...	Yes.....	Except that § 60.13 only applies to stationary CI ICE with a displacement of (≥)30 liters per cylinder.
§ 60.14.....	Modification.....	Yes.....	
§ 60.15.....	Reconstruction.....	Yes.....	
§ 60.16.....	Priority list.....	Yes.....	
§ 60.17.....	Incorporations by reference.	Yes.....	
§ 60.18.....	General control device requirements.	No.....	
§ 60.19.....	General notification and reporting requirements.	Yes.....	

...

FESOP Quarterly Report

Source Name: Abengoa Bioenergy of Indiana
 Source Address: West Franklin Rd and Darnell School Rd, West Franklin, Indiana 47620
 Mailing Address: 1400 Elbridge Payne, Suite 212, Chesterfield, Missouri 63017
 FESOP Permit No.: 129-23484-00050
 Facility: Grain receiving area
 Parameter: Total grain received

Limit: ~~1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.~~

...

FESOP Quarterly Report

Source Name: ~~Abengoa Bioenergy of Indiana~~
Source Address: ~~West Franklin Rd and Darnell School Rd, West Franklin, Indiana 47620~~
Mailing Address: ~~1400 Elbridge Payne, Suite 212, Chesterfield, Missouri 63017~~
FESOP Permit No.: ~~129-23484-00050~~
Facility: ~~DGS Loadout Operation~~
Parameter: ~~Total DDGS produced~~
Limit: ~~325,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.~~

...

FESOP Quarterly Report

...

Facility: Ethanol Loading Racks
Parameter: Combined total denatured ethanol and E85 load-out
Limit: ~~135,700,000~~ **135,714,290** gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

...

FESOP Quarterly Report

...

Facility: **Emergency diesel generator**
Parameter: **Operating hours**
Limit: **300 hours per twelve (12) consecutive month period with compliance determined at the end of each month.**

...

FESOP Quarterly Report

Source Name: ~~Abengoa Bioenergy of Indiana~~
Source Address: ~~West Franklin Rd and Darnell School Rd, West Franklin, Indiana 47620~~
Mailing Address: ~~1400 Elbridge Payne, Suite 212, Chesterfield, Missouri 63017~~
FESOP Permit No.: ~~129-23484-00050~~
Facility: ~~Biomethanator Flare (CE-7001)~~
Parameter: ~~Total amount of biogas delivered to the flare~~
Limit: ~~24.3 MMCF per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

...

FESOP Quarterly Report

Source Name: ~~Abengoa Bioenergy of Indiana~~
Source Address: ~~West Franklin Rd and Darnell School Rd, West Franklin, Indiana 47620~~
Mailing Address: ~~1400 Elbridge Payne, Suite 212, Chesterfield, Missouri 63017~~
FESOP Permit No.: ~~129-23484-00050~~
Facility: ~~Barge Loadout Flare (CE-2211)~~
Parameter: ~~Hours of operation~~
Limit: ~~2000 operating hours per twelve (12) consecutive month period with compliance determined at the end of each month.~~

...

FESOP Quarterly Report

...

Facility: **BL5001, and BL5002, BL5003, and BL5004**
Parameter: **Natural Gas Usage**
Limit: ~~3252.4~~ **3302.4** MMCF per twelve (12) consecutive month period with compliance determined at the end of each month.

...

(b) Upon further review, IDEM, OAQ has decided to make the following changes to the permit. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

(1) Several of IDEM's Branches and sections have been renamed. Therefore, IDEM has updated the addresses listed in the permit. References to Permit Administration and Development Section and the Permits Branch have been changed to Permit Administration and Support Section. References to Asbestos Section, Compliance Data Section, Air Compliance Section, and Compliance Branch have been changed to Compliance and Enforcement Branch.

(2) All occurrences of IDEM mailing addresses have been revised to include a mail code (MC) as follows:

Compliance and Enforcement Branch:	MC 61-53 IGCN 1003
Permit Administration and Support Section:	MC 61-53 IGCN 1003
Technical Support and Modeling Section:	MC 61-50 IGCN 1003

(3) IDEM has begun implementing a new procedure and will no longer list the name or title of the Authorized Individual (A.I.) in the permit document. Section A.1 is updated as follows:

~~Authorized Individual:~~ ~~President~~

(4) IDEM has decided to reference 326 IAC 2 in Section B-Source Modification Requirements, rather than the specific construction rule.

...
B.22 Source Modification Requirement [326 IAC 2-8-11.1]

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

...
(5) In order to correct a typographical error, Condition C.17(b) is revised from the terminology "one-hundred and twenty" to "one hundred twenty" as follows:

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

...
(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.

...
(6) Condition C.2(b) has been revised to reflect that the source is no longer 1 of the 28 listed source categories.

...
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.

...
(b) The potential to emit particulate matter (PM) from the entire source shall be limited to less than ~~one hundred~~ **two hundred fifty (400) (250)** tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) not applicable.

...
(7) Conditions D.1.12, D.2.14, and D.4.14 – Record Keeping Requirements for Visible Emission Notations, Parametric Monitoring, Scrubber Pressure Drop or Flow Rate, and Thermal Oxidation Temperature are revised to clarify that the Permittee needs to make a record of some sort every day. The intent of Record Keeping Requirements for Visible

Emission Notations, Parametric Monitoring, Scrubber Pressure Drop or Flow Rate, and Thermal Oxidation Temperature is that the Permittee needs to make a record of some sort every day. An example for Visible Emission Notations would be "normal" or "abnormal". Additionally, if Visible Emission Notations were not done on a particular day, the Permittee needs to specify the reason why the observation was not done. An example of this record would be "the unit was not operating" or "the unit was venting indoors" (see changes above).

- (8) The affidavit of construction was not included in the original FESOP. Therefore, an affidavit of construction has been added to the permit.

Conclusion and Recommendation

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 December 24, 2008.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Revision No. 129-27302-00050. The staff recommends to the Commissioner that this FESOP Significant Revision be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Brian Williams at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) (234-5375) or toll free at 1-800-451-6027 extension (4-5375).
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Appendix A: Emission Calculations
PM and PM10 Emissions
From the Grain Receiving and Handling Operations**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

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)
DC1101	Truck/Rail Grain Receiving and Grain Conveying	Baghouse	0.005	24,000	1.03	4.51	99%	450.51
DC1102	Truck Grain Receiving and Grain Conveying	Baghouse	0.005	10,000	0.43	1.88	99%	187.71
DC2003A	Bin Baghouse	Baghouse	0.005	1,000	0.04	0.19	99%	18.77
DC2003B	Bin Baghouse	Baghouse	0.005	1,000	0.04	0.19	99%	18.77
DC2004A	Bin Baghouse	Baghouse	0.005	1,000	0.04	0.19	99%	18.77
DC2004B	Bin Baghouse	Baghouse	0.005	1,000	0.04	0.19	99%	18.77
DC1200	Mill Surge and Corn Scalper Baghouse	Baghouse	0.005	1,000	0.04	0.19	99%	18.77
DC1205	Hammermill	Baghouse	0.005	6,000	0.26	1.13	99%	112.63
DC1206	Hammermill	Baghouse	0.005	6,000	0.26	1.13	99%	112.63
DC1207	Hammermill	Baghouse	0.005	6,000	0.26	1.13	99%	112.63
DC1208	Hammermill	Baghouse	0.005	6,000	0.26	1.13	99%	112.63
DC2250A	Pellet Cyclone	Baghouse	0.005	12,000	0.51	2.25	99%	225.26
DC2250B	Pellet Cyclone	Baghouse	0.005	12,000	0.51	2.25	99%	225.26
Total							16.33	1,182.60

Assume all PM emissions equal PM10 and PM2.5 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	Maximum Throughput (tons/yr)	Uncontrolled PM Emission Factor (lbs/ton)	Uncontrolled PM10 Emission Factor (lbs/ton)	Uncontrolled PM2.5 Emission Factor (lbs/ton)	Baghouse ID	Capture Efficiency* (%)	Fugitive PM Emissions (tons/yr)	Fugitive PM10 Emissions (tons/yr)	Fugitive PM2.5 Emissions (tons/yr)
N/A	Grain Receiving (EP1101)	1,000,000	0.180	0.0590	0.0100	DC1102	95%	4.50	1.48	0.25
Total								4.50	1.48	0.25

Note: Emission factors are from AP-42, Chapter 9.9.1 - Grain Elevators, Table 9.9.1-1 (04/03).

*Reduction in fugitive emissions is 95% - based on use of choked flow system during grain unloading and capture of most emission by the baghouse system.

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 (tons/yr) x Uncontrolled Emission Factor (lbs/ton) x (1-Capture Efficiency%) x 1 ton/2000 lbs

**Appendix A: Emission Calculations
PM and PM10 Emissions
From the DDGS Handling, Loadout, and Storage Operations**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

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)
S2252	DDGS Rail to Barge Unloading	Baghouse	0.005	24,000	1.03	4.51	99%	450.51
LS2201	DDGS Loadout Truck	High Efficiency Dustless Spout Filter System	0.005	1,400	0.06	0.26	99%	26.3
LS2202A	DDGS Loadout Rail	High Efficiency Dustless Spout Filter System	0.005	1,400	0.06	0.26	99%	26.3
LS2202B	DDGS Loadout Rail	High Efficiency Dustless Spout Filter System	0.005	1,400	0.06	0.26	99%	26.3
LS2202C	DDGS Loadout Rail	High Efficiency Dustless Spout Filter System	0.005	1,400	0.06	0.26	99%	26.3
DC2251	DDGS Loadout Barge	High Efficiency Dustless Spout Filter System	0.005	15,000	0.64	2.82	99%	281.6
Total						8.37		837.2

Assume all PM emissions equal PM10 and PM2.5 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)	Uncontrolled PM2.5 Emission Factor (lbs/ton)	Capture Efficiency (%)	Fugitive PM Emissions (tons/yr)	Fugitive PM10 Emissions (tons/yr)	Fugitive PM2.5 Emissions (tons/yr)
DDGS Handling	DDGS Handling Truck/Rail	325,000	0.0860	0.0290	0.0049	0%	13.98	4.71	0.80
DDGS Handling	DDGS Handling Barge	325,000	0.0860	0.0290	0.0049	0%	13.98	4.71	0.80
DDGS Storage	DDGS Storage	325,000	0.0033	0.0008	0.0008	0%	0.54	0.13	0.13
Total							28.49	9.56	1.72

Note: Emission factors are from AP-42, Chapter 9.9.1 - Grain Elevators, Table 9.9.1-2 (03/03).

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

3. Potential to Emit VOC/HAPs from Wet Cake Storage Pad- Fugitive Emissions:

Annual Throughput (100% Wet Cake):		825000 tons/yr	
Emission Unit	Pollutant	Emission Rate (lbs/ton)*	Potential Emissions (tons/yr)**
Wet Cake Pad	VOC	0.0083	3.42
	Acetaldehyde	0.00011	0.045
	Acrolein	0.00002	0.008
	Formaldehyde	0.00022	0.091
	Methanol	0.00004	0.017
Total HAPs:			0.161

Methodology

* Based on Denco stack testing results (MN).

Fugitive VOC/HAPs (tons/yr) = Annual Throughput (tons/yr) x Emission Factor (lbs/ton) x 1 ton/2000 lbs

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

Appendix A: Emission Calculations
VOC and HAP Emissions
From the Fermentation and Distillation Processes
(The fermentation and distillation processes will use three (3) scrubbers for controls)

Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams

Potential to Emit (PTE) of VOC and HAP:

VOCs

Emission Unit	*Emission Rate before Control (lbs/hr)	*Scrubber Control Efficiency (%)	Emission Rate after Control (lbs/hr)	PTE after Control (tons/yr)	PTE before Control (tons/yr)
Pre-Fermentation Scrubber (S1400)	350	99.30%	2.45	10.73	1533.0
Fermentation Scrubber (S1401)	1338	99.5%	6.69	29.30	5860.4
Distillation Scrubber (S1504)	220	99.3%	1.54	6.75	963.6
Total VOCs				46.78	8357.0

*VOC emission rates and control efficiencies are based on vendor provided engineering estimates.
The Permittee will perform stack testing to demonstrate compliance with the above emission rates.

HAPs

Emission Unit	Pollutant	*Emission Rate before Control (lbs/hr)	*Scrubber Control Efficiency (%)	Emission Rate after Control (lbs/hr)	PTE after Control (tons/yr)	PTE before Control (tons/yr)
Pre-Fermentation Scrubber (S1400)	Acetaldehyde	1.95	90.0%	0.20	0.88	8.54
	Acrolein	6.0	99.0%	0.06	0.26	26.28
	Formaldehyde	4.57	99.0%	0.05	0.22	20.02
	Methanol	26	99.8%	0.05	0.22	113.88
Fermentation Scrubber (S1401)	Acetaldehyde	1.6	78.25%	0.35	1.53	7.01
	Acrolein	27.0	99.0%	0.27	1.18	118.26
	Formaldehyde	15.75	99.0%	0.16	0.70	68.99
	Methanol	10.5	98.5%	0.16	0.70	45.99
Distillation Scrubber (S1504)	Acetaldehyde	1.83	78.38%	0.40	1.75	8.02
	Acrolein	2.51	99.0%	0.03	0.13	10.99
	Formaldehyde	2.51	99.0%	0.03	0.13	10.99
	Methanol	1.4	99.29%	0.010	0.04	6.13
Total HAPs					7.75	445.10

*HAP emission rates and control efficiencies are based on testing of a CO2 scrubber at a similar facility (same process design).
The Permittee will perform stack testing to demonstrate compliance with the above emission rates.

Methodology

Emission Rate after Control (lbs/hr) = Emission Rate before Control (lbs/hr) * (1 - Scrubber Control Efficiency)

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) = Emission Rate before Control (lbs/hr) x 8760 hr/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR<100, each
(BL5001, BL5002, BL5003, and BL5004)
(92.4 MMBtu/hr each)**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
369.6 (92.4 MMBtu/hr, each)	3302.4

Emission Factor Units	Pollutant					
	PM*	PM10*	SO2**	NO _x **	VOC*	CO**
	7.6 lb/MMCF	7.6 lb/MMCF	5.0 lb/MMCF	0.02 lb/MMBtu	5.5 lb/MMCF	0.014 lb/MMBtu
Potential Emission in tons/yr	12.5	12.5	8.26	32.4	9.08	22.7

* Emission factors from Fifth Edition AP-42, Section 1.4, "Natural Gas Combustion", 7/98.

*PM/PM10 emission factors are filterable and condensable PM/PM10 combined. Source has requested that IDEM use combined filterable and condensable PM emission factor in lieu of filterable only PM emission factor of 1.9 lb/MMCF.

** Emission factors are based on data from the manufacturer/vendor of the boilers.

SO2 emission factor greater than AP-42. NOx and CO emission factors less than AP-42, therefore source will test to verify compliance with these emission rates.

HAPs - Organics

Emission Factor in lb/MMCF	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.47E-03	1.98E-03	1.24E-01	2.97E+00	5.61E-03

HAPs - Metals

Emission Factor in lb/MMCF	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	8.26E-04	1.82E-03	2.31E-03	6.27E-04	3.47E-03

Emission Factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

For PM, PM10, SO2, VOC, and HAPs

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Potential Emission in tons/yr = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF) * 1 ton/2000lbs

For NOx and CO

Potential Emission in tons/yr = Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) x 8760 hr/yr x 1 ton/2000lbs

**Appendix A: Emission Calculations
Criteria Pollutants**

From Two (2) 76.7 MMBtu/hr Natural Gas DDGS Dryers and Cooling Systems Consisting of Two (2) Swiss Combi Systems

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

Maximum Capacity	325,000 tons/yr 153.4 MMBtu/hr		Control Efficiency*	(VOC) (PM/PM10)	98% 95%	
	Pollutant					
Emission Factor**	PM 0.2000 (lbs/ton)	PM10 0.2000 (lbs/ton)	SO ₂ 0.0053 (lbs/MMBtu)	NOx 0.0850 (lbs/MMBtu)	VOC 0.1060 (lbs/ton)	CO 0.4300 (lbs/ton)
Potential to Emit Before Control in tons/yr	650	650	3.56	57.1	861.2	69.9
Potential to Emit After Control in tons/yr	32.5	32.5	3.56	57.1	17.2	69.9

* The control efficiencies for the Swiss Combi systems were not provided by the source. However, it is assumed that the Swiss Combi systems will get 95% PM/PM10 control. 326 IAC 8-5-6 requires 98% control efficiency for VOC. All other pollutants are uncontrolled.

**Emission factors are based on after control and are estimated by the manufacturer/vendor of Swiss Combi systems.
The Permittee will perform stack testing to demonstrate compliance with the above emission rates.

Methodology

Potential to Emit Before Control in tons/yr = Potential to Emit After Control (tons/yr) / (1-Control Efficiency)

For SO₂ and NOx:

Potential to Emit After Control in tons/yr = Emission Factor (lbs/MMBtu) x Maximum Capacity (MMBtu/hr) x 1 ton/2000 lbs x 8,760 hrs/yr

For all other pollutants:

Potential to Emit After Control in tons/yr = Emission Factor (lbs/ton) x Maximum Capacity (tons/yr) x 1 ton/2000 lbs

**Appendix A: Emission Calculations
HAP Emissions**

From Two (2) 76.7 MMBtu/hr Natural Gas DDGS Dryers and Cooling Systems Consisting of Two (2) Swiss Combi Systems

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

Maximum Capacity **325,000 tons/yr**
Control Efficiency **98%**

Process HAPs	Pollutant				
	Acetaldehyde	Acrolein	Formaldehyde	Methanol	Total
Emission Rate after Control (lb/ton DDGS)*	0.0350	0.0050	0.0220	0.0030	2.41
PTE before Control in tons/yr	284.38	40.63	178.75	24.38	528.13
PTE after Control in tons/yr	5.69	0.81	3.58	0.49	10.56

*HAP emission factors were provided by the source and are based on after control. The Permittee will perform stack tests to verify the HAP emissions from these units.

Methodology

PTE before Control in tons/yr = (PTE after Control in tons/yr) / (1-Control Efficiency)

PTE after Control in tons/yr = Emission Rate after Control (lbs/ton) x Maximum Capacity (tons/yr) x 1 ton/2000 lbs

Natural Gas Combustion HAPs

Potential Throughput
MMCF/yr
1370.7

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMCF	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.44E-03	8.22E-04	5.14E-02	1.23	2.33E-03

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMCF	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.43E-04	7.54E-04	9.59E-04	2.60E-04	1.44E-03

Emission Factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

All Emission factors are based on normal firing.

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Potential Emission in tons/yr = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emission Calculations
VOC and HAP Emissions from Ethanol Loading Racks**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

1. Emission Factors: AP-42

Denatured ethanol and E85 will be shipped by either truck, railcar, or river barge. The plant capacity will be approximately 100 Mmgal/yr as denatured fuel ethanol or 135.7 Mmgal/yr as E85. In order to provide a worst-case emission estimate, the calculations are based on 100% of plant production being shipped as E85. Railcars will be dedicated fleets, but the trucks and barges may be used to carry gasoline prior to filling with denatured ethanol and E85. Railcars, trucks, and barges will be filled by submerged loading process. Both truck and railcar loadout racks will be controlled by a carbon absorption/absorption hydrocarbon vapor recovery system (S2101), which has a control efficiency of 98% for VOC and HAPs. The Barge loadout rack will be controlled by a carbon absorption/absorption hydrocarbon vapor recovery system (S2501), 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:

$$L = 12.46 \times (SPM)/T$$

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)

Railcars and Trucks

Previous Stored Liquid	S	P (psia)	M (lbs/mole lbs)	T (degree R)	L (lbs/kgal)
Gasoline (normal)	1.0	4.942	92	530	10.69
Gasoline (clean cargo)	0.5	4.942	92	530	5.34
E85 (normal)	0.6	1.37	54.19	530	1.05
E85 (clean cargo)	0.5	1.37	54.19	530	0.87

Therefore, the emission factor for loading denatured ethanol to the trucks which stored gasoline previously

$$= L (\text{gasoline, normal}) - L (\text{gasoline, clean cargo}) + L (\text{denatured ethanol, clean cargo}) =$$

6.22 (lbs/kgal)

Barge

The AP-42 Emission Factor is calculated from AP-42, Section 5.2.2 - Loading Losses, Table 5.2-2. The emission factor is

3.9 (lbs/kgal)

2. Potential to Emit VOC Before Control:

Max. Loading Rate for Truck Loadout: 252 kgal/hr (for truck loading)
PTE of VOC before Control (tons/yr) = 252 kgal/hr x 6.22 lbs/kgal x 8760 hr/yr x 1 ton/2000 lbs = **6,863 tons/yr**

Max. Loading Rate Rail Loadout: 252 kgal/hr (for railcar loading)
PTE of VOC before Control (tons/yr) = 252 kgal/hr x 1.05 lbs/kgal x 8760 hr/yr x 1 ton/2000 lbs = **1,156 tons/yr**

Max. Loading Rate Barge Loadout: 252 kgal/hr (for barge loading)
PTE of VOC before Control (tons/yr) = 252 kgal/hr x 3.9 lbs/kgal x 8760 hr/yr x 1 ton/2000 lbs = **4,305 tons/yr**

3. Limited Potential to Emit (for Trucks, Railcars, and Barge Loading):

Annual Production Limit: 135,714.29 kgal/yr (for all railcar, truck, and barge loading)
Vapor Recovery System Emission Rate: 0.0835 lbs VOC/kgal (for truck, railcar, and barge loading) (S2101 and S2501)

(1) Assume all E85 is loaded to trucks (controlled by S2101):
PTE of VOC (tons/yr) = 0.0835 lbs/kgal x 135,714.29 kgal/yr x 1 ton/2000 lbs = **5.67 tons/yr**

(2) Assume all E85 is loaded to railcars (controlled by S2101):
PTE of VOC (tons/yr) = 0.0835 lbs/kgal x 135,714.29 kgal/yr x 1 ton/2000 lbs = **5.67 tons/yr**

(3) Assume all E85 is loaded to barges (controlled by S2501):
PTE of VOC (tons/yr) = 0.0835 lbs/kgal x 135,714.29 kgal/yr x 1 ton/2000 lbs = **5.67 tons/yr**

Worst case VOC emissions = 5.67 tons/yr

4. Potential to Emit HAPs:

HAP emissions are mainly from the unloading process for trucks and barges, 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	10.76	1.42E-02
Carbon Disulfide	2.00E-05	0.09	1.13E-04
Cumene	1.00E-04	0.43	5.67E-04
Ethyl benzene	5.00E-05	0.22	2.83E-04
n-Hexane	5.00E-02	215.23	2.83E-01
Toluene	1.00E-02	43.05	5.67E-02
Xylene	5.00E-04	2.15	2.83E-03
Total	0.06	271.9	0.36

* 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 Barge (tons/yr) x HAP %

**Appendix A: Emission Calculations
Criteria Pollutants
From the Diesel Fire Pump (P7075B)**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

Power Output
Horse Power (HP)

Operation Limit
hr/yr

460

500

	Pollutant					
	PM*	PM10*	SO ₂	NO _x	**VOC	CO
Emission Factor in lb/HP-hr (AP-42)	2.20E-03	2.20E-03	2.05E-03	3.10E-02	2.47E-03	6.68E-03
Emission Factor in lb/HP-hr (Vendor)	1.54E-04	1.54E-04	2.05E-03	1.13E-02	1.98E-04	1.04E-03
Limited Potential to Emit in tons/yr (AP-42)	0.25	0.25	0.24	3.57	0.28	0.77
Limited Potential to Emit in tons/yr (Vendor)	0.02	0.02	0.24	1.30	0.02	0.12

*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).

Manufacturer guarantee for PM, PM10, NOx, VOC, and CO vendor emission factors.

Methodology

Limited Potential to Emit in 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
Criteria Pollutants
From Emergency Generator (GN7000)**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

Power Output Horse Power (HP)	Potential Operation hr/yr	Operation Limit hr/yr
1,495	500	300

	Pollutant					
	PM*	PM10*	SO ₂	NO _x	**VOC	CO
Emission Factor in lb/HP-hr (AP-42)	7.00E-04	7.00E-04	8.09E-03	2.40E-02	7.05E-04	5.50E-03
Emission Factor in lb/HP-hr (Vendor)	2.15E-04	2.15E-04	8.09E-03	9.04E-03	3.62E-04	2.37E-03
Unlimited Potential to Emit in tons/yr (AP-42)	0.26	0.26	3.02	8.97	0.26	2.06
Limited Potential to Emit in tons/yr (AP-42)	0.16	0.16	1.81	5.38	0.16	1.23
Limited Potential to Emit in tons/yr (Vendor)	0.05	0.05	1.81	2.03	0.08	0.53

*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).

Manufacturer guarantee for PM, PM10, NO_x, VOC, and CO vendor emission factors.

Methodology

Unlimited Potential to Emit in tons/yr = Power Output (HP) x Emission Factor (lb/HP-hr) x Potential Operation (hr/yr) x 1 ton/2000 lbs

Limited Potential to Emit in 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
PM/PM10 Emissions
From the the Cooling Tower (Insignificant Activity CT4001)**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

1. Process Description:

Type of Cooling Tower: Induced Draft
Circulation Flow Rate: 44,850 gal/min
Total Drift: 0.001% of the circulating flow
Total Dissolved Solids: 4,000 ppm
Density: 8.330 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.

$$\text{PTE of PM/PM10 (lbs/hr)} = 33,000 \text{ gal/min} \times 60 \text{ min/hr} \times 0.005\% \times 8.33 \text{ lbs/gal} \times 4,000 \text{ ppm} \times 1/1,000,000 \text{ ppm} = \mathbf{0.90 \text{ lbs/hr}}$$

$$\text{PTE of PM/PM10 (tons/yr)} = 3.3 \text{ lbs/hr} \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lbs} = \mathbf{3.93 \text{ tons/yr}}$$

**Appendix A: Emission Calculations
VOC Emissions
From Storage Tank Emissions**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

Tank ID	Tank Capacity (gal)	Description	Liquid	Throughput (MM gal/yr)	Total Working Losses (lbs/yr)	Total Standing Losses (lbs/yr)	Potential VOC Emissions (tons/yr)
T2110	250,000	Anhydrous Tank 1	Ethanol	47.5	301.89	198.52	0.25
T2111	250,000	Anhydrous Tank 2	Ethanol	47.5	301.89	198.52	0.25
T2101	39,000	Off-Spec Storage Tank	Ethanol	9.5	140.44	137.59	0.14
T2102	1,000,000	Denatured Ethanol Stg. Tank (E85)	Ethanol & Denaturant	45.2	161.75	861.37	0.51
T2103	1,000,000	Denatured Ethanol Stg. Tank (E85)	Ethanol & Denaturant	45.2	161.75	861.37	0.51
T2105	1,000,000	Denatured Ethanol Stg. Tank (E85)	Ethanol & Denaturant	45.2	161.75	861.37	0.51
T2104	150,000	Denaturant Storage Tank	Natural Gasoline	40.71	243.89	2469.25	1.36

3.53

Methodology

Emissions from the storage tanks were calculated by the Permittee using EPA TANKS software (version 4.09d) and have been verified.

**Appendix A: Emission Calculations
VOC and HAP Emissions
From Equipment Leaks**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

1. Fugitive VOC Emissions: Alcohol Concentration (% wt)* 49.7%

Equipment Component Source	Product	Component Count**	Emission Factor*** (lbs/comp-hr)	Subpart VV Control Effectiveness**** (%)	Fugitive VOC Emissions (tons/yr)
Valves	Gas/Vapor	97	0.013134	87%	0.36
Valves	Light Liquid	113	0.008866	84%	0.35
Valves	Heavy Liquid	148	0.008866	84%	0.46
Pumps	Light Liquid	14	0.04378	69%	0.41
Pumps	Heavy Liquid	18	0.04378	69%	0.53
Pressure-Relief Valves	Gas/Vapor	25	0.2288	87%	1.62
Sampling Connections	All	24	0.033	84%	0.28
Connectors	All	1073	0.004026	65%	3.29
Total					7.29

*This is the weighted average alcohol concentration for all processes and components at the source.

((Process Specific Alcohol Conc.)*(Number of Components in Process)) / (Total Number of Components at Source)

** Component count for entire source estimated by the source.

*** 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.

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 Alcohol Concentration (% wt)

2. Fugitive HAP Emissions:

HAP	HAP Fraction*	Fugitive HAP Emissions (tons/yr)
Acetaldehyde	2.00E-04	1.46E-03
Methanol	2.00E-04	1.46E-03
Benzene	2.50E-03	1.82E-02
Carbon Disulfide	2.00E-05	1.46E-04
Cumene	1.00E-04	7.29E-04
Ethylbenzene	5.00E-05	3.65E-04
n-Hexane	5.00E-02	3.65E-01
Toluene	5.00E-03	3.65E-02
Xylenes	5.00E-04	3.65E-03
Total		0.42

* The HAP fractions for Acetaldehyde, Methanol, Formaldehyde, and Acrolein were derived from similar plant stack testing and the remaining HAP fractions are for gasoline vapors.

Methodology

Fugitive HAP Emissions (tons/yr) = Fugitive VOC Emissions (tons/yr) x HAP Fraction

**Appendix A: Emission Calculations
Fugitive Emissions From Paved Roads**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

1. Emission Factors: AP-42

According to AP-42, Chapter 13.2.1 - Paved Roads (12/03), the PM, PM10, and PM2.5 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) =	27.75 tons
k = empirical constant =	0.082 for PM, 0.016 for PM10, and 0.0024 for PM2.5
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 and 0.00036 for PM2.5
p = number of days per year with 0.01 inches precipitation	120

PM Emission Factor = $(0.082 \times (0.6/2)^{0.65} \times (27.5/3)^{1.5} - 0.00047) \times (1 - 120/1460) =$ **0.97 lbs/mile**

PM10 Emission Factor = $(0.016 \times (0.6/2)^{0.65} \times (27.5/3)^{1.5} - 0.00047) \times (1 - 120/1460) =$ **0.19 lbs/mile**

PM2.5 Emission Factor = $(0.0024 \times (0.6/2)^{0.65} \times (27.5/3)^{1.5} - 0.00036) \times (1 - 120/1460) =$ **0.028 lbs/mile**

2. Potential to Emit (PTE) of PM, PM10, PM2.5 Before Control from Paved Roads:							
Vehicle Type	*Ave Weight of Vehicles (tons)	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)	PTE of PM2.5 before Control (tons/yr)
Denaturant Delivery	27.75	16,782	7.2%	2.00	8.1	1.58	0.23
Ethanol (denatured)	27.75	5,034	23.9%	6.63	2.44	0.47	0.07
Grain	27.75	39,393	56.2%	15.60	19.06	3.71	0.55
DDGS	27.75	8,863	12.65%	3.51	4.29	0.84	0.12
Total		70,072	100%	27.7	33.9	6.60	0.98

* This information is provided by the source.

Methodology

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, and PM2.5 after Control from Paved Roads:

The source will use periodic sweeping to control the fugitive dust emissions.
 The control efficiency from sweeping is assumed to be 50%.

PTE of PM after Control = 33.9 tons/yr x (1-50%) = **16.95 tons/yr**

PTE of PM10 after Control = 6.60 tons/yr x (1-50%) = **3.30 tons/yr**

PTE of PM2.5 after Control = 0.98 tons/yr x (1-50%) = **0.49 tons/yr**

**Appendix A: Emission Calculations
Fugitive Emissions From Unpaved Roads**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

1. Emission Factors: AP-42

According to AP-42, Section 13.2.2 Unpaved Roads, November 2006, the PM/PM10 emission factors for unpaved roads can be estimated from the following equation:

$$\text{lbs/VMT Equation: } E = k (s/12)^a (W/3)^b$$

Where:

Particle size multiplier k	4.9 dimensionless (PM-30 or TSP)	1.5 dimensionless PM-10	0.15 dimensionless PM2.5
surface material silt content (%) s	4.8 Table 13.2.2-1		
mean vehicle weight, 25 ton capacity W	5.0 tons		
Equation constants a	0.7 PM-30 or TSP Table 13.2.2-2	0.9 PM-10/PM2.5 Table 13.2.2-2	
b	0.45 PM-30 or TSP Table 13.2.2-2	0.45 PM-10/PM2.5 Table 13.2.2-3	

$$\text{PM Emission Factor} = (4.9) \times (4/12)^{0.7} \times (5/3)^{0.45} = \mathbf{3.25 \text{ lbs/mile}}$$

$$\text{PM10 Emission Factor} = (1.5) \times (4/12)^{0.9} \times (5/3)^{0.45} = \mathbf{0.83 \text{ lbs/mile}}$$

$$\text{PM2.5 Emission Factor} = (0.15) \times (4/12)^{0.9} \times (5/3)^{0.45} = \mathbf{0.08 \text{ lbs/mile}}$$

2. Potential to Emit (PTE) of PM, PM10, and PM2.5 from unpaved Roads:

Emission Area	Vehicle Weight (tons)	Unpaved Total VMT	Total Vehicle Emissions (lb/yr)	Total Vehicle Emissions (tpy)
Maintenance Roads (TSP)	5.00	664	2,154	1.08
Maintenance Roads (PM10)	5.00	664	549	0.27
Maintenance Roads (PM2.5)	5.00	664	55	0.03

3. Information is provided by the source:

Maintenance road next to barge loadout	4800 feet	daily	1,752,000 feet
Maintenance road next to rail spur	4200 feet	daily	1,533,000 feet
Maintenance road around Elec. Substation	1200 feet	weekly	62,400 feet
Maintenance road to each well (2) by river	2000 feet	weekly	104,000 feet
Misc. maintenance roads at facility	1000 feet	weekly	52,000 feet
			<u>3,503,400 total feet traveled per year unpaved</u>
			663.52 total miles traveled per year unpaved

Methodology

Total Vehicle Emissions (tons/yr) = Unpaved Total VMT (miles/yr) x PM/PM10 Emission Factors x 1 ton/2000 lbs

**Appendix A: Emission Calculations
PTE Summary**

**Company Name: Abengoa Bioenergy of Indiana, LLC
Address: 8999 West Franklin Road, Mt. Vernon, Indiana 47620
FESOP: F129-27302-00050
Reviewer: Brian Williams**

Unlimited Potential to Emit (tons/yr)										
Emission Unit	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Single HAP	
Grain Handling	1,182.60	1,182.60	1,182.60	0	0	0	0	0	0	
DDGS Handling	837.21	837.21	837.21	0	0	0	0	0	0	
Fermentation & Distillation	0	0	0	0	0	8357.04	0	445.10	166.00	Methanol
Boilers	12.55	12.55	12.55	8.26	32.38	9.08	22.66	3.12	2.97	Hexane
Dryers/Swiss Combi Systems	32.5	32.5	32.5	3.56	57.11	17.23	69.88	11.86	284.38	Acetaldehyde
Ethanol Loadout	0	0	0	0	0	6,863	0	271.93	215.23	Hexane
Diesel Fire Pump	0.25	0.25	0.25	0.24	3.57	0.28	0.77	negligible	negligible	
Diesel Emergency Generator	0.26	0.26	0.26	3.02	8.97	0.26	2.06	negligible	negligible	
Cooling Tower	3.93	3.93	3.93	0	0	0	0	0	0	
Storage Tanks**	0	0	0	0	0	3.53	0	negligible	negligible	
Wet Cake Storage***	0	0	0	0	0	see note	0	see note	see note	
Leaks*	0	0	0	0	0	see note	0	0.42	negligible	
Total	2,069.30	2,069.30	2,069.30	15.08	102.02	15,249.99	95.36	732.42	284.38	Acetaldehyde
Fugitive Emissions*										
Grain Receiving	90.00	29.50	5.00	0	0	0	0	0	0	
DDGS Handling and Storage	28.49	9.56	1.72	0	0	0	0	0	0	
Wet Cake Storage	0	0	0	0	0	see note	0	see note	see note	
Leaks	0	0	0	0	0	7.29	0	see note	see note	
Paved Roads	33.90	6.60	0.98	0.98	0	0	0	0	0	
Unpaved Roads	1.08	0.27	0.03	0.03	0	0	0	0	0	
Total	153.47	45.93	7.73	1.01	0.0	7.29	0.0	0.0	0.0	

Limited Potential to Emit after Control (tons/yr)										
Emission Unit	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Single HAP	
Grain Handling	16.33	16.33	16.33	0	0	0	0	0	0	
DDGS Handling	8.37	8.37	8.37	0	0	0	0	0	0	
Fermentation & Distillation	0	0	0	0	0	46.78	0	7.75	4.16	Acetaldehyde
Boilers	12.55	12.55	12.55	8.26	32.38	9.08	22.66	3.12	2.97	Hexane
Dryers/Swiss Combi Systems	32.5	32.5	32.5	3.56	57.11	17.23	69.88	11.86	5.69	Acetaldehyde
Ethanol Loadout	0	0	0	0	0	5.67	0	0.36	2.83E-01	Hexane
Diesel Fire Pump	0.25	0.25	0.25	0.24	3.57	0.28	0.77	negligible	negligible	
Diesel Emergency Generator	0.16	0.16	0.16	1.81	5.38	0.16	1.23	negligible	negligible	
Cooling Tower	3.93	3.93	3.93	0	0	0	0	0	0	
Storage Tanks**	0	0	0	0	0	3.53	0	negligible	negligible	
Wet Cake Storage***	0	0	0	0	0	see note	0	see note	see note	
Leaks*	0	0	0	0	0	see note	0	0.42	negligible	
Total	74.09	74.09	74.09	13.87	98.43	82.72	94.54	23.51	9.85	Acetaldehyde

* Since the source is no longer 1 of the 28 listed source categories fugitive PM/PM10 and VOC emissions no longer count toward the determination of PSD, Emission Offset, and Part 70 Permit applicability. However, fugitive HAP emissions still count toward the determination of Part 70 Permit applicability.

** Emissions from the storage tanks were calculated by the Permittee using EPA TANKS software (version 4.09d) and have been verified.

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



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Craig Kramer
Project Mgr.
Abengoa Bioenergy of Indiana
16150 Main Circle Dr. Ste. 300
Chesterfield MO 63014

DATE: June 17, 2009

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Significant Permit Revision
012-27302-00050

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Howard Gebhart Air Resource Specialists, Inc.
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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June 17, 2009

TO: Alexandrian Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Abengoa Bioenergy of Indiana
Permit Number: 129-27302-00050

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

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2		Evansville City Council and Mayors Office 1NW MLK Blvd, Rm 302 Evansville IN 47708 (Local Official)										
3		Vanderburgh County Commissioners 1 NW MLK Blvd, Rm 305 Evansville IN 47708 (Local Official)										
4		Mr. Charles L. Berger Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 (Affected Party)										
5		Mr. Randy Brown Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 (Affected Party)										
6		Posey County Commissioners County Courthouse, 126 E. 3rd Street Mount Vernon IN 47620 (Local Official)										
7		Posey County Health Department 126 E. 3rd St, Coliseum Bldg Mount Vernon IN 47620-1811 (Health Department)										
8		Mount Vernon City Council and Mayors Office 520 Main Street Mount Vernon IN 47620 (Local Official)										
9		Dr. Jeff Seyler Univ. of So Ind., 8600 Univ. Blvd. Evansville IN 47712 (Affected Party)										
10		Mr. Don Mottley Save Our Rivers 6222 Yankeetown Hwy Boonville IN 47601 (Affected Party)										
11		Alexandrian Public Library 115 West 5th Mt. Vernon IN 47620 (Library)										
12		Mrs. Connie Parkinson 510 Western Hills Dr. Mt. Vernon IN 47620 (Affected Party)										
13		Robert Hess c/o Mellon Corporation 830 Post Road East, Suite 105 Westport CT 06880 (Affected Party)										
14		Juanita Burton 7911 W. Franklin Road Evansville IN 47712 (Affected Party)										
15		Howard Gebhart Air Resource Specialists, Inc 1901 Sharp Point Drive Suite E Fort Collins CO 80525 (Consultant)										

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2		Evansville EPA 100 E. Walnut St. Suite 100, Newsome Center Evansville IN 47713 (Local Official)										
3		Mr. Jim Toolen Trace Environmental 20 Harrison Ave Waldwick NJ 07463 (Affected Party)										
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