**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: October 23, 2008

RE: Grain Processing Corporation / 027-24380-00046

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

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**

Ms. Wendy Bouvier
Grain Processing Corporation
1443 South 300 West
Washington, Indiana 47501

October 23, 2008

Re: 027-24380-00046
Significant Source Modification to:
Part 70 Operating Permit No. T 027-14200-00046

Dear Ms. Bouvier:

Grain Processing Corporation was issued Part 70 Operating Permit T027-14200-00046 on October 19, 2007 for a stationary corn wet milling plant. An application to modify the Part 70 source was received on February 28, 2007. Pursuant to 326 IAC 2-7-10.5 and 326 IAC 2-2, the following modification is hereby approved for construction at the source:

GPC has proposed to increase the nominal capacity of the grinding operations from 26,280,00 bushels per year to 49,275,000 bushels per year. GPC has proposed several modifications related to the grind expansion project as follows:

- addition of two (2) steep tanks to the corn steeping process, requiring an increase in SO2 input to the system, which will increase SO2 emissions from the corn steeping, milling and germ separation, and starch and gluten separation areas
- addition of a new gluten tank and filter press at the milling and germ separation area
- addition of two (2) new gluten filters and a new starch tank at starch and gluten separation area
- the addition of a second gluten dryer
- the addition of a feed loadout vacuum system, with emissions controlled by a new baghouse FPC33
- addition of a caustic wet scrubber to control SO2 emissions from the combustion of biogas at the germ dryer, the gluten dryers, the starch dryer, thermal oxidizers FPC34a and FPC34b, the biogas flare, and/or the biogas emergency flare, and an associated emergency biogas flare
- allowing the combustion of biogas in addition to natural gas at the germ dryer, the gluten dryers, thermal oxidizers FPC34a and FPC34b, and the starch dryer

GPC has also proposed to restart the Maltrodextrin line as part of the grind expansion project. The Maltrodextrin line was previously permitted under PSD CP 027-7239-00046 issued June 10th, 1997, but has not been in operation since April 2000. The filter aid storage bin associated with the Maltrodextrin line remained in use as a lime storage bin for the WWT system. The existing storage bin will revert to its original designation as a filter aid storage bin for the Maltodextin line and a new storage bin will be constructed as a lime storage bin for the WWT system.
The following construction conditions are applicable to the proposed project:

<u>General Construction Conditions</u>

(a) The data and information supplied with the application shall be considered part of this source modification approval. Prior to <u>any</u> 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).

(b) 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.

(c) <u>Effective Date of the Permit</u>
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

(d) <u>Revocation of Permits [326 IAC 2-2-8]</u>
Pursuant to 326 IAC 2-2-8(a)(1), this permit to construct shall expire if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is discontinued for a period of eighteen (18) months or more.

(e) 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.

(f) Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall <u>not</u> be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

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 call (800) 451-6027, and ask for Jenny Acker or extension (3-9327), or dial (317) 233-9327.

Sincerely,
*Original Signed By:*

Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Attachments
cc: Daviess County
Daviess County Health Department
Air Compliance Section Inspector
Compliance Data Section
Administrative and Development

**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**

# PREVENTION OF SIGNIFICANT DETERIORATION (PSD)
# OFFICE OF AIR QUALITY

## Grain Processing Corporation
## 1443 South 300 West
## Washington, Indiana 47501

(herein known as the Permittee) is hereby authorized to construct subject to the conditions contained herein, the emission units 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. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. 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 approval is issued in accordance with 326 IAC 2-2, and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 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.

| PSD/Significant Source Modification: 027-24380-00046 | |
|---|---|
| Issued by:<br>*Original Signed By:*<br><br>Matthew Stuckey, Branch Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date: October 23, 2008 |

## TABLE OF CONTENTS

**A. SOURCE SUMMARY**

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]
A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]
A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]
A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

**B. GENERAL CONDITIONS**

B.1 Definitions [326 IAC 2-7-1]
B.2 Revocation of Permits [326 IAC 2-2-8]
B.3 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]
B.4 Term of Conditions [326 IAC 2-1.1-9.5]
B.5 Enforceability [326 IAC 2-7-7]
B.6 Severability [326 IAC 2-7-5(5)]
B.7 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]
B.8 Duty to Provide Information [326 IAC 2-7-5(6)(E)]
B.9 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]
B.10 Annual Compliance Certification [326 IAC 2-7-6(5)]
B.11 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]
B.12 Emergency Provisions [326 IAC 2-7-16]
B.13 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]
B.14 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]
B.15 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]
B.16 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]
B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]
B.18 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]
B.19 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12][40 CFR 72]
B.20 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]
B.21 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]
B.22 Source Modification Requirement [326 IAC 2-7-10.5]
B.23 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]
B.24 Transfer of Ownership or Operational Control [326 IAC 2-7-11]
B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]
B.26 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

**C. SOURCE OPERATION CONDITIONS**

**Emission Limitations and Standards [326 IAC 2-7-5(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]
C.2 Opacity [326 IAC 5-1]
C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]
C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]
C.5 Fugitive Dust Emissions [326 IAC 6-4]
C.6 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]
C.7 Stack Height [326 IAC 1-7]
C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

**Testing Requirements [326 IAC 2-7-6(1)]**
C.9 Performance Testing [326 IAC 3-6]

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

**Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]**
C.11 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]
C.12 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]
C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]
C.14 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

**Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]**
C.15 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
C.16 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]
C.17 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]
C.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
C.19 Emission Statement [326 IAC 2 7 5(3)(C)(iii)][326 IAC 2 7 5(7)][326 IAC 2 7 19(c)] [326 IAC 2 6]
C.20 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]
C.21 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2][326 IAC 2-3]

**Stratospheric Ozone Protection**
C.22 Compliance with 40 CFR 82 and 326 IAC 22-1

**D.1 FACILITY OPERATION CONDITIONS - Truck and Railcar Unloading, Corn Storage, Corn Cleaning**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.1.1 D.1.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]
D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.1.3 Particulate Control
D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.1.5 Visible Emissions Notations
D.1.6 Parametric Monitoring
D.1.7 Broken or Failed Bag Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.1.8 Record Keeping Requirements

**D.2 FACILITY OPERATION CONDITIONS - Corn Steeping**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.2.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]
D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.2.3 SO2 Control
D.2.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.2.5 Scrubber Monitoring

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.2.6 Record Keeping Requirements

**D.3 FACILITY OPERATION CONDITIONS - Germ, Fiber, Gluten and Starch Separation**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.3.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]
D.3.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]
D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.3.4 SO2 and Particulate Control
D.3.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.3.6 Visible Emissions Notations
D.3.7 Scrubber Monitoring

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.3.8 Record Keeping Requirements

**D.4 FACILITY OPERATION CONDITIONS - Germ, Corn Gluten Feed, and Gluten Production**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.4.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]
D.4.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2] [326 IAC 8-1-6]
D.4.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]
D.4.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]
D.4.5 Prevention of Significant Deterioration (PSD) Minor Limit for NOx and SO2 [326 IAC 2-2]
D.4.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.4.7 PM, PM10, SO2, VOC, and NOx Control
D.4.8 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.4.9 Thermal Oxidizer Temperature Monitoring
D.4.10 Condenser/Scrubber Monitoring
D.4.11 Duct Pressure – Fan Amperage Parametric Monitoring
D.4.12 Scrubber Monitoring
D.4.13 Parametric Monitoring
D.4.14 Visible Emissions Notations
D.4.15 Broken or Failed Bag or Bin Vent Filter Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.4.16 Record Keeping Requirements
D.4.17 Reporting Requirements

**D.5 FACILITY OPERATION CONDITIONS - Corn Gluten Feed Pellet Production**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.5.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]
D.5.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.5.3 Particulate Control
D.5.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.5.5 Visible Emissions Notations

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.5.6 Record Keeping Requirements

**D.6 FACILITY OPERATION CONDITIONS - Germ, Corn Gluten Feed, Corn Gluten Feed Pellet and Gluten Loadout**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.6.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]
D.6.2 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]
D.6.3 PM Emissions [326 IAC 6-3-2]
D.6.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.6.5 Particulate Control
D.6.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.6.7 Visible Emissions Notations
D.6.8 Parametric Monitoring
D.6.9 Broken or Failed Bag Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.6.10 Record Keeping Requirements

**D.7 FACILITY OPERATION CONDITIONS - Alcohol Production**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.7.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2] [326 IAC 8-1-6]
D.7.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]]
D.7.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.7.4 VOC and SO2 Control
D.7.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.7.6 Scrubber Monitoring
D.7.7 Condenser Monitoring

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.7.8 Record Keeping Requirements

**New Source Performance Standards (NSPS) Requirements – 40 CFR Part 60, Subpart Kb [326 IAC 2-7-5(1)]**
D.7.9 General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 12-1] [40 CFR Part 60, Subpart A]
D.7.10 New Source Performance Standards for Volatile Organic Storage Vessels: Requirements [40 CFR Part 60, Subpart Kb]

**D.8 FACILITY OPERATION CONDITIONS - Starch Production**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.8.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]
D.8.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]
D.8.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2]
D.8.4 Prevention of Significant Deterioration (PSD) Best Available Control Technology for SO2 [326 IAC 2-2]
D.8.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.8.6 Particulate Control
D.8.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.8.8 Scrubber Monitoring
D.8.9 Baghouse/Collector Monitoring
D.8.10 Visible Emissions Notations
D.8.11 Broken or Failed Bag, Bin Vent Filter, or Dust Collector Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.8.12 Record Keeping Requirements

**D.9 FACILITY OPERATION CONDITIONS - Maltodextrin Production**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.9.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]
D.9.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]
D.9.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]
D.9.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.9.5 PM, PM10, and NOx Control
D.9.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.9.7 Scrubber Monitoring
D.9.8 Baghouse/Collector Monitoring
D.9.9 Visible Emissions Notations
D.9.10 Broken or Failed Bag, Bin Vent Filter, or Dust Collector Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.9.11 Record Keeping Requirements

**D.10 FACILITY OPERATION CONDITIONS - Anaerobic Wastewater Treatment**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.10.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for H2S [326 IAC 2-2]
D.10.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]
D.10.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]
D.10.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.10.5 Hydrogen Sulfide (H2S) and Sulfur Dioxide (SO2)
D.10.6 Particulate Control
D.10.7 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.10.8 Flare Pilot Flame
D.10.9 Monitoring for Scrubber
D.10.10 Visible Emissions Notations
D.10.11 Broken or Failed Bin Vent Filter Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.10.12 Record Keeping Requirements

**D.11 FACILITY OPERATION CONDITIONS - Boilers**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.11.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]
D.11.2 Prevention of Significant Deterioration (PSD) -Best Available Control Technology [326 IAC 2-2] [326 IAC 6-2-4]

D.11.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.11.4 Sulfur Dioxide Emissions and Sulfur Content for alcohol heads and by-product waste oil
D.11.5 NOx and CO Control

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.11.6 Continuous Emissions Monitoring [326 IAC 3-5]
D.11.7 Visible Emissions Notations

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.11.8 Record Keeping Requirements
D.11.9 Natural Gas Certification

**New Source Performance Standards (NSPS) Requirements – 40 CFR Part 60, Subpart Db [326 IAC 2-7-5(1)]**
D.11.10 General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 12-1] [40 CFR Part 60, Subpart A]
D.11.11 New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units: Requirements [40 CFR Part 60, Subpart Db]

**D.12 FACILITY OPERATION CONDITIONS - Cooling Tower**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.12.1 Prevention of Significant Deterioration [326 IAC 2-2]
D.12.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.12.3 Particulate Control

**D.13 FACILITY OPERATION CONDITIONS - Specifically Regulated Insignificant Activities**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.13.1 Prevention of Significant Deterioration [326 IAC 2-2]

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.13.2 Record Keeping Requirements
D.13.3 Reporting Requirements

**E.1 FACILITY OPERATION CONDITIONS - Facilities Subject to 40 CFR Part 60, Subpart VV**

**New Source Performance Standards (NSPS) Requirements – 40 CFR Part 60, Subpart VV [326 IAC 2-7-5(1)]**
E.1.1 General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 12-1] [40 CFR Part 60, Subpart A]
E.1.2 New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced after January 5, 1981, and on or Before November 7, 2006: Requirements [40 CFR Part 60, Subpart VV]

**E.2 FACILITY OPERATION CONDITIONS - Facilities Subject to 40 CFR Part 60, Subpart VVa**

**New Source Performance Standards (NSPS) Requirements – 40 CFR Part 60, Subpart VVa [326 IAC 2-7-5(1)]**

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

E.2.2 New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced after November 7, 2006: Requirements [40 CFR Part 60, Subpart VVa]

**E.3 FACILITY OPERATION CONDITIONS - Facilities Subject to 40 CFR Part 63, Subpart EEEE**

**National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements – 40 CFR Part 63, Subpart EEEE [326 IAC 2-7-5(1)]**

E.3.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

E.3.2 National Emission Standards for Hazardous Air Pollutants - Organic Liquids Distribution: Requirements [40 CFR Part 63, Subpart EEEE]

Certification
Emergency Occurrence Report
Semi-Annual Natural Gas Fired Boiler Certification
Part 70 Quarterly Reports
Quarterly Deviation and Compliance Monitoring Report

**Attachments**

Attachment A Preventative Maintenance Plan General Plant Fugitive Dust Emissions

Attachment B Road Paving Plan - Diagram/Plant Layout

Attachment C 40 CFR 60, Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Attachment D 40 CFR 60, 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

Attachment E 40 CFR 60, Subpart VV—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006

Attachment F 40 CFR 60, 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

Attachment G 40 CFR 63, Subpart EEEE - National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)

## 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.4 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 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary corn wet milling plant.

| | |
|---|---|
| Source Address: | 1443 South 300 West, Washington, IN 47501 |
| Mailing Address: | 1443 South 300 West, Washington, IN 47501 |
| General Source Phone Number: | (812) 257-2749 |
| SIC Code: | 2046, 2048, 2085, 2099 |
| County Location: | Daviess |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Operating Permit Program<br>Major Source, under PSD Rules<br>Major Source, Section 112 of the Clean Air Act<br>1 of 28 PSD Source Categories |

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(15)]

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

(a) One (1) corn processing operation, consisting of:

(1) One (1) truck and railcar corn unloading process, installed in March 2000, consisting of:

(A) One (1) truck/railcar unloading pit and one (1) truck unloading pit, each equipped with one (1) totally enclosed drag pit conveyor system, unloading yellow dent corn at a combined nominal design rate of 855,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as CPC01, with all emissions exhausted through Stack CP01.

(B) One (1) totally enclosed discharge conveyor system, conveying corn received from the truck/railcar and/or truck unloading drag pit conveyor systems to the corn storage silo process at a nominal design rate of 855,000 pounds per hour.

(2) One (1) corn storage process, consisting of five (5) storage silos constructed in 2000, designated as Silos A, B, C, D, and E and one (1) storage silo constructed in 2006 designated as Silo F with a combined maximum design capacity of 53,200,000 pounds, storing corn received from the truck and railcar corn unloading process discharge conveyor system, with particulate emissions controlled by one (1) baghouse, identified as FPC05, with all emissions exhausted through Stack FP05.

(3) One (1) corn cleaning process, installed in March 2000, consisting of:

(A) One (1) totally enclosed receiving conveyor system, conveying corn received from the corn storage silo system to the corn cleaning system at a nominal design rate of 560,000 pounds per hour.

(B) One (1) corn cleaning system, cleaning corn received from the corn storage process discharge conveyor system at a nominal design rate of 560,000 pounds per hour; with particulate emissions controlled by one (1) baghouse, identified as FPC05, with all emissions exhausted through Stack FP05.

(C) One (1) totally enclosed discharge conveyor system, conveying corn received from the corn cleaning system to the corn steeping tank system at a nominal design rate of 560,000 pounds per hour.

(4) One (1) corn steeping process, installed in March 2000 and approved for modification in 2008, consisting of:

(A) One (1) corn steeping tank system, installed in 2000 with two (2) additional steep tanks approved for construction in 2008, softening corn received from the corn cleaning process discharge conveyor system at a nominal design rate of 560,000 pounds per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06, with all emissions exhausted through Stack FP06.

(B) One (1) totally enclosed discharge conveyor system, conveying steeped corn received from the corn steeping tank system to the steeped corn dewatering system at a nominal design rate of 321,000 pounds per hour;

(C) One (1) steeped corn dewatering system, consisting of two (2) dewatering screens, separating water from the softened corn received from the corn steeping tank system discharge conveyor system at a nominal design rate of 321,000 pounds per hour, yielding a maximum of 168,000 pounds of steeped corn per hour and 150,000 pounds of steep water per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06, with all emissions exhausted through Stack FP06;

(D) One (1) totally enclosed steeped corn discharge conveyor system, conveying steeped corn received from the steeped corn dewatering system to the corn germ, fiber, gluten, and starch separation process primary mill at a nominal design rate of 168,000 pounds per hour; and

(E) One (1) totally enclosed steep water discharge conveyor system, conveying steep water received from the steeped corn dewatering system to the alcohol production process starch precook tank at a nominal design rate of 100,000 pounds per hour and/or corn steep and alcohol stillage evaporation system at a nominal design rate of 50,000 pounds per hour.

(5) One (1) corn germ, fiber, gluten, and starch separation process, installed in March 2000 and approved for modification in 2008, milling corn received from the steeped corn discharge conveyor system, consisting of:

(A) One (1) primary milling system, consisting of:

(i) One (1) primary mill area, grinding softened corn and supplemental water received from the steeped corn discharge conveyor system at a nominal design rate of 368,000 pounds per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed discharge conveyor system, conveying milled corn received from the primary mill area to the germ separator at a nominal design rate of 368,000 pounds per hour;

(B) One (1) germ separation system, consisting of:

(i) One (1) germ separation area, separating germ from the corn received from the primary milling system discharge conveyor system at nominal design rate of 368,000 pounds per hour, yielding a maximum of 82,300 pounds of germ per hour and 285,700 pounds of remnant corn, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07,

(ii) One (1) totally enclosed germ discharge conveyor system, conveying germ received from the germ separation area to the germ dryer at a nominal design rate of 23,800 pounds per hour, and

(iii) One totally enclosed remnant corn discharge conveyor system, conveying remnant corn received from the germ separation area to the secondary milling system at a nominal design rate of 285,700 pounds per hour;

(C) One (1) secondary milling system, consisting of:

(i) One (1) secondary milling area, grinding softened corn remnants received from the germ separation system remnant corn discharge conveyor system at a nominal design rate of 285,700 pounds per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07, and

(ii) One (1) totally enclosed discharge conveyor system, conveying milled corn remnants received from the secondary milling area to the fiber separation area at a nominal design rate of 285,700 pounds per hour;

(D) One (1) fiber separation system, consisting of:

(i) One (1) fiber separation area, separating fiber received from the secondary milling system discharge conveyor system at a nominal design rate of 285,700 pounds per hour, with a design maximum of 202,500 pounds of supplemental water added per hour, yielding a maximum of 154,900 pounds of fiber per hour and 333,300 pounds of remnant corn per hour, with SO2 emissions from the separation process controlled by one (1) caustic wet scrubber, identified as FPC27, with all emissions exhausted through Stack FP27.

(ii) One (1) totally enclosed fiber discharge conveyor system, conveying fiber received from the fiber separation area to the corn gluten feed dryer at a nominal design rate of 80,000 pounds per hour, and

(iii) One (1) totally enclosed remnant corn discharge conveyor system, conveying remnant corn received from the fiber separation area to the starch and gluten separation area at a nominal design rate of 333,300 pounds per hour.

(E) One (1) starch and gluten separation system, consisting of:

(i) One (1) starch and gluten separation area, separating starch and gluten from the softened corn remnants received from the fiber separation system remnant corn discharge conveyor system at a nominal design rate of 333,300 pounds per hour, yielding a maximum of 260,000 pounds of starch per hour and 73,300 pounds of gluten per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC27, with all emissions exhausted through Stack FP27,

(ii) One (1) totally enclosed starch discharge conveyor system, conveying starch and supplemental water received from the starch and gluten separation area to the alcohol production process starch precook tank at a nominal design rate of 260,000 pounds per hour, starch production process starch reactors at a nominal design rate of 60,000 pounds per hour, and/or maltodextrin production process at a nominal design rate of 55,000 pounds per hour, and

(iii) One (1) totally enclosed gluten discharge conveyor system, consisting of two (2) totally enclosed conveyors, conveying gluten received from the starch and gluten separation area to the gluten dryer at a nominal design rate of 73,300 pounds per hour.

(6) One (1) germ production process, installed in March 2000 and approved for modification in 2008, consisting of:

(A) One (1) germ drying system, consisting of:

(i) One (1) 24 MMBtu/hr natural gas and/or biogas fired germ dryer, drying germ received from the germ separation system germ discharge conveyor system at a nominal design rate of 23,800 pounds per hour, yielding a maximum of 18,000 pounds of germ per hour.

Process and combustion PM and SO2 emissions are controlled by caustic wet scrubber FPC12; combustion NOx emissions are controlled by a water quench system; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(ii) One (1) totally enclosed discharge conveyor system, conveying germ received from the germ dryer to the rotary germ cooler at a nominal design rate of 18,000 pounds per hour;

(B) One (1) rotary germ cooling system, consisting of:

(i) One (1) rotary germ cooler, cooling germ received from the germ drying system discharge conveyor system at a maximum design rate of 18,000 pounds per hour, with all emissions routed through one (1) baghouse, identified as FPC09, which exhausts to the inlet combustion air for the germ dryer.

(ii) One (1) totally enclosed discharge conveyor system, conveying material received from the rotary germ cooler to the germ transport system at a nominal design rate of 18,000 pounds per hour;

(C) One (1) totally enclosed germ transport system, conveying germ received from the germ cooling system discharge conveyor system to the germ storage bin at a nominal design rate of 18,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC10, with all emissions exhausted through Stack FP10.

(D) One (1) germ storage bin, with a nominal design storage capacity of 160 tons, storing germ received from the germ transport system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC11, with all emissions exhausted through Stack FP11.

(7) One (1) corn gluten feed production process, installed in March 2000, consisting of:

(A) One (1) corn steep and alcohol stillage evaporation system, consisting of:

(i) One (1) evaporation system, evaporating off excess water from the steep system and alcohol distillation still bottom (a.k.a. stillage), yielding a maximum of 5,000 pounds of supplemental gluten feed (a.k.a. syrup) per hour, with VOC emissions controlled by one (1) condenser/scrubber system, identified as APC40, installed in 2003, with all emissions exhausted through Stack AP40.

(ii) One (1) totally enclosed discharge conveyor system, conveying supplemental gluten feed syrup received from the supplemental gluten feed evaporator system to the corn gluten feed dryer at a nominal design rate of 5,000 pounds per hour;

(B) One (1) corn storage process supplemental gluten feed system, consisting of one (1) totally enclosed corn storage process supplemental corn gluten feed conveyor system, conveying supplemental corn gluten feed collected by the corn storage silo system baghouse, identified as FPC05, and the corn unloading baghouse, identified as CPC01, to the corn gluten feed dryer at a nominal design rate of 550 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC20, with all emissions exhausted through stack FP20.

(C) One (1) 30 MMBtu/hr natural gas fired corn gluten feed (CGF) dryer, drying wet corn gluten feed received from the fiber separation system fiber discharge conveyor system, supplemental gluten feed evaporator system discharge conveyor system, and corn storage process supplemental gluten feed system at a combined nominal design rate of 85,560 pounds per hour, yielding a maximum of 52,000 pounds of dried corn gluten feed per hour. Approved for modification in 2008, with the addition of a flue gas recirculation system for NOx control.

Process and combustion PM and SO2 emissions are controlled by condenser FPC17; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(D) One (1) totally enclosed corn gluten feed transport system, conveying corn gluten feed received from the corn gluten feed dryer to the corn gluten feed storage bin at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC18, with all emissions exhausted through Stack FP18.

(E) One (1) corn gluten feed storage system, consisting of:

(i) One (1) corn gluten feed storage bin, with a nominal design capacity of 110 tons, storing corn gluten feed received from the corn gluten feed transport system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC22, with all emissions exhausted through Stack FP22.

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed received from the corn gluten feed storage bin to the corn gluten feed final mill at a nominal design rate of 52,000 pounds per hour.

(F) One (1) corn gluten feed final mill system, consisting of:

(i) One (1) final milling area, milling corn gluten feed received from the corn gluten feed storage system discharge conveyor system at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC19, with all emissions exhausted through Stack FP19.

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed received from the final milling area to the corn gluten feed loadout system at a nominal design rate of 52,000 pounds per hour, and/or the pellet mill at a nominal design rate of 52,000 pounds per hour.

(8) One (1) gluten production process, installed in March 2000, consisting of:

(A) Two (2) 30 MMBtu/hr natural gas and/or biogas fired gluten dryers, one (1) installed in 2000 and one (1) approved for construction in 2008, drying gluten received from the gluten discharge conveyor system at a maximum rate of 18,750 pounds per hour, yielding a maximum of 15,000 pounds of dried gluten per hour.

Process and combustion PM and SO2 emissions are controlled by caustic wet scrubber FPC13; combustion NOx emissions are controlled by a water quench system; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(B) One (1) totally enclosed gluten transport system, conveying gluten received from the gluten dryer to the gluten storage bin at a nominal design rate of 15,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC14, with all emissions exhausted through Stack FP14.

(C) One (1) gluten storage system, consisting of:

(i) One (1) gluten storage bin, with a nominal design capacity of 200 tons, storing dried gluten received from the gluten transport system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC15, with all emissions exhausted through Stack FP15.

(ii) One (1) totally enclosed gluten storage system discharge conveyor system, conveying gluten received from the gluten storage bin to the transfer conveyor system at a nominal design rate of 180,000 pounds per hour.

(9) One (1) corn gluten feed pellet production process, installed in March 2000, consisting of:

(A) One (1) pellet milling system, consisting of:

(i) One (1) pellet mill, producing corn gluten feed pellets from corn gluten feed received from the corn gluten feed final mill system discharge conveyor system at a nominal design rate of 15,000 pounds per hour, and

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed pellets received from the pellet mill to the pellet cooler at a nominal design rate of 15,000 pounds per hour;

(B) One (1) pellet cooling system, consisting of:

(i) One (1) pellet cooler, cooling corn gluten pellets received from the pellet milling system discharge conveyor system at a nominal design rate of 15,000 pounds per hour, discharging to cyclone FPC24, with all emissions exhausted through Stack FP18.

(ii) One (1) totally enclosed discharge conveyor system, conveying pellets received from the pellet cooler to the pellet storage bin at a nominal design rate of 15,000 pounds per hour.

(C) One (1) pellet storage bin with a nominal design storage capacity of 240 tons, storing pellets received from the pellet cooling system discharge conveyor system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC25, with all emissions exhausted through Stack FP25.

(10) One (1) germ, gluten feed, gluten feed pellet, and gluten loadout process, installed in March 2000, consisting of:

(A) One (1) totally enclosed loadout transfer conveyor system, conveying product received from the storage bins to the loadout system at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC28, with all emissions exhausted through Stack FP28.

(B) One (1) totally enclosed germ, gluten, gluten feed and gluten feed pellet loadout system, loading germ, gluten, gluten feed and gluten feed pellet received from the loadout transfer conveyor system into trucks and/or railcars at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC26, with all emissions exhausted through Stack FP26.

(C) One (1) feed loadout vacuum system, approved for construction in 2008, for cleanup of the loadout systems, with particulate emissions controlled by one (1) baghouse, identified as FPC33, with emissions exhausted through Stack FP33.

(11) One (1) alcohol production process, installed in March 2000, consisting of:

(A) One (1) totally enclosed starch cooker and precooker tank, the cooker heats liquified starch received from the precooker tank at a nominal design rate of 260,000 pounds per hour, and converting the starch to fermentable sugars at a nominal design rate of 260,000 pounds per hour.

(B) One (1) flash cooler vent condenser system, identified as APC31, cooling fermentable sugars received from the starch cooker, steep water from the steep system, and stillage from the distillation still bases at a combined nominal design rate of 507,600 pounds per hour, yielding a maximum of 507,600 pounds of fermentable sugars per hour, with the fermentable sugars discharged to one (1) secondary liquefaction tank, with all emissions exhausted through Stack AP31.

(C) One (1) alcohol fermentation system, consisting of:

(i) Two (2) pre-fermenters, fermenting sugars received from the flash cooling chamber at a nominal design rate of 210,000 pounds per hour, yielding a maximum of 210,000 pounds of fermenter feed per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC28, with all emissions exhausted through Stack AP28.

(ii) One (1) fermentation system, fermenting sugars received from the flash cooling chamber at a nominal design rate of 163,000 pounds per hour, yielding a maximum of 123,000 pounds of distillation feed per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC29, with all emissions exhausted through Stack AP29.

(D) One (1) alcohol distillation system, consisting of:

(i) One (1) distillation system, processing distillation feed received from the alcohol fermentation system at a nominal design rate of 50,608 gallons per hour, yielding a maximum of 7,082 gallons of crude alcohol per hour, 30 pounds of distillation heads per hour, and 286,400 pounds of excess corn gluten feed (stillage) per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC32, with all emissions exhausted through Stack AP32.

(ii) One (1) totally enclosed supplemental gluten feed (stillage) discharge conveyor system, conveying supplemental gluten feed received from the alcohol distillation system to the alcohol production process supplemental gluten feed system evaporator at a nominal design rate of 286,400 pounds per hour;

(E) One (1) alcohol storage system, identified as AP95 and AP96, consisting of eighteen (18) alcohol storage tanks, with a maximum combined design capacity of 3,000,000 gallons of finished alcohol product, storing beverage/industrial and anhydrous grade alcohol received from the alcohol distillation system, with VOC emissions controlled by two (2) wet scrubbers, identified as APC95 and APC96, with all emissions exhausted through Stacks AP95 and AP96. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(F) One (1) 51,700 gallon above ground vertical distillation heads storage tank, identified as Tank AP84, storing distillation heads received from the alcohol distillation system, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP84;

(G) One (1) 41,800 gallon above ground vertical burn tank, identified as Tank AP94, storing miscellaneous non-beverage grade alcohol received from the alcohol distillation system, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP94. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(H) One (1) denaturant storage tank system, consisting of:

(i) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP85, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP85. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(ii) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP86, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP86. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iii) One (1) 21,200 gallon above ground vertical storage tank, identified as Tank AP87, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP87. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iv) One (1) 2,100 gallon above ground vertical storage tank, identified as Tank AP88, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP88,

(v) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP89, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP89,

(vi) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP90, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP90, and

(vii) One (1) 1,100 gallon above ground vertical storage tank, identified as Tank AP91, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP91; and

(I) One (1) alcohol and distillation heads loadout area, consisting of:

(i) One (1) alcohol loadout system, loading beverage/industrial or anhydrous alcohol received from the alcohol storage system into trucks and/or railcars at a nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC35;

(ii) One (1) distillation heads loadout system, loading distillation heads received from Tanks AP84 and AP94 into trucks and/or railcars at a combined nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC35; and

(iii) One (1) denaturant delivery system, delivering denaturant received from the denaturant storage tank system to the alcohol loadout system when industrial grade alcohol is being produced, with all non-fugitive VOC emissions controlled by one (1) wet scrubber, identified as APC35, with all non-fugitive emissions exhausted through Stack AP35.

(12) One (1) starch production process, installed in March 2000, consisting of:

(A) One (1) starch reactor system, consisting of:

(i) Eight (8) starch reactors, processing starch received from the starch and gluten separation system starch discharge conveyor system at a nominal design rate of 60,000 pounds per hour, yielding a maximum of 60,000 pounds of processed starch per hour, with all emissions exhausted through eight stacks collectively identified as SP46.

(ii) One (1) starch reactor liquid brine feed system, consisting of one (1) 50 ton storage tank, storing brine that is converted from dry feed to liquid and fed to the starch reactors, with the dry brine feed particulate emissions controlled by one (1) bin vent collector, identified as SPC65, with all emissions exhausted through Stack SP65.

(iii) One (1) starch reactor liquid ethylene oxide feed system, consisting of one (1) 40,000 gallon storage tank, storing liquid ethylene oxide that is fed to the starch reactors, and

(iv) One (1) starch reactor dry soda ash feed system, consisting of:

*(a)* One (1) soda ash storage bin with a nominal design capacity of 75 tons, storing soda ash that is fed to the starch reactors, with the dry soda ash feed particulate emissions controlled by one (1) bin vent collector, identified as SPC64, with all emissions exhausted through Stack SP64.

*(b)* One (1) totally enclosed soda ash discharge conveyor system, delivering soda ash received from the soda ash storage bin to the starch reactors, and

*(c)* One (1) totally enclosed starch discharge conveyor system, conveying processed starch received from the starch reactors to the starch filtration system at a nominal design rate of 60,000 pounds per hour;

(B) One (1) starch filtration system, consisting of:

(i) Two (2) starch filters, refining processed starch received from the starch reactor system starch discharge conveyor system at a nominal design rate of 60,000 pounds per hour, and

(ii) One (1) totally enclosed discharge conveyor system, conveying refined starch received from the starch filter to the starch dryer at a nominal design rate of 56,000 pounds per hour;

(C) One (1) starch drying system consisting of:

(i) One (1) 30 MMBtu/hr natural gas and/or biogas fired starch dryer, drying refined starch received from the starch filtration system discharge conveyor system at a nominal design rate of 56,000 pounds per hour, with the process and combustion PM emissions controlled by one (1) wet scrubber, identified as SPC49, with all emissions exhausted through Stack SP49.

(ii) One (1) totally enclosed discharge conveyor system, conveying dried starch received from the starch dryer to the starch storage bin at a nominal design rate of 30,000 pounds per hour;

(D) One (1) starch storage system, consisting of four (4) starch storage bins, with a nominal design capacity of 1,000,000 pounds, storing dried starch received from the starch drying system discharge conveyor system, with particulate emissions controlled by four (4) identical bin vent collectors, identified as SPC50, with all emissions exhausted through four stacks collectively identified as SP50;

(E) One (1) totally enclosed starch loadout system, conveying starch received from the starch storage bin into trucks and/or railcars at a nominal design rate of 80,000 pounds per hour, with non-fugitive particulate emissions controlled by one (1) baghouse, identified as SPC44a, and fugitive particulate emissions controlled by one (1) dust collector identified as SPC44b, with all non-fugitive emissions exhausted through Stack SP44a, and all collected fugitive particulate emissions exhausted through Stack SP44b.

(13) One (1) maltodextrin production process, installed in March 2000, consisting of:

(A) One (1) maltodextrin cooking system, consisting of:

(i) One (1) maltodextrin cooker, processing starch received from the starch and gluten separation system starch discharge conveyor system at a nominal design rate of 55,000 pounds per hour, yielding 55,000 pounds of crude maltodextrin per hour, and

(ii) One totally enclosed discharge conveyor system, conveying crude maltodextrin received from the maltodextrin cooker to the maltodextrin filtration system at a nominal design rate of 55,000 pounds per hour;

(B) One (1) maltodextrin filtration system, consisting of:

D.10.11 Monitoring for Scrubber

(a) The Permittee shall monitor the scrubber pH of the scrubbing liquor at least once per day from scrubber UPC55 used to scrub the biogas from the anaerobic digestion process at the waste water treatment plant.

(b) A continuous monitoring system shall be operated at all times scrubber UPC55 is in operation. The monitoring system shall continuously measure and record the scrubber recirculation rate from scrubber UPC55 controlling biogas emissions. The output of this system shall be recorded as a 1-hr average.

(c) If the pH reading is outside of the normal range, or 1-hr average recirculation rate is below the minimum recirculation rate for any one reading, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances.

(1) The normal pH range shall be provided by the manufacturer or the range established during the latest stack test. The minimum 1-hr average recirculation rate shall be provided by the manufacturer or a minimum recirculation rate established during the latest stack test.

(d) A pH reading, or 1-hr average recirculation rate that is outside of the ranges recommended by the manufacturer or established during the latest stack test for any one reading 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.

(e) The instruments used for determining the recirculation rate and pH shall comply with Section C - Instrument Specifications of this permit, and shall be calibrated at least once every six (6) months. The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.

(i) One (1) maltodextrin filter, refining crude maltodextrin received from the maltodextrin cooking system discharge conveyor system at a nominal design rate of 42,900 pounds per hour,

(ii) One (1) filtration system dry carbon feed system, consisting of:

*(a)* One (1) dry carbon storage bin with a nominal design capacity of 100,000 pounds, storing carbon that is fed to the maltodextrin filtration system at a nominal design rate of 50,000 pounds per hour, with the dry carbon feed particulate emissions controlled by one (1) bin vent collector, identified as MPC61, with all emissions exhausted through Stack MP61.

*(b)* One (1) totally enclosed carbon discharge conveyor system, delivering carbon received from the carbon storage bin to the filtration system,

(iii) One (1) filtration aid system, consisting of:

*(a)* One (1) filter aid storage bin with a nominal design capacity of 100,000 pounds, storing filter aid that is fed to the Maltrin filtration system, with particulate emissions controlled by one (1) bin vent collector, identified as MPC60, with emissions exhausted through Stack MP60.

*(b)* One (1) totally enclosed filter aid discharge conveyor system, delivering filter aid received from the filter aid storage bin to the maltodextrin filtration system.

(iv) One (1) totally enclosed discharge conveyor system, conveying refined maltodextrin from the maltodextrin filter to the maltodextrin dryer at a nominal design rate of 42,900 pounds per hour;

(C) One (1) maltodextrin drying system, consisting of one (1) 72 MMBtu/hr natural gas fired maltodextrin dryer, drying maltodextrin received from the maltodextrin filtration system discharge conveyor system a nominal design rate of 42,900 pounds per hour, with the process and combustion PM emissions controlled by one (1) wet scrubber, identified as MPC39, with all emissions exhausted through Stack MP39.

(D) One (1) totally enclosed maltodextrin transfer conveyor system, conveying dried maltodextrin received from the maltodextrin dryer to the maltodextrin storage system at a nominal design rate of 24,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as MPC42, with all emissions exhausted through Stack MP42.

(E) One (1) maltodextrin storage system, consisting of four (4) maltodextrin storage bins with a combined nominal design capacity of 1,000,000 pounds, storing maltodextrin received from the maltodextrin transfer conveyor system, with particulate emissions controlled by four (4) identical bin vent collectors, identified as MPC44, with all emissions exhausted through four stacks collectively identified as MP44.

(F) One (1) totally enclosed maltodextrin loadout system, including one (1) maltodextrin screening process and one (1) loadout process, conveying maltodextrin received from the maltodextrin storage bins to the maltodextrin packaging system at a nominal design rate of 90,000 pounds per hour, with particulate emissions controlled by one (1) dust collector, identified as MPC41, with all emissions exhausted through Stack MP41.

(G) One (1) maltodextrin central vacuum system, identified as MPC43, controlling fugitive particulate emissions generated by the maltodextrin production process, with all emissions exhausted through Stack MP43.

(b) One (1) anaerobic wastewater treatment process, installed in March 2000, with H2S emissions controlled by a caustic wet scrubber, approved for construction in 2008, identified as UPC55, and equipped with an emergency flare, identified as UPC56.

Upon exiting scrubber UPC55, the biogas can be:

(1) Combusted in one (1) 18 MMBtu/hr biogas flare, identified as UPC54, with all emissions exhausted through Stack UP54;

(2) Used as fuel in the germ dryer.

(3) Used as fuel in the gluten dryers.

(4) Used as fuel in the starch dryer.

(5) Used as fuel in thermal oxidizers FPC34a and FPC34b.

Supporting the wastewater treatment process is a wastewater treatment lime feed system, consisting of:

(6) One (1) storage bin, approved for construction in 2008, with a capacity of 30,000 pounds of lime per hour with particulate emissions controlled by one (1) bin vent filter, identified as UPC52, with emissions exhausted through stack UP52.

(c) Two (2) natural gas or alcohol fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 244 MMBtu/hr, installed in March 2000, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

(d) One (1) process water cooling tower, installed in March 2000, cooling hot process water received from the source processes at a nominal design rate of 18,000,000 pounds per hour, with particulate mist controlled by one (1) mist elimination system, identified as APC38.

A.3 Specifically Regulated Insignificant Activities
[326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(15)]

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

(a) Paved and unpaved roads and parking lots with public access [326 IAC 6-4] [326 IAC 6-5].

(b) Stationary fire pumps: One (1) 425 horsepower, No. 2 distillate oil-fired emergency fire water pump engine, installed in March 2000, with all emissions exhausted through Stack UP57 [326 IAC 2-2].

## A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

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 2-2-8]

Pursuant to 326 IAC 2-2-8(a)(1), this permit to construct shall expire if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is discontinued for a period of eighteen (18) months or more.

B.3 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, 027-14200-00046, 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, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.4 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.5 Enforceability [326 IAC 2-7-7]

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.6 Severability [326 IAC 2-7-5(5)]

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

B.7 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

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

B.8 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

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

B.9 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(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 the "responsible official" 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) A "responsible official" is defined at 326 IAC 2-7-1(34).

B.10 Annual Compliance Certification [326 IAC 2-7-6(5)]

(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 Branch, 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, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(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 2-7-5(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 submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.11 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

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

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

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

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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.12 Emergency Provisions [326 IAC 2-7-16]

(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.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a 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 phone: (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 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 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 2-7-4(c)(9) 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 2-7 and any other applicable rules.

(g) 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.

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

B.13 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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 Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.14 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to 027-14200-00046 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by this combined new source review and part 70 operating permit.

B.15 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

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 2-7-3 and 326 IAC 2-7-4(a).

B.16 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(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 Data Section, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 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 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 2-7-9(a)(3)]

(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 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(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 2-7-9(c)]

B.18 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(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 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, 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 2-7 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.19 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

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

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

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.20 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.21 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b),(c), or (e) 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 preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
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 2-7-20(b),(c), or (e). 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 2-7-20(b)(1), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(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 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) 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 2-7-10.5]

(a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2.

B.23 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

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 Part 70 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 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 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 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 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), 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 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

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

## SECTION C SOURCE OPERATION CONDITIONS

| Entire Source |
|---|

### Emission Limitations and Standards [326 IAC 2-7-5(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 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.3 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.4 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.5 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.6 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 December 17, 2003. The plan is included as Attachment A.

C.7 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. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

## C.8 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
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

**Testing Requirements [326 IAC 2-7-6(1)]**

C.9 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 Data Section, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

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

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

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 2-7-5(1)][326 IAC 2-7-6(1)]**

C.11 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. 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 within ninety (90) days, 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 Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment.

(b) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(c) Whenever a continuous emission monitor other than an opacity monitor is malfunctioning or will be down for calibration, maintenance, or repairs for a period of four (4) hours or more, a calibrated backup CEMS shall be brought online within four (4) hours of shutdown of the primary CEMS, and shall be operated until such time as the primary CEMS is back in operation.

(d) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5 and 40 CFR 60, Subpart Db.

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 2-7-5(3)] [326 IAC 2-7-6(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 instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

**Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]**

C.15 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

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

within ninety (90) days after the date of issuance of this permit.

The ERP does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.16 Risk Management Plan [326 IAC 2-7-5(12)] [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.17 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

(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.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

C.19 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

(a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) (“Regulated pollutant which is used only for purposes of Section 19 of this rule”) from the source, for purposes of fee assessment.

The emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The emission statement 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.20 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]

(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) If there is a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section

326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(2) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(3) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.21 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2]

(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 Data Section, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) The first report shall cover the period commencing on the date of issuance of this permit 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.

(f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C - General Record Keeping Requirements for any “project” (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual

emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (c)(2) and (3) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee deems fit to include in this report.

Reports required in this part shall be submitted to:

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

(h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

**Stratospheric Ozone Protection**

C.22 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

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(1) One (1) truck and railcar corn unloading process, installed in March 2000, consisting of:

(A) One (1) truck/railcar unloading pit and one (1) truck unloading pit, each equipped with one (1) totally enclosed drag pit conveyor system, unloading yellow dent corn at a combined nominal design rate of 855,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as CPC01, with all emissions exhausted through Stack CP01.

(B) One (1) totally enclosed discharge conveyor system, conveying corn received from the truck/railcar and/or truck unloading drag pit conveyor systems to the corn storage silo process at a nominal design rate of 855,000 pounds per hour.

(a)(2) One (1) corn storage system, consisting of five (5) storage silos constructed in 2000, designated as Silos A, B, C, D, and E and one (1) storage silo constructed in 2006 designated as Silo F with a combined maximum design capacity of 53,200,000 pounds, storing corn received from the truck and railcar corn unloading process discharge conveyor system, with particulate emissions controlled by one (1) baghouse, identified as FPC05, with all emissions exhausted through Stack FP05.

(a)(3) One (1) corn cleaning process, installed in March 2000, consisting of:

(A) One (1) totally enclosed receiving conveyor system, conveying corn received from the corn storage silo system to the corn cleaning system at a nominal design rate of 560,000 pounds per hour.

(B) One (1) corn cleaning system, cleaning corn received from the corn storage process discharge conveyor system at a nominal design rate of 560,000 pounds per hour; with particulate emissions controlled by one (1) baghouse, identified as FPC05, with all emissions exhausted through Stack FP05.

(C) One (1) totally enclosed discharge conveyor system, conveying corn received from the corn cleaning system to the corn steeping tank system at a nominal design rate of 560,000 pounds per hour.

(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 2-7-5(1)]**

D.1.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for PM/PM10 emissions (including filterable and condensible PM10) for the truck and rail car unloading process, and the corn cleaning process, and storage and conveyance system shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Process (Control Device) | Stack | PM/PM10 Limit (gr/dscf) | PM/PM10 Limit (lb/hr) | Opacity |
|---|---|---|---|---|
| Truck and Railcar Corn Unloading Process (Baghouse CPC01) | CP01 | 0.004 | 1.03 | 3% |
| Corn Cleaning Process , Corn Storage System, and Corn Conveyance System (Baghouse FPC05) | FP05 | 0.005 | 0.17 | 3% |

D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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

**Compliance Determination Requirements**

D.1.3 Particulate Control

(a) In order to comply with Condition D.1.1, baghouse CPC01, used to control particulate emissions, shall be in operation at all times the truck and rail car corn unloading process is in operation.

(b) In order to comply with Condition D.1.1, baghouse FPC05, used to control particulate emissions, shall be in operation at all times the corn cleaning process, or the corn storage and conveyance system is in operation.

(c) 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.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) During the period within sixty (60) days of achieving the maximum production rate but no later than one hundred eighty (180) days after start-up of Silo F, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from baghouse FPC05 when the corn cleaning process, and the storage and conveyance system is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

(b) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from baghouse CPC01 when the unloading and storage process is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.1.5 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the truck and railcar corn unloading process (stack CP01) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stack exhaust from the corn cleaning process, and the corn storage and conveyance system (stack FP05) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) 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.

(d) 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.

(e) 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.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.1.6 Parametric Monitoring

(a) The Permittee shall record the pressure drop across baghouse CPC01, used in conjunction with the truck and railcar corn unloading process, at least once per day when the respective process is in operation.

(b) The Permittee shall record the pressure drop across baghouse FPC05, used in conjunction with the corn cleaning process, and the corn storage and conveyance system, at least once per day when either respective process/system is in operation.

(c) When for any one reading, the pressure drop is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(d) The instrument used for determining the pressure drop 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.1.7 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 unit. 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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.1.8 Record Keeping Requirements

(a) To document compliance with Condition D.1.5, the Permittee shall maintain daily records of the visible emission notations required by that condition. 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.1.6, the Permittee shall maintain daily records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a 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 2-7-5(15)]:**

(a)(4) One (1) corn steeping process, installed in March 2000 and approved for modification in 2008, consisting of:

(A) One (1) corn steeping tank system, installed in 2000 with two (2) additional steep tanks approved for construction in 2008, softening corn received from the corn cleaning process discharge conveyor system at a nominal design rate of 560,000 pounds per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06, with all emissions exhausted through Stack FP06.

(B) One (1) totally enclosed discharge conveyor system, conveying steeped corn received from the corn steeping tank system to the steeped corn dewatering system at a nominal design rate of 321,000 pounds per hour;

(C) One (1) steeped corn dewatering system, consisting of two (2) dewatering screens, separating water from the softened corn received from the corn steeping tank system discharge conveyor system at a nominal design rate of 321,000 pounds per hour, yielding a maximum of 168,000 pounds of steeped corn per hour and 150,000 pounds of steep water per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06, with all emissions exhausted through Stack FP06;

(D) One (1) totally enclosed steeped corn discharge conveyor system, conveying steeped corn received from the steeped corn dewatering system to the corn germ, fiber, gluten, and starch separation process primary mill at a nominal design rate of 168,000 pounds per hour; and

(E) One (1) totally enclosed steep water discharge conveyor system, conveying steep water received from the steeped corn dewatering system to the alcohol production process starch precook tank at a nominal design rate of 100,000 pounds per hour and/or corn steep and alcohol stillage evaporation system at a nominal design rate of 50,000 pounds per hour.

(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 2-7-5(1)]**

D.2.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the corn steeping process shall be as follows:

(a) The emissions from the corn steeping process shall be controlled by caustic wet scrubber FPC06.

(b) The SO2 emissions from stack FP06 shall not exceed 4.70 lbs/hr.

(c) The adsorption efficiency for the caustic wet scrubber FPC06 shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

(d) The corn steeping process shall be enclosed and shall be under negative pressure (i.e. the direction of air through the enclosure shall be towards the control device)

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.2.3 SO2 Control

In order to comply with Condition D.2.1, scrubber FPC06, used to control SO2 emissions, shall be in operation at all times the corn steeping process is in operation and venting to scrubber FPC06.

D.2.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks, in order to demonstrate compliance with Condition D.2.1, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for caustic wet scrubber FPC06 when the corn steeping process is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.2.5 Scrubber Monitoring

(a) The Permittee shall monitor the pH of the scrubbing liquid, exhaust air stream pressure drop, and pump discharge pressure of scrubber FPC06 at least once per day when the scrubber is in operation.

(b) When for any one reading, the pH of the scrubbing liquid is less than 5.0, 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 pH reading that is less than 5.0 is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) When for any one reading, the exhaust air stream pressure drop 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(d) When for any one reading, the pump discharge pressure indicates that the scrubbant flow rate is less than 36 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(e) The instrument used for determining the pH, pressure drop or discharge 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.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.2.6 Record Keeping Requirements

(a) To document compliance with Condition D.2.5, the Permittee shall maintain daily records of the scrubber operating parameters required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

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

## SECTION D.3 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(5) One (1) corn germ, fiber, gluten, and starch separation process, installed in March 2000 and approved for modification in 2008, milling corn received from the steeped corn discharge conveyor system, consisting of:

(A) One (1) primary milling system, consisting of:

(i) One (1) primary mill area, grinding softened corn and supplemental water received from the steeped corn discharge conveyor system at a nominal design rate of 368,000 pounds per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed discharge conveyor system, conveying milled corn received from the primary mill area to the germ separator at a nominal design rate of 368,000 pounds per hour.

(B) One (1) germ separation system, consisting of:

(i) One (1) germ separation area, separating germ from the corn received from the primary milling system discharge conveyor system at nominal design rate of 368,000 pounds per hour, yielding a maximum of 82,300 pounds of germ per hour and 285,700 pounds of remnant corn, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed germ discharge conveyor system, conveying germ received from the germ separation area to the germ dryer at a nominal design rate of 23,800 pounds per hour.

(iii) One totally enclosed remnant corn discharge conveyor system, conveying remnant corn received from the germ separation area to the secondary milling system at a nominal design rate of 285,700 pounds per hour.

(C) One (1) secondary milling system, consisting of:

(i) One (1) secondary milling area, grinding softened corn remnants received from the germ separation system remnant corn discharge conveyor system at a nominal design rate of 285,700 pounds per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed discharge conveyor system, conveying milled corn remnants received from the secondary milling area to the fiber separation area at a nominal design rate of 285,700 pounds per hour.

(Continued on next page)

## SECTION D.3 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(Continued from prior page)

(D) One (1) fiber separation system, consisting of:

(i) One (1) fiber separation area, separating fiber received from the secondary milling system discharge conveyor system at a nominal design rate of 285,700 pounds per hour, with a design maximum of 202,500 pounds of supplemental water added per hour, yielding a maximum of 154,900 pounds of fiber per hour and 333,300 pounds of remnant corn per hour, with SO2 emissions from the separation process controlled by one (1) caustic wet scrubber, identified as FPC27, with all emissions exhausted through Stack FP27.

(ii) One (1) totally enclosed fiber discharge conveyor system, conveying fiber received from the fiber separation area to the corn gluten feed dryer at a nominal design rate of 80,000 pounds per hour, and

(iii) One (1) totally enclosed remnant corn discharge conveyor system, conveying remnant corn received from the fiber separation area to the starch and gluten separation area at a nominal design rate of 333,300 pounds per hour.

(E) One (1) starch and gluten separation system, consisting of:

(i) One (1) starch and gluten separation area, separating starch and gluten from the softened corn remnants received from the fiber separation system remnant corn discharge conveyor system at a nominal design rate of 333,300 pounds per hour, yielding a maximum of 260,000 pounds of starch per hour and 73,300 pounds of gluten per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC27, with all emissions exhausted through Stack FP27,

(ii) One (1) totally enclosed starch discharge conveyor system, conveying starch and supplemental water received from the starch and gluten separation area to the alcohol production process starch precook tank at a nominal design rate of 260,000 pounds per hour, starch production process starch reactors at a nominal design rate of 60,000 pounds per hour, and/or maltodextrin production process at a nominal design rate of 55,000 pounds per hour, and

(iii) One (1) totally enclosed gluten discharge conveyor system, consisting of two (2) totally enclosed conveyors, conveying gluten received from the starch and gluten separation area to the gluten dryer at a nominal design rate of 73,300 pounds per hour.

(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 2-7-5(1)]**

D.3.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to PSD 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for PM/PM10 (including filterable and condensible PM10) for the milling area and feed area processes shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Process | Control Device | Stack | PM/PM10 Limit (gr/dscf) | PM/PM10 Limit (lb/hr) |
|---|---|---|---|---|
| Primary Milling System<br>Germ Separation System<br>Secondary Milling System<br>(Milling Area) | Caustic Wet Scrubber (FPC07) | FP07 | 0.017 | 2.36 |
| Separation System<br>Starch and Gluten Separation System<br>(Feed Area) | Caustic Wet Scrubber (FPC27) | FP27 | 0.017 | 3.52 |

D.3.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the primary milling system, the germ separation system, and the secondary milling system shall be as follows:

(1) The emissions from the primary milling system, the germ separation system, and the secondary milling system shall be controlled by caustic wet scrubber FPC07.

(2) The overall control efficiency for the caustic wet scrubber FPC07 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

(3) The SO2 emissions from stack FP07 shall not exceed 4.70 lbs/hr.

(b) Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the fiber separation system, and the starch and gluten separation system shall be as follows:

(1) The emissions from the fiber separation system, and the starch and gluten separation system shall be controlled by caustic wet scrubber FPC27.

(2) The overall control efficiency for the caustic wet scrubber FPC27 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

(3) The SO2 emissions from stack FP27 shall not exceed 7.52 lbs/hr.

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.3.4 SO2 and Particulate Control

(a) In order to comply with Conditions D.3.1 and D.3.2, scrubber FPC07, used to control SO2 and PM/PM10 emissions, shall be in operation at all times the primary milling, germ separation, and secondary milling processes are in operation and venting to scrubber FPC07.

(b) In order to comply with Conditions D.3.1 and D.3.2, scrubber FPC27, used to control SO2 and PM/PM10 emissions, shall be in operation at all times the fiber separation, and starch and gluten separation processes are in operation and venting to scrubber FPC27.

D.3.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the new gluten tank and new filter press at the milling area, in order to demonstrate compliance with Conditions D.3.1 and D.3.2(a), the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency), and PM and PM10 testing for caustic wet scrubber FPC07 when the mill area processes are in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

(b) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the two (2) new gluten filter presses and starch tank at the feed area, in order to demonstrate compliance with Conditions D.3.1 and D.3.2(b), the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency), and PM and PM10 testing for caustic wet scrubber FPC27 when the feed area processes are in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.3.6 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the mill area processes (stack FP07) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stack exhaust from feed area processes (stack FP27) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) 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.

(d) 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.

(e) 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.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.3.7 Scrubber Monitoring

(a) The Permittee shall monitor the pH of the scrubbing liquid, exhaust air stream pressure drop and pump discharge pressure of scrubbers FPC07 and FPC27 at least once per day when the respective wet scrubber is in operation.

(b) When for any one reading, the pH of the scrubbing liquid is less than 5.0, 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 pH reading that is greater than 5.0 is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) When for any one reading, the exhaust air stream pressure drop 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(d) When for any one reading, the pump discharge pressure indicates that the scrubbant flow rate of FPC07 is less than 120 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(e) When for any one reading, the pump discharge pressure indicates that the scrubbant flow rate of FPC27 is less than 190 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(f) The instrument used for determining the pH, pressure drop or discharge 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.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.3.8 Record Keeping Requirements

(a) To document compliance with Condition D.3.6, the Permittee shall maintain daily records of the visible emission notations required by that condition. 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.3.7, the Permittee shall maintain daily records of the scrubber operating parameters required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a 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.4 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(6) One (1) germ production process, installed in March 2000 and approved for modification in 2008, consisting of:

(A) One (1) germ drying system, consisting of:

(i) One (1) 24 MMBtu/hr natural gas and/or biogas fired germ dryer, drying germ received from the germ separation system germ discharge conveyor system at a nominal design rate of 23,800 pounds per hour, yielding a maximum of 18,000 pounds of germ per hour.

Process and combustion PM and SO2 emissions are controlled by caustic wet scrubber FPC12; combustion NOx emissions are controlled by a water quench system; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(ii) One (1) totally enclosed discharge conveyor system, conveying germ received from the germ dryer to the rotary germ cooler at a nominal design rate of 18,000 pounds per hour;

(B) One (1) rotary germ cooling system, consisting of:

(i) One (1) rotary germ cooler, cooling germ received from the germ drying system discharge conveyor system at a maximum design rate of 18,000 pounds per hour, with all emissions routed through one (1) baghouse, identified as FPC09, which exhausts to the inlet combustion air for the germ dryer.

(ii) One (1) totally enclosed discharge conveyor system, conveying material received from the rotary germ cooler to the germ transport system at a nominal design rate of 18,000 pounds per hour;

(C) One (1) totally enclosed germ transport system, conveying germ received from the germ cooling system discharge conveyor system to the germ storage bin at a nominal design rate of 18,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC10, with all emissions exhausted through Stack FP10.

(D) One (1) germ storage bin, with a nominal design storage capacity of 160 tons, storing germ received from the germ transport system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC11, with all emissions exhausted through Stack FP11.

(Continued on next page)

(Continued from prior page)

(a)(7) One (1) corn gluten feed production process, installed in March 2000, consisting of:

(A) One (1) corn steep and alcohol stillage evaporation system, consisting of:

(i) One (1) evaporation system, evaporating off excess water from the steep system and alcohol distillation still bottom (a.k.a. stillage), yielding a maximum of 5,000 pounds of supplemental gluten feed (a.k.a. syrup) per hour, with VOC emissions controlled by one (1) condenser/scrubber system, identified as APC40, installed in 2003, with all emissions exhausted through Stack AP40.

(ii) One (1) totally enclosed discharge conveyor system, conveying supplemental gluten feed syrup received from the supplemental gluten feed evaporator system to the corn gluten feed dryer at a nominal design rate of 5,000 pounds per hour;

(B) One (1) corn storage process supplemental gluten feed system, consisting of one (1) totally enclosed corn storage process supplemental corn gluten feed conveyor system, conveying supplemental corn gluten feed collected by the corn storage silo system baghouse, identified as FPC05, and the corn unloading baghouse, identified as CPC01, to the corn gluten feed dryer at a nominal design rate of 550 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC20, with all emissions exhausted through stack FP20.

(C) One (1) 30 MMBtu/hr natural gas fired corn gluten feed (CGF) dryer, drying wet corn gluten feed received from the fiber separation system fiber discharge conveyor system, supplemental gluten feed evaporator system discharge conveyor system, and corn storage process supplemental gluten feed system at a combined nominal design rate of 85,560 pounds per hour, yielding a maximum of 52,000 pounds of dried corn gluten feed per hour. Approved for modification in 2008, with the addition of a flue gas recirculation system for NOx control.

Process and combustion PM and SO2 emissions are controlled by condenser FPC17; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(D) One (1) totally enclosed corn gluten feed transport system, conveying corn gluten feed received from the corn gluten feed dryer to the corn gluten feed storage bin at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC18, with all emissions exhausted through Stack FP18.

(E) One (1) corn gluten feed storage system, consisting of:

(i) One (1) corn gluten feed storage bin, with a nominal design capacity of 110 tons, storing corn gluten feed received from the corn gluten feed transport system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC22, with all emissions exhausted through Stack FP22.

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed received from the corn gluten feed storage bin to the corn gluten feed final mill at a nominal design rate of 52,000 pounds per hour.

(Continued on next page)

(Continued from prior page)

(F) One (1) corn gluten feed final mill system, consisting of:

(i) One (1) final milling area, milling corn gluten feed received from the corn gluten feed storage system discharge conveyor system at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC19, with all emissions exhausted through Stack FP19.

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed received from the final milling area to the corn gluten feed loadout system at a nominal design rate of 52,000 pounds per hour, and/or the pellet mill at a nominal design rate of 52,000 pounds per hour.

(a)(8) One (1) gluten production process, installed in March 2000, consisting of:

(A) Two (2) 30 MMBtu/hr natural gas and/or biogas fired gluten dryers, one (1) installed in 2000 and one (1) approved for construction in 2008, drying gluten received from the gluten discharge conveyor system at a maximum rate of 18,750 pounds per hour, yielding a maximum of 15,000 pounds of dried gluten per hour.

Process and combustion PM and SO2 emissions are controlled by caustic wet scrubber FPC13; combustion NOx emissions are controlled by a water quench system; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(B) One (1) totally enclosed gluten transport system, conveying gluten received from the gluten dryer to the gluten storage bin at a nominal design rate of 15,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC14, with all emissions exhausted through Stack FP14.

(C) One (1) gluten storage system, consisting of:

(i) One (1) gluten storage bin, with a nominal design capacity of 200 tons, storing dried gluten received from the gluten transport system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC15, with all emissions exhausted through Stack FP15.

(ii) One (1) totally enclosed gluten storage system discharge conveyor system, conveying gluten received from the gluten storage bin to the transfer conveyor system at a nominal design rate of 180,000 pounds per hour.

(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 2-7-5(1)]**

D.4.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by Significant Permit Modification 027-24979-00046, the Best Available Control Technology (PSD BACT) for PM/PM10 (including filterable and condensable PM10), for the units of the germ production, corn gluten feed production, and gluten production processes shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility (Control) | Stack | PM Limit (gr/dscf) | PM10 Limit (lb/hr) | Opacity |
|---|---|---|---|---|
| germ transport system (baghouse FPC10) | FP10 | 0.005 gr/dscf 0.105 lb/hr | 0.005 gr/dscf 0.105 lb/hr | N/A |
| germ storage bin (bin vent filter FPC11) | FP11 | 0.005 gr/dscf 0.005 lb/hr | 0.005 gr/dscf 0.005 lb/hr | N/A |
| corn gluten feed transport system (baghouse FPC18) | FP18 | 0.005 gr/dscf 1.61 lb/hr | 0.005 gr/dscf 1.61 lb/hr | 3% |
| corn gluten feed storage system (bin vent filter FPC22) | FP22 | 0.005 gr/dscf 0.005 lb/hr | 0.005 gr/dscf 0.005 lb/hr | N/A |
| corn gluten feed final mill system (baghouse FPC19) | FP19 | 0.005 gr/dscf 0.13 b/hr | 0.005 gr/dscf 0.13 b/hr | 3% |
| gluten transport system (baghouse FPC14) | FP14 | 0.005 gr/dscf 0.43 lb/hr | 0.005 gr/dscf 0.43 lb/hr | 3% |
| gluten storage system (bin vent filter FPC15) | FP15 | 0.005 gr/dscf 0.005 lb/hr | 0.005 gr/dscf 0.005 lb/hr | N/A |
| corn storage process supplemental gluten feed system (baghouse FPC20) | FP20 | 0.005 gr/dscf 0.09 lb/hr | 0.005 gr/dscf 0.09 lb/hr | 3% |
| germ dryer and discharge conveyor, and germ cooler (wet scrubber FPC12) CGF dryer (condensing tower FPC17) gluten dryers (wet scrubber FPC13) FPC12, FPC17, and FPC13 exhaust to thermal oxidizers (in parallel) FPC34a & FPC34b | FP34 | 0.01 gr/dscf 11.38 lbs/hr | 0.01 gr/dscf 11.38 lbs/hr | 8% |

D.4.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2] [326 IAC 8-1-6]

(a) Pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6, the Best Available Control Technology (PSD BACT) for VOC for the germ production, corn gluten feed production, and gluten production processes shall be as follows:

(1) Regenerative thermal oxidizers, identified as FPC34a and FPC34b and exhausting to stack FP34, shall control VOC emissions from the one (1) corn gluten feed dryer, two (2) gluten dryers, and one (1) germ dryer, and achieve a minimum average overall (including capture and destruction) efficiency of ninety-eight percent (98%), or the VOC outlet concentration shall not exceed 10 ppm.

(2) When only one (1) of the two (2) thermal oxidizers is in operation only one (1) of the (2) gluten dryers shall be in operation. The thermal oxidizer in operation shall control VOC emissions from the one (1) corn gluten dryer, one (1) gluten dryer, and one (1) germ dryer, and achieve a minimum average overall (including

capture and destruction) efficiency of ninety-eight percent (98%), or the VOC outlet concentration shall not exceed 10 ppm.

(3) VOC emissions shall not exceed 3.02 lbs/hr for stack FP34.

(b) Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for VOC for the corn steep and alcohol stillage evaporation system shall be as follows:

(1) The emissions from the corn steep and alcohol stillage evaporation system shall be controlled by the condenser/scrubber system APC40.

(2) The overall control efficiency for the condenser/scrubber system APC40 (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppm.

(3) The VOC emissions from condenser/scrubber system APC40 shall not exceed 0.11 lb/hr.

D.4.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the germ production, corn gluten feed production, gluten production processes shall be as follows:

NOx emissions shall be controlled by the following methods and shall not exceed the emission limits listed in the following table:

| Facility | Control Device | NOx Limit (lb/MMBtu) |
|---|---|---|
| germ dryer and germ cooler | water quench system | 0.06 lb/MMBtu |
| CGF dryer | flue gas recirculation system | 0.047 lb/MMBtu |
| gluten dryers | water quench system | 0.06 lb/MMBtu |

D.4.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the germ production, corn gluten feed production, and gluten production processes shall be as follows:

(a) The SO2 emissions from the germ cooler and dryer shall be controlled by scrubber FPC12.

(b) The overall control efficiency for scrubber FPC12 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 10 ppm.

(c) The SO2 emissions from scrubber FPC12 shall not exceed 3.19 pounds per hour.

(d) The SO2 emissions from the CGF dryer shall be controlled by condenser FPC17.

(e) The overall control efficiency for condenser FPC17 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 10 ppm.

(f) The SO2 emissions from condenser FPC17 shall not exceed 7.52 pounds per hour.

(g) The SO2 emissions from the gluten dryers shall be controlled by scrubber FPC13.

(h) The overall control efficiency for scrubber FPC13 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 10 ppm.

(i) The SO2 emissions from scrubber FPC13 shall not exceed 13.07 pounds per hour.

D.4.5 Prevention of Significant Deterioration (PSD) Minor Limit for NOx and SO2 [326 IAC 2-2]

Pursuant to Part 70 Operating Permit T027-14200-00046, issued on October 19, 2007, and as revised by Significant Permit Modification 027-24979-00046, in order to render the requirements of 326 IAC 2-2 not applicable to FPC34a and FPC34b, the following conditions shall apply:

(a) Nitrogen Oxides (NOx)

(1) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of natural gas used as fuel.

(2) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of biogas used as fuel.

(3) The total amount of gas (biogas and natural gas) combusted by FPC34a and FPC34b shall not exceed 186 million cubic feet (MMCF) per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits shall limit the NOx emissions from the thermal oxidizers FPC34a and FPC34b to less than forty-three (43) tons per year.

(b) Sulfur Dioxide (SO2)

(1) Until the biogas scrubber (UPC55) is online and reducing $H_2S$ emissions from the biogas, the following conditions shall apply:

(A) During biogas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 600 pounds per MMCF.

(B) During natural gas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 0.6 pounds per MMCF.

(C) The total SO2 emissions from combustion of biogas and/or natural gas by thermal oxidizers FPC34a and FPC34b shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month. The following equation shall be used to determine compliance:

SO2 Emissions = (X1*600 + X2*0.6)/2000

Where:

X1 = the biogas (MMCF) usage at FPC34a and FPC34b

X2 = the gas natural gas (MMCF) usage at FPC34a and FPC34b

(2) On and after the date the biogas scrubber (UPC55) is online and controlling $H_2S$ emissions from the biogas, Condition D.4.5(b)(1) shall expire and the following condition shall apply:

(A) During biogas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 91.63 pound per MMCF.

(B) During natural gas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 0.6 pounds per MMCF.

(C) The total SO2 emissions from combustion of biogas and/or natural gas by thermal oxidizers FPC34a and FPC34b shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month. The following equation shall be used to determine compliance:

SO2 Emissions = (Y1*91.63 + Y2*0.6)/2000

Where:

Y1 = the biogas (MMCF) usage at FPC34a and FPC34b

Y2 = the gas natural gas (MMCF) usage at FPC34a and FPC34b

Compliance with these limits shall ensure that the significant emissions increase of NOx from the thermal oxidizer replacement project is less than forty (40) tons per year, and the SO2 emissions from the thermal oxidizer replacement project are less than forty (40) tons per year, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to RTOs FPC34a and FPC34b.

D.4.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.4.7 PM, PM10, SO2, VOC, and NOx Control

(a) In order to comply with Conditions D.4.1, D.4.2, D.4.3, and D.4.4:

(1) Baghouse FPC09 and caustic wet scrubber FPC12, used to control PM/PM10 and SO2 emissions, shall be in operation at all times the germ drying and cooling systems are in operation.

(2) Condenser FPC17 used to control PM/PM10 and SO2 emissions, shall be in operation at all times the CGF drying system is in operation.

(3) Caustic wet scrubber FPC13, used to control PM/PM10 and SO2 emissions, shall be in operation at all times the gluten drying system is in operation.

(4) Thermal oxidizers FPC34a and FPC34b shall be in operation and control VOC and PM/PM10 emissions from the corn gluten feed (CGF), gluten, and germ dryers at all times when one or more of the dryers is in operation.

(5) A water quench system, used to control NOx emissions, shall be in operation at all times the germ drying system or gluten drying system is in operation.

(6) A flue gas recirculation system, used to control NOx emissions, shall be in operation at all times the corn gluten feed drying system is in operation.

(7) The germ transport system, germ storage bin, corn storage process supplemental gluten feed system, corn gluten feed transport system, corn gluten feed storage bin, corn gluten feed final mill, gluten transport system, and gluten storage bin PM/PM10 emissions shall be controlled by baghouse FPC10, bin vent FPC11, baghouse FPC20, baghouse FPC18, bin vent FPC22, baghouse FPC19, baghouse FPC14, and bin vent FPC15 at all times the respective facilities are in operation.

(b) In order to comply with Condition D.4.2(b), the condenser/wet scrubber system APC40, used to control VOC emissions, shall be in operation at all times the corn steep and alcohol stillage evaporation system is in operation.

(c) 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.4.8 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, in order to demonstrate compliance with the limits of Conditions D.4.1 and D.4.2, the Permittee shall perform PM, PM10, and VOC testing for thermal oxidizers FPC34a and FPC34b utilizing methods approved by the Commissioner. Each thermal oxidizer shall be tested individually while the corn gluten feed dryer, one (1) gluten dryer, and the germ dryer are operating at maximum capacity. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. PM10 includes filterable and condensable PM.

(b) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, in order to demonstrate compliance with Condition D.4.4, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for scrubbers FPC12 and FPC13, and condensing tower FPC17. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

(c) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.4.1, the Permittee shall perform PM and PM10 testing for baghouses FPC10, FPC18, FPC19, FPC14 and FPC20 utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

(d) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.4.5, the Permittee shall perform NOx testing for thermal oxidizers FPC34a and FPC34b. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

(e) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, in order to demonstrate compliance with Condition D.4.3, the Permittee shall perform NOx testing for germ drying system, the gluten dryers, and the CGF dryer. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.4.9 Thermal Oxidizer Temperature Monitoring

(a) The Permittee shall comply with the following monitoring requirements for thermal oxidizers FPC34a and FPC34b:

(1) A continuous monitoring system shall be calibrated, maintained, and operated on thermal oxidizers FPC34a and FPC34b for measuring operating temperature of the thermal oxidizer. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as a 3-hour average.

(2) From the date of initial operation until the results from the approved stack tests, required by Condition D.4.2(a), are available, the Permittee shall operate thermal oxidizers FPC34a and FPC34b at or above the minimum 3-hour average temperature recommended by the manufacturer.

(b) The Permittee shall determine the minimum 3-hour average temperature that demonstrates compliance with the limits in Condition D.4.2(a), as approved by IDEM.

(c) Once the results from the approved stack tests are available, the Permittee shall operate the thermal oxidizers at or above the minimum 3-hour average temperature determined from the most recent compliant stack test following approval of that temperature.

D.4.10 Condenser/Scrubber Monitoring

The Permittee shall comply with the following monitoring requirements for condenser/scrubber APC40 and condenser FPC17:

(a) For the condenser of APC40 and condenser FPC17:

(1) A continuous monitoring system shall be calibrated, maintained, and operated on the condenser of APC40 for measuring outlet exhaust temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an 3-hour average.

(2) A continuous monitoring system shall be calibrated, maintained, and operated on condenser of FPC17 for measuring outlet exhaust temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an 3-hour average.

(3) The Permittee shall determine the maximum 3-hour average temperature that demonstrates compliance with the limits in Conditions D.4.2(b), and D.4.4(d), (e), and (f) as approved by IDEM.

(4) Once the results from the approved stack tests are available, the Permittee shall then operate the condenser at or below the maximum 3-hour average temperature determined from the most recent compliant stack test following approval of that temperature.

(b) For the scrubber of APC40:

(1) The Permittee shall monitor the supply water pressure at least once per day when the wet scrubber is in operation.

(2) When for any one reading, the supply water pressure is outside the normal range of 15.0 and 20.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(3) The instrument used for determining the supply water 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.4.11 Duct Pressure – Fan Amperage Parametric Monitoring

The Permittee shall comply with the following monitoring requirements for thermal oxidizers FPC34a, and FPC34b:

(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.4.1 and D.4.2, as approved by IDEM.

(b) The duct pressure or fan amperage shall be observed at least once per day when the control device is in operation. On and after the date the approved stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in most recent compliant stack test.

(c) If the duct pressure or fan pressure is outside the respective established range, the Permittee shall take response steps in accordance with Section C - Response to Excursions or Exceedances. A reading that is outside the normal 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.4.12 Scrubber Monitoring

(a) The Permittee shall monitor the pH of the scrubbing liquid, exhaust air stream pressure drop, and pump discharge pressure of scrubber FPC12 at least once per day when the wet scrubber is in operation.

(1) When for any one reading, the pH of the scrubbing liquid is less than 5.0, 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 pH reading that is greater than 5.0 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.

(2) When for any one reading, the exhaust air stream pressure drop is outside the normal range of 4.0 and 12.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(3) When for any one reading, the pump discharge pressure indicates that the scrubbant flow rate is less than 60 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) The Permittee shall monitor the pH of the scrubbing liquid, exhaust air stream pressure drop, and pump discharge pressure of scrubber FPC13 at least once per day when the wet scrubber is in operation.

(1) When for any one reading, the pH of the scrubbing liquid is less than 5.0, 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 pH reading that is greater than 5.0 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.

(2) When for any one reading, the exhaust air stream pressure drop is outside the normal range of 7.0 and 13.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(3) When for any one reading, the pump discharge pressure indicates that the scrubbant flow rate is less than 100 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) The instrument used for determining the pH, pressure drop or discharge 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.4.13 Parametric Monitoring

(a) The Permittee shall record the pressure drop across the baghouses (FPC10, FPC14, FPC18, FPC19, and FPC20) used in conjunction with the corn, germ, and gluten production processes at least once per day when the respective facilities are in operation.

(b) When for any one reading, the pressure drop across baghouses FPC10, FPC14, FPC18, FPC19, or FPC20 is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) The instrument used for determining the pressure drop 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.4.14 Visible Emissions Notations

(a) Visible emission notations of the germ transport, gluten transport system, corn gluten feed transport system, corn gluten feed final mill system, corn storage process supplemental gluten feed system, thermal oxidizers germ storage bin, corn gluten feed storage bin, and gluten storage bin stack exhausts (FP10, FP14, FP18, FP19, FP20, FP34, FP11, FP22, and FP15) shall be performed once per day during normal daylight operations. 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 and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.4.15 Broken or Failed Bag or Bin Vent Filter Detection

(a) For a single compartment baghouse or bin vent filter 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 or bin vent filter 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 unit. 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 or filter 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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.4.16 Record Keeping Requirements

(a) To document compliance with Condition D.4.5, the Permittee shall maintain records of the amount of biogas and natural gas combusted by FPC34a and FPC34b.

(b) To document compliance with Condition D.4.9 the Permittee shall maintain continuous temperature records for each thermal oxidizer and the 3-hour average temperature used to demonstrate compliance during the most recent stack test.

(c) To document compliance with Condition D.4.10(a) the Permittee shall maintain continuous temperature records for each condenser and the 3-hour average temperature used to demonstrate compliance during the most recent stack test.

(d) To document compliance with Condition D.4.10(b) the Permittee shall maintain daily records of the supply water pressure readings required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(e) To document compliance with Condition D.4.11, the Permittee shall maintain daily records of the duct pressure or fan amperage for each of the thermal oxidizers readings required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(f) To document compliance with Condition D.4.12, the Permittee shall maintain daily records of the pH of the scrubbing liquid, exhaust air stream pressure drop, and pump discharge pressure readings required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(g) To document compliance with Condition D.4.13, the Permittee shall maintain daily records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(h) To document compliance with Condition D.4.14, the Permittee shall maintain daily records of the visible emission notations required by that condition. 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).

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

D.4.17 Reporting Requirements

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

## SECTION D.5 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(9) One (1) corn gluten feed pellet production process, installed in March 2000, consisting of:

(A) One (1) pellet milling system, consisting of:

(i) One (1) pellet mill, producing corn gluten feed pellets from corn gluten feed received from the corn gluten feed final mill system discharge conveyor system at a nominal design rate of 15,000 pounds per hour, and

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed pellets received from the pellet mill to the pellet cooler at a nominal design rate of 15,000 pounds per hour;

(B) One (1) pellet cooling system, consisting of:

(i) One (1) pellet cooler, cooling corn gluten pellets received from the pellet milling system discharge conveyor system at a nominal design rate of 15,000 pounds per hour, discharging to cyclone FPC24, with all emissions exhausted through Stack FP18.

(ii) One (1) totally enclosed discharge conveyor system, conveying pellets received from the pellet cooler to the pellet storage bin at a nominal design rate of 15,000 pounds per hour.

(C) One (1) pellet storage bin with a nominal design storage capacity of 240 tons, storing pellets received from the pellet cooling system discharge conveyor system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC25, with all emissions exhausted through Stack FP25.

(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 2-7-5(1)]

D.5.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD CP T027-7239-00046, issued on June 10, 1997, and as revised by this Significant Permit Modification 027-24979-00046, the Best Available Control Technology (PSD BACT) for PM and PM10 emissions (including filterable and condensible PM10) from the corn gluten feed pellet production process shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility (Control Device) | Stack | PM Limit | PM10 Limit | Opacity |
|---|---|---|---|---|
| pellet cooler (cyclone FPC24) | FP18 | 0.06 gr/dscf 18.00 lb/hr | 0.03 gr/dscf 9.00 lb/hr | N/A |
| pellet storage bin (bin vent filter FPC25) | FP25 | 0.005 gr/dscf 0.004 lb/hr | 0.005 gr/dscf 0.004 lb/hr | 3% |

D.5.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.5.3 Particulate Control

(a) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in order to comply with Condition D.5.1, cyclone FPC24, used to control particulate emissions, shall be in operation at all times the pellet cooler is in operation.

(b) In order to comply with Condition D.5.1, bin vent collector FPC25, used to control particulate emissions, shall be in operation at all times the pellet storage bin is in operation.

D.5.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within one hundred eighty (180) days after issuance of Part 70 permit T027-14200-00046, in order to demonstrate compliance with Condition D.5.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from cyclone FPC24 when the pellet cooler is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.5.5 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the pellet cooler and pellet storage bin (stacks FP18 and FP25) shall be performed once per day during normal daylight operations. 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 and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.5.6 Record Keeping Requirements

(a) To document compliance with Condition D.5.5, the Permittee shall maintain daily records of the visible emission notations required by that condition. 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) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.6 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(10) One (1) germ, gluten, gluten feed, and gluten feed pellet loadout process, consisting of:

(A) One (1) loadout transfer conveyor system, installed in 2000, conveying product received from storage bins to the loadout system at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC28, with all emissions exhausted through Stack FP28.

(B) One (1) germ, gluten, gluten feed and gluten feed pellet loadout system, installed in 1997, loading germ, gluten, gluten feed and gluten feed pellet received from the transfer conveyor system into trucks and/or railcars at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC26, with all emissions exhausted through Stack FP26.

(C) One (1) feed loadout vacuum system, approved for construction in 2008, for cleanup of the loadout systems, with particulate emissions controlled by one (1) baghouse, identified as FPC33, with emissions exhausted through Stack FP33.

(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 2-7-5(1)]**

D.6.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by this SPM (027-24979-00046), the Best Available Control Technology (PSD BACT) for PM and PM10 emissions (including filterable and condensible PM10) from the germ, gluten, gluten feed, and gluten feed pellet loadout system, and the feed loadout vacuum system shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility (Control) | Stack | PM/PM10 Limit | Opacity |
|---|---|---|---|
| Germ, gluten, gluten feed, and gluten feed pellet loadout system (baghouse FPC26) | FP26 | 0.005 gr/dscf<br>1.50 lb/hr | 3% |
| Feed loadout vacuum system (baghouse FPC33) | FP33 | 0.005 gr/dscf<br>0.01 lb/hr | 3% |

D.6.2 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

(a) The PM emissions from the loadout conveyor system shall be vented through baghouse FPC28 and shall not exceed 5.70 lbs/hr.

(b) The PM10 emissions from the loadout conveyor system shall be vented through baghouse FPC28 and shall not exceed 3.41 lbs/hr.

Compliance with these limits, limits the PM emissions from the loadout conveyor system to less than twenty-five (25) tons per year and the PM10 emissions from the loadout conveyor system to less than fifteen (15) tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are rendered not applicable.

D.6.3 PM Emissions [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the transfer conveyor system (exhausting to FP28) shall be limited to 50.2 lb/hr when operating at a process weight rate of up to 180,000 lb/hr.

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:

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

D.6.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.6.5 Particulate Control

(a) In order to comply with Condition D.6.1, baghouse FPC26, used to control particulate emissions, shall be in operation at all times the loadout system is in operation.

(b) In order to comply with Condition D.6.2, baghouse FPC28, used to control particulate emissions, shall be in operation at all times the loadout transfer conveyor system is in operation.

(c) In order comply with Condition D.6.1, baghouse FPC33, used to control particulate emissions, shall be in operation at all times the feed loadout vacuum system is in operation.

(d) 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.6.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM and PM10 testing for baghouse FPC26 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

(b) Within sixty (60) days of reaching maximum capacity, but not more than one hundred eighty (180) days after startup of the feed loadout vacuum system, in order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from baghouse FPC33 when the feed loadout vacuum system is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.6.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the loadout system (stack FP26) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stack exhaust from the loadout transfer conveyor system (stack FP28) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) Visible emission notations of the stack exhaust from the feed loadout vacuum system (stack FP33) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(d) 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.

(e) 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.

(f) 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.

(g) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.6.8 Parametric Monitoring

(a) The Permittee shall record the pressure drop across baghouse FPC26, used in conjunction with the loadout system at least once per day when the respective system is in operation.

(b) The Permittee shall record the pressure drop across baghouse FPC28, used in conjunction with the loadout transfer conveyor system, at least once per day when the respective system is in operation.

(c) The Permittee shall record the pressure drop across baghouse FPC33, used in conjunction with the feed loadout vacuum system, at least once per day when the respective system is in operation.

(d) When for any one reading, the pressure drop across baghouse FPC26 is outside the normal range of 0.1 to 5.0 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.

(e) When for any one reading, the pressure drop across baghouse FPC28 or baghouse FPC33 is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(f) The instrument used for determining the pressure drop 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.6.9 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 unit. 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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.6.10 Record Keeping Requirements

(a) To document compliance with Condition D.6.7, the Permittee shall maintain daily records of the visible emission notations required by that condition. 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.6.8, the Permittee shall maintain daily records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a 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.7 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(11) One (1) alcohol production process, installed in March 2000, consisting of:

(A) One (1) totally enclosed starch cooker and precooker tank, the cooker heats liquified starch received from the precooker tank at a nominal design rate of 260,000 pounds per hour, and converting the starch to fermentable sugars at a nominal design rate of 260,000 pounds per hour.

(B) One (1) flash cooler vent condenser system, identified as APC31, cooling fermentable sugars received from the starch cooker, steep water from the steep system, and stillage from the distillation still bases at a combined nominal design rate of 507,600 pounds per hour, yielding a maximum of 507,600 pounds of fermentable sugars per hour, with the fermentable sugars discharged to one (1) secondary liquefaction tank, with all emissions exhausted through Stack AP31.

(C) One (1) alcohol fermentation system, consisting of:

(i) Two (2) pre-fermenters, fermenting sugars received from the flash cooling chamber at a nominal design rate of 210,000 pounds per hour, yielding a maximum of 210,000 pounds of fermenter feed per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC28, with all emissions exhausted through Stack AP28.

(ii) One (1) fermentation system, fermenting sugars received from the flash cooling chamber at a nominal design rate of 163,000 pounds per hour, yielding a maximum of 123,000 pounds of distillation feed per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC29, with all emissions exhausted through Stack AP29.

(D) One (1) alcohol distillation system, consisting of:

(i) One (1) distillation system, processing distillation feed received from the alcohol fermentation system at a nominal design rate of 50,608 gallons per hour, yielding a maximum of 7,082 gallons of crude alcohol per hour, 30 pounds of distillation heads per hour, and 286,400 pounds of excess corn gluten feed (stillage) per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC32, with all emissions exhausted through Stack AP32.

(ii) One (1) totally enclosed supplemental gluten feed (stillage) discharge conveyor system, conveying supplemental gluten feed received from the alcohol distillation system to the alcohol production process supplemental gluten feed system evaporator at a nominal design rate of 286,400 pounds per hour;

(E) One (1) alcohol storage system, identified as AP95/AP96, consisting of eighteen (18) alcohol storage tanks, with a nominal combined design capacity of 3,000,000 gallons of finished alcohol product, storing beverage/industrial and anhydrous grade alcohol received from the alcohol distillation system, with VOC emissions controlled by two (2) wet scrubbers, identified as APC95 and APC96, with all emissions exhausted through Stacks AP95 and AP96. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

**SECTION D.7 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(F) One (1) 51,700 gallon above ground vertical distillation heads storage tank, identified as Tank AP84, storing distillation heads received from the alcohol distillation system, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP84;

(G) One (1) 41,800 gallon above ground vertical burn tank, identified as Tank AP94, storing miscellaneous non-beverage grade alcohol received from the alcohol distillation system, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP94. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(H) One (1) denaturant storage tank system, consisting of:

(i) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP85, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP85. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(ii) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP86, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP86. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iii) One (1) 21,200 gallon above ground vertical storage tank, identified as Tank AP87, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP87. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iv) One (1) 2,100 gallon above ground vertical storage tank, identified as Tank AP88, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP88,

(v) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP89, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP89,

(vi) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP90, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP90, and

(vii) One (1) 1,100 gallon above ground vertical storage tank, identified as Tank AP91, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP91; and

(I) One (1) alcohol and distillation heads loadout area, consisting of:

(i) One (1) alcohol loadout system, loading beverage/industrial or anhydrous alcohol received from the alcohol storage system into trucks and/or railcars at a nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC35;

## SECTION D.7 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(ii) One (1) distillation heads loadout system, loading distillation heads received from Tanks AP84 and AP94 into trucks and/or railcars at a combined nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC35; and

(iii) One (1) denaturant delivery system, delivering denaturant received from the denaturant storage tank system to the alcohol loadout system when industrial grade alcohol is being produced, with all non-fugitive VOC emissions controlled by one (1) wet scrubber, identified as APC35, with all non-fugitive emissions exhausted through Stack AP35.

(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 2-7-5(1)]**

D.7.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2] [326 IAC 8-1-6]

(a) Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, and 326 IAC 8-1-6, and as revised by Significant Permit Modification 027-24797-00046, the Best Available Control Technology (PSD BACT) for VOC for the pre-fermentation, fermentation, alcohol distillation system, loadout area, and storage tanks shall be as follows:

VOC emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility | Control Device | Stack | VOC Limit |
|---|---|---|---|
| Two (2) Pre-fermenters | wet scrubber (APC28) | AP28 | 95% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 9.25 lbs/hr |
| Fermentation System | wet scrubber (APC29) | AP29 | 95% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 16.83 lbs/hr |
| Alcohol Distillation System | wet scrubber (APC32) | AP32 | 98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 0.7 lbs/hr |
| Alcohol Storage System (beverage) | wet scrubber (APC95) | AP95 | 98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 0.16 lb VOC/hr |
| Alcohol Storage System (fuel) | wet scrubber (APC96) | AP96 | 98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 0.08 lb VOC/hr |

| Facility | Control Device | Stack | VOC Limit |
|---|---|---|---|
| Alcohol and Distillation Heads Loadout Area | Scubber (APC35) | AP35 | 2.3 lb/hr |
| Storage Tank | Internal Floating Roof | AP84 | 0.03 lb /hr |
| Storage Tank | Internal Floating Roof | AP94 | 0.02 lb/hr |
| Storage Tank | Internal Floating Roof | AP85 | 0.20 lb/hr |
| Storage Tank | Internal Floating Roof | AP86 | 0.20 lb/hr |
| Storage Tank | Internal Floating Roof | AP87 | 0.26 lb/hr |
| Storage Tank | Internal Floating Roof | AP88 | 0.13 lb/hr |
| Storage Tank | Internal Floating Roof | AP89 | 0.15 b/hr |
| Storage Tank | Internal Floating Roof | AP90 | 0.15 lb/hr |
| Storage Tank | Internal Floating Roof | AP91 | 0.21 lb/hr |
| Alcohol Production Process Fugitive Emissions | | None | 10.40 lb/hr |

To ensure that the fugitive VOC emissions from the alcohol production process are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program for the equipment of the alcohol production process.

D.7.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the flash vent condenser system (APC31), controlling emissions from the fermentable sugar cooling, steep water, and stillage, shall be as follows:

(a) The SO2 emissions from the fermentable sugar cooling, steep water, and stillage shall be controlled by condenser APC31.

(b) The overall control efficiency for the condenser (APC31) (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

(c) The $SO_2$ emissions from condenser (APC31) shall not exceed 0.53 lb/hr.

D.7.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.7.4 VOC and SO2 Control

(a) In order to comply with Condition D.7.1 scrubber APC35, used to control VOC emissions, shall be in operation at all times the alcohol and distillation heads loadout area process is in operation.

(b) In order to comply with Condition D.7.1, scrubbers APC28, APC29, APC32, APC84, APC94, APC95, and APC96, used to control VOC emissions, shall be in operation at all times the associated facilities of the alcohol production process are in operation.

(c) In order to comply with Condition D.7.2, the condenser APC31, used to control $SO_2$ emissions, shall be in operation at all times the flash cooling process is in operation.

D.7.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area, in order to demonstrate compliance with Condition D.7.1, the Permittee shall perform VOC testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for scrubbers APC28, APC29, APC32, APC95, APC96 and APC35 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

(b) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area, in order to demonstrate compliance with Condition D.7.2, the. Permittee shall perform $SO_2$ testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for the flash cooler vent condenser system (APC31) utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

Testing shall be conducted in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements**

D.7.6 Scrubber Monitoring

(a) The Permittee shall monitor the exhaust air stream pressure drop and scrubbant flow rate of scrubbers APC28 and APC29 at least once per day when the wet scrubber is in operation.

(1) When for any one reading the exhaust air stream pressure drop of APC28 is outside the normal range of 1.0 and 10.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(2) When for any one reading the exhaust air stream pressure drop of APC29 is outside the normal range of 5.0 and 25.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(3) When for any one reading the scrubbant flow rate of APC29 is less than 20.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(4) When for any one reading the scrubbant flow rate of APC28 is less than 5.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) The Permittee shall monitor the exhaust air stream pressure drop and scrubbant flow rate of scrubber APC32 at least once per day when the wet scrubber is in operation.

(1) When for any one reading, the exhaust air stream pressure drop 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(2) When for any one reading, the scrubbant flow rate is less than 4.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) The Permittee shall monitor the scrubbant flow rate of scrubber APC95 at least once per day when the wet scrubber is in operation. When for any one reading, the scrubbant flow rate is less than 5.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(d) The Permittee shall monitor the scrubbant flow rate of scrubber APC96 at least once per day when the wet scrubber is in operation. When for any one reading, the scrubbant flow rate is less than 2.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(e) The Permittee shall monitor the exhaust air stream pressure drop and scrubbant flow rate of scrubber APC35 at least once per day when the wet scrubber is in operation.

(1) When for any one reading, the exhaust air stream pressure drop 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(2) When for any one reading, the scrubbant flow rate is less than 2.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(f) The instrument used for determining the pressure drop or 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.7.7 Condenser Monitoring

The Permittee shall comply with the following monitoring requirements for condenser APC31:

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the condenser of APC31 for measuring outlet exhaust temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an 3-hour average.

(b) The Permittee shall determine the maximum 3-hour average temperature that demonstrates compliance with the limits in Condition 7.2 as approved by IDEM.

(c) Once the results from the approved stack tests are available, the Permittee shall then operate the condenser at or below the maximum 3-hour average temperature determined from the most recent compliant stack test following approval of that temperature.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.7.8 Record Keeping Requirements

(a) To document compliance with Condition D.7.6, the Permittee shall maintain daily records of the operating parameters required by those conditions. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(b) To document compliance with Condition D.7.7 the Permittee shall maintain continuous temperature records for condenser APC31 and the 3-hour average temperature used to demonstrate compliance during the most recent stack test.

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

**New Source Performance Standards (NSPS) Requirements – 40 CFR Part 60, Subpart Kb [326 IAC 2-7-5(1)]**

D.7.9 General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR Part 60, Subpart Kb, 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 AP85, AP86, AP87, AP94, AP95 and AP96 except as otherwise specified in 40 CFR Part 60, Subpart Kb.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

D.7.10 New Source Performance Standards for Volatile Organic Storage Vessels: Requirements [40 CFR Part 60, Subpart Kb]

Pursuant to 40 CFR 60.110b, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart Kb for tanks AP85, AP86, AP87, AP94, AP95 and AP96 as specified as follows:

(1) 40 CFR 60.110b
(2) 40 CFR 60.111b
(3) 40 CFR 60.112b
(4) 40 CFR 60.113b
(5) 40 CFR 60.114b
(6) 40 CFR 60.115b
(7) 40 CFR 60.116b

## SECTION D.8 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(12) One (1) starch production process, installed in March 2000, consisting of:

(A) One (1) starch reactor system, consisting of:

(i) Eight (8) starch reactors, processing starch received from the starch and gluten separation system starch discharge conveyor system at a nominal design rate of 60,000 pounds per hour, yielding a maximum of 60,000 pounds of processed starch per hour, with all emissions exhausted through eight stacks collectively identified as SP46.

(ii) One (1) starch reactor liquid brine feed system, consisting of one (1) 50 ton storage tank, storing brine that is converted from dry feed to liquid and fed to the starch reactors, with the dry brine feed particulate emissions controlled by one (1) bin vent collector, identified as SPC65, with all emissions exhausted through Stack SP65.

(iii) One (1) starch reactor liquid ethylene oxide feed system, consisting of one (1) 40,000 gallon storage tank, storing liquid ethylene oxide that is fed to the starch reactors, and

(iv) One (1) starch reactor dry soda ash feed system, consisting of:

*(a)* One (1) soda ash storage bin with a nominal design capacity of 75 tons, storing soda ash that is fed to the starch reactors, with the dry soda ash feed particulate emissions controlled by one (1) bin vent collector, identified as SPC64, with all emissions exhausted through Stack SP64.

*(b)* One (1) totally enclosed soda ash discharge conveyor system, delivering soda ash received from the soda ash storage bin to the starch reactors, and

*(c)* One (1) totally enclosed starch discharge conveyor system, conveying processed starch received from the starch reactors to the starch filtration system at a nominal design rate of 60,000 pounds per hour;

(B) One (1) starch filtration system, consisting of:

(i) Two (2) starch filters, refining processed starch received from the starch reactor system starch discharge conveyor system at a nominal design rate of 60,000 pounds per hour, and

(ii) One (1) totally enclosed discharge conveyor system, conveying refined starch received from the starch filter to the starch dryer at a nominal design rate of 56,000 pounds per hour;

(Continued on next page)

(Continued from prior page)

(C) One (1) starch drying system consisting of:

(i) One (1) 30 MMBtu/hr natural gas and/or biogas fired starch dryer, drying refined starch received from the starch filtration system discharge conveyor system at a nominal design rate of 56,000 pounds per hour, with the process and combustion PM emissions controlled by one (1) wet scrubber, identified as SPC49, with all emissions exhausted through Stack SP49.

(ii) One (1) totally enclosed discharge conveyor system, conveying dried starch received from the starch dryer to the starch storage bin at a nominal design rate of 30,000 pounds per hour;

(D) One (1) starch storage system, consisting of four (4) starch storage bins, with a nominal design capacity of 1,000,000 pounds, storing dried starch received from the starch drying system discharge conveyor system, with particulate emissions controlled by four (4) bin vent collectors, identified as SPC50, with all emissions exhausted through four stacks collectively identified as SP50;

(E) One (1) totally enclosed starch loadout system, conveying starch received from the starch storage bin into trucks and/or railcars at a nominal design rate of 80,000 pounds per hour, with non-fugitive particulate emissions controlled by one (1) baghouse, identified as SPC44a, and fugitive particulate emissions controlled by one (1) dust collector identified as SPC44b, with all non-fugitive emissions exhausted through Stack SP44a, and all collected fugitive particulate emissions exhausted through Stack SP44b.

(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 2-7-5(1)]**

D.8.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by this SPM 027-24979-00046, the Best Available Control Technology (PSD BACT) for PM and PM (including filterable and condensable PM10) shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility (Control) | Stack | PM Limit | PM10 Limit | Opacity |
|---|---|---|---|---|
| starch reactor brine feed system (bin vent filter SPC65) | SP65 | 0.02 gr/dscf 0.34 lb/hr | 0.01 gr/dscf 0.17 lb/hr | N/A |
| soda ash storage bin (bin vent filter SPC64) | SP64 | 0.02 gr/dscf 0.34 lb/hr | 0.01 gr/dscf 0.17 lb/hr | N/A |
| starch dryer (scrubber SPC49) | SP49 | 0.092 gr/dscf 4.96 lb/hr | 0.092 gr/dscf 4.96 lb/hr | N/A |
| starch storage bin (bin vent filter SPC50) | SP50 | 0.005 gr/dscf 0.09 lb/hr | 0.005 gr/dscf 0.09 lb/hr | N/A |

| | | | | |
|---|---|---|---|---|
| loadout system non-fugitive control (baghouse SPC44a) | SP44a | 0.005 gr/dscf<br>0.15 lb/hr | 0.005 gr/dscf<br>0.15 lb/hr | 3% |
| loadout system fugitive control (dust collector SPC44b) | SP44b | 0.005 gr/dscf<br>0.29 lb/hr | 0.005 gr/dscf<br>0.29 lb/hr | 3% |

D.8.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the starch spray dryer shall be no control and the NOx emissions from the starch dryer shall not exceed 0.075 lb/MMBtu.

D.8.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, the Best Available Control Technology (PSD BACT) for VOC for the starch reactor system (SP46) and the starch dryer (SP49) shall be as follows:

(a) The VOC emissions from the starch reactor system (SP46) shall not exceed 1.0 lb per ten (10) hour period.

(b) To ensure that the fugitive VOC emissions from the starch reactor system (SP46) are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program.

(c) The VOC emissions from the starch dryer (SP49) shall not exceed 1.0 pound per hour.

Compliance with these requirements satisfies the requirements of 326 IAC 2-2-3.

D.8.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the starch dryer (SP49) shall be as follows:

(a) The SO2 emissions, when combusting biogas, shall not exceed 91.63 lb/MMCF and 4.58 lb/hr.

(b) The SO2 emissions, when combusting natural gas, shall not exceed 0.6 lb/MMCF and 0.02 lb/hr.

Compliance with these requirements satisfies the requirements of 326 IAC 2-2-3.

D.8.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.8.6 Particulate Control

(a) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in order to comply with Condition D.8.1, the PM/PM10 emissions from the starch reactor liquid brine feed system, soda ash storage bin, and starch storage bin shall be controlled by bin vent collector SPC65, bin vent collector SPC64, and bin vent collector SPC50, at all times when the associated facilities are in operation.

(b) In order to comply with Condition D.8.1, the PM/PM10 emissions from the starch dryer, starch loadout system non-fugitive control system, and starch loadout system fugitive control system shall be controlled by scrubber SPC49, baghouse SPC44a, and dust collector SPC44b, at all times when the associated facilities are in operation.

(c) 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.8.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Within sixty (60) days after achieving maximum capacity, but not more than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area, in order to demonstrate compliance with Conditions D.8.1 and D.8.2, the Permittee shall perform PM, PM10, and NOx testing for the starch dryer scrubber (SPC49). These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods as approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

(b) Within sixty (60) days after achieving maximum capacity, but not more than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area, in order to demonstrate compliance with Conditions D.8.3(b) and D.8.4, the Permittee shall perform VOC and SO2 testing for the starch dryer scrubber (SPC49). Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.8.8 Scrubber Monitoring

(a) The Permittee shall monitor the exhaust air stream pressure drop and scrubbant flow rate of scrubber SPC49 at least once per day when the respective scrubber is in operation.

(b) When for any one reading, the exhaust air stream pressure drop is outside the normal range of 4.0 and 12.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) When for any one reading, the scrubbant flow rate is less than 400 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(d) The instrument used for determining the pressure drop or 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.8.9 Baghouse/Collector Monitoring

(a) The Permittee shall record the pressure drop across the baghouse (SPC44a) and dust collector (SPC44b) used in conjunction with the starch loadout system nonfugitive control system, and starch loadout system fugitive control system at least once per day when the respective facilities are in operation.

(b) When for any one reading, the pressure drop is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) The instrument used for determining the pressure drop 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.8.10 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the starch production processes (stacks SP65, SP64, SP50, SP44a and SP44b) shall be performed once per day during normal daylight operations. 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 and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.8.11 Broken or Failed Bag, Bin Vent Filter, or Dust Collector Detection

(a) For a single compartment baghouse, bin vent filter, or dust collector 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, bin vent filter, or dust collector 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 unit. 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, filter, or collector failure can be indicated by a significant drop in the baghouse's or collector'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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.8.12 Record Keeping Requirements

(a) To document compliance with Condition D.8.3(a)(2), the Permittee shall maintain a copy of the most recent version of the visual inspection and maintenance program and any supporting documentation.

(b) To document compliance with Conditions D.8.8, the Permittee shall maintain daily records of the readings required by those conditions. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(c) To document compliance with Condition D.8.9, the Permittee shall maintain daily records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(d) To document compliance with Condition D.8.10, the Permittee shall maintain daily records of the visible emission notations required by that condition. 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).

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

## SECTION D.9 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(13) One (1) maltodextrin production process, installed in March 2000, consisting of:

(A) One (1) maltodextrin cooking system, consisting of:

(i) One (1) maltodextrin cooker, processing starch received from the starch and gluten separation system starch discharge conveyor system at a nominal design rate of 55,000 pounds per hour, yielding 55,000 pounds of crude maltodextrin per hour, and

(ii) One totally enclosed discharge conveyor system, conveying crude maltodextrin received from the maltodextrin cooker to the maltodextrin filtration system at a nominal design rate of 55,000 pounds per hour;

(B) One (1) maltodextrin filtration system, consisting of:

(i) One (1) maltodextrin filter, refining crude maltodextrin received from the maltodextrin cooking system discharge conveyor system at a nominal design rate of 42,900 pounds per hour,

(ii) One (1) filtration system dry carbon feed system, consisting of:

*(a)* One (1) dry carbon storage bin with a nominal design capacity of 100,000 pounds, storing carbon that is fed to the maltodextrin filtration system at a nominal design rate of 50,000 pounds per hour, with the dry carbon feed particulate emissions controlled by one (1) bin vent collector, identified as MPC61, with all emissions exhausted through Stack MP61.

*(b)* One (1) totally enclosed carbon discharge conveyor system, delivering carbon received from the carbon storage bin to the filtration system,

(iii) One (1) filtration aid system, consisting of:

*(a)* One (1) filter aid storage bin with a nominal design capacity of 100,000 pounds, storing filter aid that is fed to the Maltrin filtration system, with particulate emissions controlled by one (1) bin vent collector, identified as MPC60, with emissions exhausted through Stack MP60.

*(b)* One (1) totally enclosed filter aid discharge conveyor system, delivering filter aid received from the filter aid storage bin to the maltodextrin filtration system.

(iv) One (1) totally enclosed discharge conveyor system, conveying refined maltodextrin from the maltodextrin filter to the maltodextrin dryer at a nominal design rate of 42,900 pounds per hour;

(Continued on next page)

(Continued from prior page)

(C) One (1) maltodextrin drying system, consisting of one (1) 72 MMBtu/hr natural gas fired maltodextrin dryer, drying maltodextrin received from the maltodextrin filtration system discharge conveyor system a nominal design rate of 42,900 pounds per hour, with the process and combustion PM emissions controlled by one (1) wet scrubber, identified as MPC39, with all emissions exhausted through Stack MP39.

(D) One (1) totally enclosed maltodextrin transfer conveyor system, conveying dried maltodextrin received from the maltodextrin dryer to the maltodextrin storage system at a nominal design rate of 24,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as MPC42, with all emissions exhausted through Stack MP42.

(E) One (1) maltodextrin storage system, consisting of four (4) maltodextrin storage bins with a combined nominal design capacity of 1,000,000 pounds, storing maltodextrin received from the maltodextrin transfer conveyor system, with particulate emissions controlled by four (4) identical bin vent collectors, identified as MPC44, with all emissions exhausted through four stacks collectively identified as MP44.

(F) One (1) totally enclosed maltodextrin loadout system, including one (1) maltodextrin screening process and one (1) loadout process, conveying maltodextrin received from the maltodextrin storage bins to the maltodextrin packaging system at a nominal design rate of 90,000 pounds per hour, with particulate emissions controlled by one (1) dust collector, identified as MPC41, with all emissions exhausted through Stack MP41.

(G) One (1) maltodextrin central vacuum system, identified as MPC43, controlling fugitive particulate emissions generated by the maltodextrin production process, with all emissions exhausted through Stack MP43.

(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 2-7-5(1)]

D.9.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for PM and PM10 (including filterable and condensable PM10) shall be as follows:

| Facility (Control) | Stack | PM Limit | PM10 Limit | Opacity |
|---|---|---|---|---|
| dry carbon storage bin (bin vent filter MPC61) | MP61 | 0.005 gr/dscf 0.03 lb/hr | 0.005 gr/dscf 0.03 lb/hr | 3% |
| maltrodextrin drying system (scrubber MPC39) | MP39 | 0.01 gr/dscf 9.58 lb/hr | 0.01 gr/dscf 9.58 lb/hr | N/A |
| filter aid storage bin (bin vent filter MPC60) | MP60 | 0.005 gr/dscf 0.03 lb/hr | 0.005 gr/dscf 0.03 lb/hr | 3% |
| maltrodextrin transfer system (baghouse MPC42) | MP42 | 0.005 gr/dscf 0.34 lb/hr | 0.005 gr/dscf 0.34 lb/hr | 3% |
| maltrodextrin storage bins (bin vent filters MPC44) | MP44 | 0.005 gr/dscf 0.009 lb/hr | 0.005 gr/dscf 0.009 lb/hr | 3% |

| | | | | |
|---|---|---|---|---|
| maltrodextin loadout and screening process (dust collector MPC41) | MP41 | 0.005 gr/dscf 0.34 lb/hr | 0.005 gr/dscf 0.34 lb/hr | 3% |
| maltrodextrin central vacuum system (dust collector MPC43) | MP43 | 0.005 gr/dscf 0.02 lb/hr | 0.005 gr/dscf 0.02 lb/hr | 3% |

D.9.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the maltrodextrin spray dryer (MP39) shall be no control and SO2 emissions shall not exceed 0.0006 lb/MMBtu.

D.9.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the maltrodextrin spray dryer (MP39) shall be no control and NOx emissions shall not exceed 0.06 lb/MMBtu.

D.9.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.9.5 PM, PM10, and NOx Control

(a) In order to comply with Condition D.9.1, the dry carbon storage bin, maltrodextrin drying system, filter aid storage bin, maltrodextrin transfer system, maltrodextrin storage bins, maltrodextrin loadout and screening process, and maltrodextrin central vacuum system PM/PM10 emissions shall be controlled by bin vent filter MPC61, scrubber MPC39, bin vent filter MPC60, baghouse MPC42, bin vent filters MPC44, dust collector MPC41, and dust collector MPC43 at all times the respective facilities are in operation.

(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

D.9.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.9.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from scrubber MPC39, baghouse MPC42, and dust collectors MCP41 and 43 while the respective processes are in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

(b) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.9.3, the Permittee shall perform NOx testing on the maltrodextrin dryer while the dryer is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.9.7 Scrubber Monitoring

(a) The Permittee shall monitor the exhaust air stream pressure drop and scrubbant flow rate of scrubber MPC39 at least once per day when the respective scrubber is in operation.

(b) When for any one reading, the exhaust air stream pressure drop is outside the normal range of 4.0 and 12.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) When for any one reading, the scrubbant flow rate is less than 30 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(d) The instrument used for determining the pressure drop or 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.9.8 Baghouse/Collector Monitoring

(a) The Permittee shall record the pressure drop across the baghouse (MPC42) and dust collectors (MPC41 and MPC43) used in conjunction with the maltrodextrin transfer system, maltrodextrin loadout and screening processes, and the maltrodextrin central vacuum system at least once per day when the respective facilities are in operation.

(b) When for any one reading, the pressure drop is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) The instrument used for determining the pressure drop 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.9.9 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the maltrodextrin production processes (stacks MP39, MP42, MP44, MP41, and MP43) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stack exhaust from the maltrodextrin production processes (stacks MP60 and MPC61) shall be performed once per week during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) 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.

(d) 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.

(e) 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.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.9.10 Broken or Failed Bag, Bin Vent Filter, or Dust Collector Detection

(a) For a single compartment baghouse, bin vent filter, or dust collector 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, bin vent filter, or dust collector 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 unit. 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, filter, or collector failure can be indicated by a significant drop in the baghouse’s or collector'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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.9.11 Record Keeping Requirements

(a) To document compliance with Condition D.9.7, the Permittee shall maintain daily records of the readings required by those conditions. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(b) To document compliance with Condition D.9.8, the Permittee shall maintain daily records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) To document compliance with Condition D.9.9, the Permittee shall maintain daily or weekly records of the visible emission notations required by that condition. The Permittee shall include in its daily or weekly 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 or week).

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

## SECTION D.10 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(b) One (1) anaerobic wastewater treatment process, installed in March 2000, with H2S emissions controlled by a caustic wet scrubber, approved for construction in 2008, identified as UPC55, and equipped with an emergency flare, identified as UPC56.

Upon exiting scrubber UPC55, the biogas can be:

(1) Combusted in one (1) 18 MMBtu/hr biogas flare, identified as UPC54, with all emissions exhausted through Stack UP54;

(2) Used as fuel in the germ dryer.

(3) Used as fuel in the gluten dryers.

(4) Used as fuel in the starch dryer.

(5) Used as fuel in thermal oxidizers FPC34a and FPC34b.

Supporting the wastewater treatment process is a wastewater treatment lime feed system, consisting of:

(6) One (1) storage bin, approved for construction in 2008, with a capacity of 30,000 pounds of lime per hour with particulate emissions controlled by one (1) bin vent filter, identified as UPC52, with emissions exhausted through stack UP52.

(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 2-7-5(1)]**

D.10.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for H2S [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for H2S from biogas generation from the anaerobic digestion at the waste water treatment plant shall be 100% destruction of the H2S by combustion.

All biogas shall be combusted in one or more of the following combustion units:

(1) one 18 MMBtu/hr flare (UPC54)
(2) one (1) emergency flare (UPC56)
(3) one (1) germ dryer
(4) two (2) gluten dryers
(5) one (1) starch dryer
(6) thermal oxidizers FPC34a and FPC34b

Pursuant to PSD BACT for SO2, upon installation of the biogas gas scrubber, all biogas generated from anaerobic digestion at the waste water treatment plant will be scrubbed prior to combustion.

D.10.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 generated during combustion of biogas, shall be as follows:

(a) All biogas shall be controlled by wet caustic scrubber UPC55.

(b) The overall control efficiency for scrubber UPC55 (including the capture efficiency and adsorption efficiency) shall be at least 90% or the H2S outlet concentration shall not exceed 550 ppm.

(c) The H2S emissions from scrubber UPC55 shall not exceed 2.44 lbs/hr, which is equivalent to 4.58 lbs/hr of SO2 generated during combustion of biogas.

D.10.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for PM and PM10 emissions (including filterable and condensible PM10) from the lime storage bin and the emergency biogas flare shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility (Control) | Stack | PM Limit | PM10 Limit | Opacity |
|---|---|---|---|---|
| lime storage bin (bin vent filter SPC52) | SP52 | 0.005 gr/dscf<br>0.05 lb/hr | 0.005 gr/dscf<br>0.05 lb/hr | 3% |
| emergency biogas flare | UP56 | 0.0019 lb/MMBtu | 0.0019 lb/MMBtu | N/A |

D.10.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for VOC emissions from the emergency biogas flare shall be at least 98% overall control efficiency of VOC.

D.10.5 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the emergency biogas flare (UPC56) shall be no control and NOx emissions shall not exceed 0.07 lb/MMBtu.

D.10.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.10.7 Hydrogen Sulfide (H2S) and Sulfur Dioxide (SO2)

In order to comply with Conditions D.10.1 and D.10.2:

(a) Once installed, the scrubber (UPC55), used to prevent SO2 emissions by removing H2S from biogas, shall be in operation at all times when biogas is produced from anaerobic digestion at the waste water treatment plant and combusted in any one or more of the following emission units:

(1) one 18 MMBtu/hr flare (UPC54)
(2) one (1) germ dryer
(3) two (2) gluten dryers
(4) one (1) starch dryer
(5) thermal oxidizers FPC34a and FPC34b

(b) When the amount of the biogas produced by anaerobic digestion at the waste water treatment plant exceeds the capacities of the germ dryer, the gluten dryers, the starch dryer, thermal oxidizers FPC34a and FPC34b, and the main flare (UPC54), then the emergency flare (UPC56) shall operate to combust the biogas at all times when biogas may be vented to it.

(c) Whenever inspection or maintenance of the biogas scrubber (UPC55) or blowers occurs that requires biogas from the anaerobic digester be isolated to allow for maintenance to be performed safely, the biogas shall be vented to the emergency flare (UPC56).

(d) The Permittee shall measure on a daily basis the hydrogen sulfide content of the untreated biogas and the total amount of biogas treated by the scrubber (UPC55). Whenever the concentration of hydrogen sulfide exceeds 5500 ppm or the amount of biogas vented to the scrubber exceeds 50,000 cubic feet per hour, the Permittee shall calculate an average hourly sulfur dioxide emission rate.

If the biogas is directed to the emergency flare (UPC56), the total amount of untreated biogas burned by the emergency flare (UPC56) shall be measured and used to calculate an average hourly daily sulfur dioxide emission rate.

D.10.8 Particulate Control

(a) In order to comply with Condition D.10.3, bin vent filter UPC52, used to control particulate emissions, shall be in operation at all times the storage bin is in operation.

(b) In the event that bag failure is observed in a multi-compartment bin vent filter, 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.10.9 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Within sixty (60) days after achieving maximum capacity, but not more than one hundred and eighty (180) days after startup of the biogas scrubber, in order to demonstrate compliance with Condition D.10.2, H2S testing on the inlet and outlet of the biogas scrubber (UPC55) shall be performed while biogas is venting to the scrubber. All hydrogen sulfide measured will be assumed to have been converted to sulfur dioxide in flares UPC54 and UPC56, the germ dryer, the gluten dryers, the CGF dryer, and the starch dryer, and in the thermal oxidizers FPC34a and FPC34b. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C-Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.10.10 Flare Pilot Flame

The presence of a flare pilot flame (for flares UPC54 and UPC56) shall be monitored using a thermocouple, or any other equivalent device, to detect the presence of a flame.

D.10.11 Monitoring for Scrubber

(a) The Permittee shall monitor the scrubber pH of the scrubbing liquor at least once per day from scrubber UPC55 used to scrub the biogas from the anaerobic digestion process at the waste water treatment plant.

(b) A continuous monitoring system shall be operated at all times scrubber UPC55 is in operation. The monitoring system shall continuously measure and record the scrubber flow rate from scrubber UPC55 controlling biogas emissions. The output of this system shall be recorded as a 1-hr average.

(c) If the pH reading is outside of the normal range, or 1-hr average flow rate is below the minimum flow rate for any one reading, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances.

(1) The normal pH range for Scrubber UPC55 is 9 to 11.5, a pH range recommended by the manufacturer, or a pH range established during the latest stack test.

(2) The minimum 1-hr average flow rate for Scrubber UPC55 is 70 gpm, a minimum flow rate recommended by the manufacturer, or a minimum flow rate established during the latest stack test.

(d) A pH reading that is outside of the normal range, a pH range recommended by the manufacturer, or a pH range established during the latest stack test; or a 1-hr average flow rate that is below the normal minimum flow rate, a minimum flow rate recommended by the manufacturer, or a minimum flow rate established during the latest stack test for any one reading 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.

(e) The instruments used for determining the flow rate and pH shall comply with Section C - Instrument Specifications of this permit, and shall be calibrated at least once every six (6) months. The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.

D.10.12 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the lime storage bin (stack UP52) shall be performed once per week during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stack exhaust from the emergency biogas flare stack (UP56) shall be performed once per day when the flare is in operation. A trained employee shall record whether emissions are normal or abnormal.

(c) 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.

(d) 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.

(e) 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.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.10.13 Broken or Failed Bin Vent Filter Detection

(a) For a single compartment bin vent filter 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 bin vent filter 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 unit. 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).

Bin vent filter failure can be indicated by a significant drop in the filter'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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.10.14 Record Keeping Requirements

(a) To document compliance with Condition D.10.1, the Permittee shall maintain:

(1) A log of the daily H2S content before the scrubber (UPC55), the total amount of the biogas generated and the total amount of biogas burned in the emergency flare (UPC56). The Permittee shall include in its daily log when a record is not taken and the reason for the lack of a record (e.g. the process did not operate that day).

(2) Records of all calculations used to determine the SO2 emissions from the combustion of biogas in the emergency flare (UPC56).

(b) To document compliance with Condition D.10.11, the Permittee shall maintain records of the scrubber pH and scrubber's recirculation rate from scrubber UPC55

(c) To document compliance with Condition D.10.12(a), the Permittee shall maintain weekly records of the visible emission notations required by that condition. The Permittee shall include in its weekly 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 week).

(d) To document compliance with Condition D.10.12(b), the Permittee shall maintain daily records of the visible emission notations required by that condition. 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).

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

## SECTION D.11 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(c) Two (2) natural gas or alcohol fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 244 MMBtu/hr, installed in March 2000, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

(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 2-7-5(1)]

D.11.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology for SO2 for Boiler 1 and Boiler 2, shall be as follows:

(a) The SO2 emissions from each boiler shall not exceed 0.0006 lb/MMbtu when combusting natural gas.

(b) The Sulfur (S) content of the alcohol heads and by-product waste oil shall not exceed 6.9 ppm.

(c) The amount of alcohol heads and by-product waste oil combusted shall not exceed six hundred (600) gallons per hour.

D.11.2 Prevention of Significant Deterioration (PSD) -Best Available Control Technology [326 IAC 2-2] [326 IAC 6-2-4]

Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, the Best Available Control Technology (PSD BACT) for Boiler 1 and Boiler 2 shall be as follows:

(a) The PM/PM10 emissions from each boiler shall not exceed 2.44 pounds per hour.

(b) The NOx emissions shall not exceed 0.05 lb/MMBtu during periods of normal operation and 0.20 lb/MMBtu during periods of startup, shutdown, and malfunction.

(c) NOx emissions shall be controlled using a low NOx burner/flue gas recirculation system.

(d) The Permittee shall minimize the CO emissions through the use of combustion controls on each boiler. The controls will measure the oxygen content of the flue gas to determine the efficient operating conditions.

D.11.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.11.4 Sulfur Dioxide Emissions and Sulfur Content for alcohol heads and by-product waste oil

(a) The Permittee shall demonstrate that the alcohol heads and by-product waste oil sulfur content does not exceed six and nine-tenths parts per million by weight (6.9 ppm), in accordance with 326 IAC 3-7-4(a).

(b) Prior to combusting alcohol heads and by-product waste oil contained in the vertical burn tank, identified as Tank AP94, a sample shall be collected and analyzed according the following:

(1) Sampling shall occur when the tank has been refilled since the prior sampling event.

(2) Sampling shall occur whenever the elapsed time since the prior sampling event is greater than one (1) month.

(c) A determination of noncompliance shall not be refuted by evidence of compliance pursuant to any other method.

D.11.5 NOx and CO Control

(a) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in order to comply with Condition D.11.2(b), the flue gas recirculation system, used to control NOx emissions, shall be in operation at all times Boiler 1 or Boiler 2 is in operation.

(b) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in order to comply with Condition D.11.2(b), the combustion controls, used to minimize CO emissions, shall be in operation at all times Boiler 1 or Boiler 2 is in operation. The controls will measure the oxygen content of the flue gas to determine the efficient operating conditions.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.11.6 Continuous Emissions Monitoring [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5, continuous emission monitoring systems (CEMS) for Boiler 1 and Boiler 2 shall be installed, calibrated, maintained, and operated for measuring NOx and O2 which meet all applicable performance specifications of 326 IAC 3-5-2.

(b) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(c) Pursuant to 326 IAC 3-5-4, if revisions are made to the continuous monitoring standard operating procedures (SOP), the Permittee shall submit updates to the department biennially.

(d) Relative accuracy tests and routine quarterly audits shall be performed in accordance with the contents of the standard operating procedures (SOP) pursuant to 326 IAC 3-5-5.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5 and 40 CFR Part 60.

D.11.7 Visible Emissions Notations

(a) Visible emission notations of the boiler's stack exhaust shall be performed once per day during normal daylight operations when exhausting to the atmosphere when combusting alcohol waste and by-product waste oil. 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.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.11.8 Record Keeping Requirements

(a) To document compliance with Condition D.11.1, the Permittee shall maintain records in accordance with (1) and (2) below.

(1) Dates and results of analyzed samples.

(2) Actual alcohol heads and by-product waste oil combusted on an hourly basis.

(b) To document compliance with Condition D.11.6, the Permittee shall maintain records of the continuous emission monitoring data for NOx and O2 in accordance with 326 IAC 3-5.

(c) To document compliance with Condition D.11.7, the Permittee shall maintain records of daily visible emission notations of the boiler's stack exhaust when combusting alcohol heads and by-product waste oil.

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

D.11.9 Reporting Requirements

(a) The natural gas Boiler 4 certification form will document compliance with condition D.11.1 when the Boilers 1 and 2 are burning natural gas. The certification form shall be submitted quarterly to the address listed in Section C - General Reporting Requirements of this permit.

(b) The Permittee shall submit reports in accordance 326 IAC 3-5.

The reports submitted by the Permittee do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**New Source Performance Standards (NSPS) Requirements – 40 CFR Part 60, Subpart Db [326 IAC 2-7-5(1)]**

D.11.10 General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR Part 60, Subpart Db, 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 Boiler 1 and Boiler 2 except as otherwise specified in 40 CFR Part 60, Subpart Db.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

D.11.11 New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units: Requirements [40 CFR Part 60, Subpart Db]

Pursuant to 40 CFR 60.40b, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart Db for Boiler 1 and Boiler 2 as specified as follows:

(1) 40 CFR 60.40b(a)
(2) 40 CFR 60.40b(g)
(3) 40 CFR 60.40b(j)
(4) 40 CFR 60.40b(k)
(5) 40 CFR 60.44b(a)
(6) 40 CFR 60.44b(f)
(7) 40 CFR 60.44b(h)
(8) 40 CFR 60.44b(i)
(9) 40 CFR 60.44b(l)
(10) 40 CFR 60.46b(c)
(11) 40 CFR 60.46b (e)(1)
(12) 40 CFR 60.46b (e)(4)
(13) 40 CFR 60.48b(b)
(14) 40 CFR 60.48b(c)
(15) 40 CFR 60.48b(d)
(16) 40 CFR 60.48b (e)(2)
(17) 40 CFR 60.49b(a)
(18) 40 CFR 60.49b(b)
(19) 40 CFR 60.49b(c)
(20) 40 CFR 60.49b(d)
(21) 40 CFR 60.49b(g)
(22) 40 CFR 60.49b (h)(2)
(23) 40 CFR 60.49b(i)
(24) 40 CFR 60.49b(j)
(25) 40 CFR 60.49b(o)
(26) 40 CFR 60.49b(v)
(27) 40 CFR 60.49b(w)

## SECTION D.12 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

(e) One (1) process water cooling tower, installed in March 2000, cooling hot process water received from the source processes at a nominal design rate of 18,000,000 pounds per hour, with particulate mist controlled by one (1) mist elimination system, identified as APC38.

(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 2-7-5(1)]

D.12.1 Prevention of Significant Deterioration [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD CP 027-7239-00046, issued on June 10, 1997, the PM/PM10 emissions from the process water cooling tower:

(a) Shall not exceed 4.5 pounds per hour.

(b) Shall be controlled by mist elimination system APC38;

D.12.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.12.3 Particulate Control

Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in order to comply with Condition D.12.1, the mist elimination system, used to control PM emissions, shall be in operation at all times the process water cooling tower is in operation.

## SECTION D.13 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]: Specifically Regulated Insignificant Activities**

(a) Paved and unpaved roads and parking lots with public access [326 IAC 6-4] [326 IAC 6-5].

(b) Stationary fire pumps: One (1) 425 horsepower, No. 2 distillate oil-fired emergency fire water pump engine, installed in March 2000, with all emissions exhausted through Stack UP57 [326 IAC 2-2].

(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 2-7-5(1)]

D.13.1 Prevention of Significant Deterioration [326 IAC 2-2]

Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, the amount of diesel fuel burned in the insignificant emergency fire pump engine shall be limited to 1,128 gallons per twelve (12) consecutive month period with compliance determined at the end of each month. Compliance with this limit will render the requirements of 326 IAC 2-2 not applicable.

### Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.13.2 Record Keeping Requirements

To document compliance with Condition D.13.1, the Permittee shall maintain daily records of the amount of diesel fuel consumed by the emergency fire pump engine.

D.13.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.13.1 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 “responsible official” as defined by 326 IAC 2-7-1(34).

## SECTION E.1 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

All facilities subject to 40 CFR Part 60, Subpart VV - including pumps, compressors, pressure relief devices, sampling connection systems, and valves.

(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 – 40 CFR Part 60, Subpart VVa [326 IAC 2-7-5(1)]**

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

(a) Pursuant to 40 CFR Part 60, Subpart VVa, 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 Part 60, Subpart VV.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

E.1.2 New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced after January 5, 1981, and on or Before November 7, 2006: Requirements [40 CFR Part 60, Subpart VV]

Pursuant to 40 CFR 60.480, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart VV for tanks for all affected facilities as specified as follows:

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

## SECTION E.2 FACILITY OPERATION CONDITIONS

| |
|---|
| **Facility Description [326 IAC 2-7-5(15)]:**<br><br>All facilities subject to 40 CFR Part 60, Subpart VVa - including pumps, compressors, pressure relief devices, sampling connection systems, and valves.<br><br>(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 – 40 CFR Part 60, Subpart VV [326 IAC 2-7-5(1)]**

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

(a) Pursuant to 40 CFR Part 60, Subpart VVa, 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 Part 60, Subpart VVa.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance 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 for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced after November 7, 2006: Requirements [40 CFR Part 60, Subpart VVa]

Pursuant to 40 CFR 60.480a, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart VVa for tanks for all affected facilities as specified as follows:

(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 60.484a
(17) 40 CFR 60.485a
(18) 40 CFR 60.486a
(19) 40 CFR 60.487a
(20) 40 CFR 60.488a
(21) 40 CFR 60.489a

## SECTION E.3 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

All facilities subject to 40 CFR Part 63, Subpart EEEE - including storage tanks, transfer racks, equipment leak components, transport vehicles and containers identified in 40 CFR 63.2338.

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

**National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements – 40 CFR Part 63, Subpart EEEE [326 IAC 2-7-5(1)]**

E.3.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 12-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR Part 63, Subpart EEEE, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR Part 63, Subpart EEEE.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

E.3.2 National Emission Standards for Hazardous Air Pollutants - Organic Liquids Distribution: Requirements [40 CFR Part 63, Subpart EEEE]

Pursuant to 40 CFR 63.2342, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart EEEE for all affected facilities as specified as follows on and after February 2, 2007:

(1) 40 CFR 63.2330
(2) 40 CFR 63.2334
(3) 40 CFR 63.2338
(4) 40 CFR 63.2342
(5) 40 CFR 63.2343
(6) 40 CFR 63.2346
(7) 40 CFR 63.2350
(8) 40 CFR 63.2354
(9) 40 CFR 63.2358
(10) 40 CFR 63.2362
(11) 40 CFR 63.2366
(12) 40 CFR 63.2370
(13) 40 CFR 63.2374
(14) 40 CFR 63.2378
(15) 40 CFR 63.2382
(16) 40 CFR 63.2386
(17) 40 CFR 63.2390
(18) 40 CFR 63.2394
(19) 40 CFR 63.2396
(20) 40 CFR 63.2398
(21) 40 CFR 63.2402

(22) 40 CFR 63.2406

Table 1 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 2 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 3 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 4 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 5 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 6 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 7 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 8 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 9 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 10 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 11 to 40 CFR 63 Subpart EEEE (the applicable portions)
Table 12 to 40 CFR 63 Subpart EEEE (the applicable portions)

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# PART 70 OPERATING PERMIT
# CERTIFICATION

Source Name: Grain Processing Corporation
Source Address: 1443 South 300 West, Washington, IN 47501
Mailing Address: 1443 South 300 West, Washington, IN 47501
Part 70 Permit No.: T027-14200-00046

**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: |
| Phone: |
| Date: |

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
**OFFICE OF AIR QUALITY**
**COMPLIANCE BRANCH**
**100 North Senate Avenue**
**MC 61-53 IGCN 1003**
**Indianapolis, Indiana 46204-2251**
**Phone: 317-233-0178**
**Fax: 317-233-6865**

**PART 70 OPERATING PERMIT**
**EMERGENCY OCCURRENCE REPORT**

Source Name: Grain Processing Corporation
Source Address: 1443 South 300 West, Washington, IN 47501
Mailing Address: 1443 South 300 West, Washington, IN 47501
Part 70 Permit No.: T027-14200-00046

**This form consists of 2 pages** **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-0178, 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 |
| 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 DATA SECTION

# PART 70 OPERATING PERMIT
# SEMI-ANNUAL NATURAL GAS FIRED BOILER CERTIFICATION

| | |
|---|---|
| Source Name: | Grain Processing Corporation |
| Source Address: | 1443 South 300 West, Washington, IN 47501 |
| Mailing Address: | 1443 South 300 West, Washington, IN 47501 |
| Part 70 Permit No.: | T027-14200-00046 |

☐ Natural Gas Only
☐ Alternate Fuel burned
From:______ To:________

| |
|---|
| I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.<br><br>Signature: |
| Printed Name: |
| Title/Position: |
| Phone: |
| Date: |

A certification by the responsible official as defined by 326 IAC 2-7-1(34) is required for this report.

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

## Part 70 Quarterly Report

| | |
|---|---|
| Source Name: | Grain Processing Corporation |
| Source Address: | 1443 South 300 West, Washington, IN 47501 |
| Mailing Address: | 1443 South 300 West, Washington, IN 47501 |
| Part 70 Permit No.: | T027-14200-00046 |
| Facility: | Insignificant fire pump engine |
| Parameter: | Diesel fuel usage |
| Limit: | 1,128 gallons per twelve (12) consecutive month period |

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: ______________________
Title / Position: ______________________
Signature: ______________________
Date: ______________________
Phone: ______________________

Attach a signed certification to complete this report.

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

## Part 70 Quarterly Report

Source Name: Grain Processing Corporation
Source Address: 1443 South 300 West, Washington, IN 47501
Mailing Address: 1443 South 300 West, Washington, IN 47501
PSD/SSM No.: 027-24380-00046
SPM No.: 027-24979-00046
Part 70 Permit No.: T027-14200-00046
Facility: Regenerative Thermal Oxidizers FPC34a and FPC34b
Parameter: SO2 emissions from natural gas and/or biogas combusted
Limit: SO2 emissions shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

| Month | SO2 (tons) | SO2 (tons) | SO2 (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: ______________________
Title / Position: ______________________
Signature: ______________________
Date: ______________________
Phone: ______________________

Attach a signed certification to complete this report.

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

## Part 70 Quarterly Report

Source Name: Grain Processing Corporation
Source Address: 1443 South 300 West, Washington, IN 47501
Mailing Address: 1443 South 300 West, Washington, IN 47501
PSD/SSM No.: 027-24380-00046
SPM No.: 027-24979-00046
Part 70 Permit No.: T027-14200-00046
Facility: Regenerative Thermal Oxidizers FPC34a and FPC34b
Parameter: NOx emissions from natural gas and/or biogas combusted
Limit: NOx emissions shall not exceed forty-three (43) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

| Month | NOx (tons) | NOx (tons) | NOx (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: ______________________
Title / Position: ______________________
Signature: ______________________
Date: ______________________
Phone: ______________________

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
**OFFICE OF AIR QUALITY**
**COMPLIANCE DATA SECTION**
**PART 70 OPERATING PERMIT**
**QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Grain Processing Corporation
Source Address: 1443 South 300 West, Washington, IN 47501
Mailing Address: 1443 South 300 West, Washington, IN 47501
Part 70 Permit No.: T027-14200-00046

**Months: __________ to __________ Year: ____________**

Page 1 of 2

| | |
|---|---|
| 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". | |
| ◻ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD. | |
| ◻ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD | |
| **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:** | |

Page 2 of 2

| | |
|---|---|
| **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.

# Attachment A:
# Preventative Maintenance Plan
# General Plant Fugitive Dust Emissions
**Grain Processing Corporation**
**Washington, Indiana Facility**

This plan is written to comply with the provisions set forth at 326 IAC 1-6-3 Preventative Maintenance Plans

The Grain Processing Corporation plant at Washington contains a number of internal roadways that can be sources of fugitive dust. This document simply describes how internal dust control will be administered.

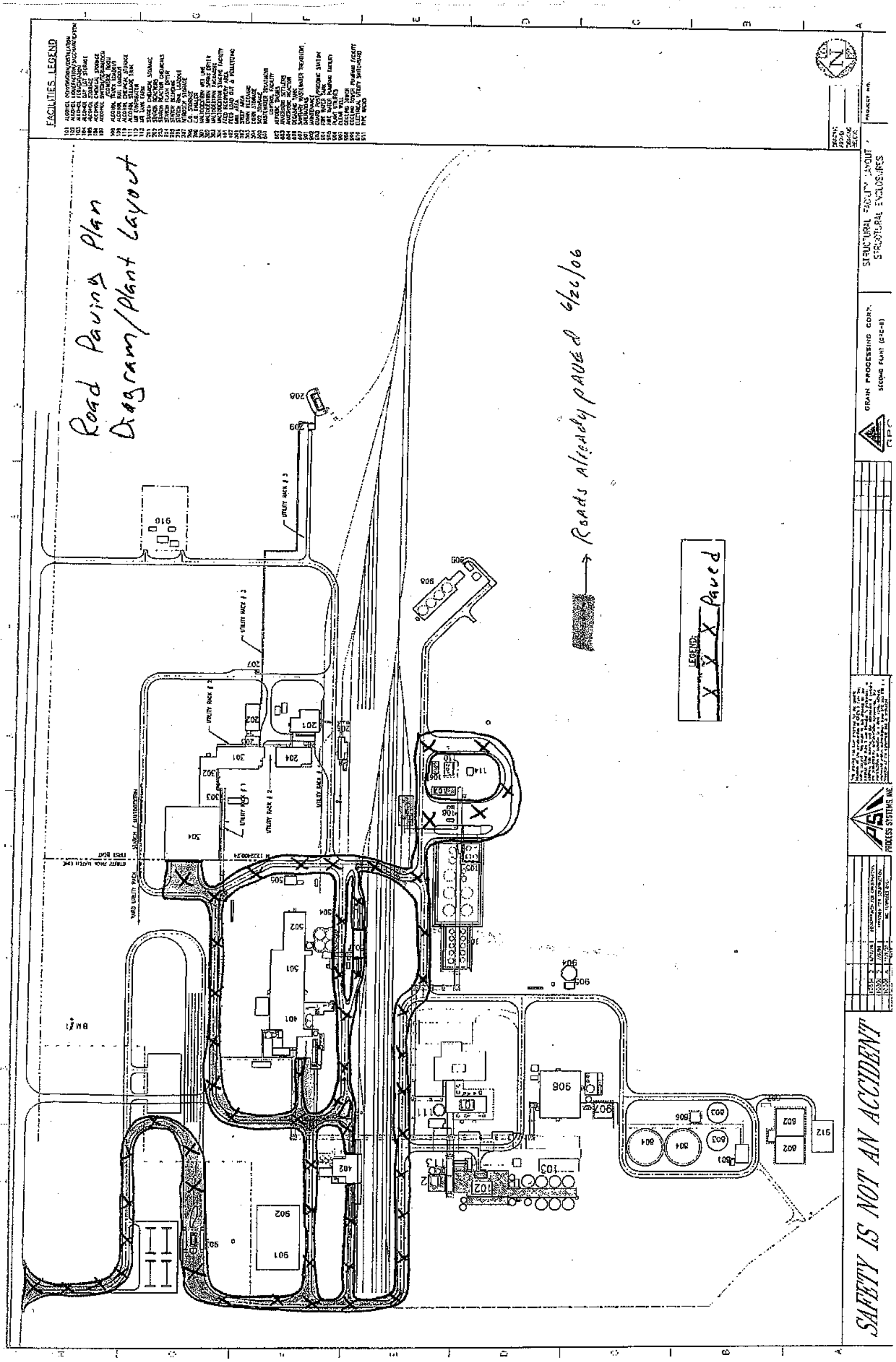
## Responsible Individuals

The Manager of Environmental Services or the Plant Manager will be responsible for ensuring that preventative measures are taken to ensure adequate fugitive dust control from the facility. Visible inspections of ambient dust and roadway dust from in-plant traffic, as well as regular review of the $PM_{10}$ monitoring station results, will help the Manager of Environmental Services decide when and what dust reduction measures are necessary.

## Schedule for Preventative Maintenance: Fugitive Dust Emissions

<u>Daily</u>
On a daily basis, the plant will be surveyed for relative dust conditions. Based on these conditions, the Manager of Environmental Services will make the decision to chemically treat the roadways with an approved dust abatement chemical for longer term dust control, or to sweep or wet the roadways with clean water for short-term, temporary dust control.

<u>Annually</u>
An ongoing paving program in the facility has been initiated. This capital improvement program's purpose is to have all high traffic roads paved by the end of 2008. High traffic roads are those roads that receive truck traffic for delivery of corn or for shipment of products. The remaining unpaved high traffic roads will be paved at a rate of 20% per year, beginning with the roads closest to the plant fence line. See the attached "Road Paving Plan Diagram/Plant Layout" drawing. This drawing indicated all roads that will be paved by the end of 2008. Other roads receive minimal traffic (approximately one vehicle per hour or less) and will have dust controlled by the methods described above.


Road Paving Plan
Diagram/plant Layout
Roads already paved 6/26/06
LEGEND:
Paved
FACILITIES LEGEND
GRAIN PROCESSING CORP.
SAFETY IS NOT AN ACCIDENT

**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**

**Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units**

**Source:** 72 FR 32742, June 13, 2007, unless otherwise noted.

**§ 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 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).

(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 MMBtu/hr), inclusive, are subject to the particulate matter (PM) and nitrogen oxides ($NO_X$) standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are subject to the PM and $NO_X$standards under this subpart and to the sulfur dioxide ($SO_2$) standards under subpart D (§60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the $NO_X$standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are also subject to the $NO_X$standards under this subpart and the PM and $SO_2$standards under subpart D (§60.42 and §60.43).

(c) Affected facilities that also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; §60.104) are subject to the PM and $NO_X$standards under this subpart and the $SO_2$standards under subpart J (§60.104).

(d) Affected facilities that also meet the applicability requirements under subpart E (Standards of performance for incinerators; §60.50) are subject to the $NO_X$and PM 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 total reduced sulfur (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 Clean Air 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) Any affected facility that meets the applicability requirements and is subject to subpart Ea, subpart Eb, or subpart AAAA of this part is not covered by this subpart.

(i) Heat recovery steam generators that are associated with combined cycle gas turbines and that meet the applicability requirements of subpart GG or 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/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.)

(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 affected facility that meets the applicability requirements and is subject to 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.

**§ 60.41b 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 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 ($CO_2$) 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* mean industrial plants that 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 (incorporated by reference, 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, coke oven gas, 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.

*Coke oven gas* means the volatile constituents generated in the gaseous exhaust during the carbonization of bituminous coal to form coke.

*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 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 (incorporated by reference, see §60.17).

*Dry flue gas desulfurization technology* means a $SO_2$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 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 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 steam generating unit.

*Emerging technology* means any $SO_2$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 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.

*Gaseous fuel* means any fuel that is present as a gas at ISO conditions.

*Gross output* means the gross useful work performed by the steam generated. For units generating only electricity, the gross useful work performed is the gross electrical output from the turbine/generator set. For cogeneration units, the gross useful work performed is the gross electrical or mechanical output plus 75 percent of the useful thermal output measured relative to ISO conditions that is not used to generate additional electrical or mechanical output (i.e., steam delivered to an industrial process).

*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 gas turbines, internal combustion engines, kilns, etc.

*Heat release rate* means the steam generating unit design heat input capacity (in MW or Btu/hr) 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-$m^3$ (70,000 Btu/hr-$ft^3$ ).

*ISO Conditions* means a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals.

*Lignite* means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17).

*Low heat release rate* means a heat release rate of 730,000 J/sec-$m^3$ (70,000 Btu/hr-$ft^3$ ) 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) liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, 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 $SO_2$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.

*Pulp and paper mills* means industrial plants that 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 (incorporated by reference, 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 and produces steam or heats 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* means for units constructed, reconstructed, or modified on or before February 28, 2005, an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without $SO_2$emission control, has a $SO_2$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 $SO_2$emission control, has a $SO_2$emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input.

*Wet flue gas desulfurization technology* means a $SO_2$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 PM or $SO_2$.

*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.

**§ 60.42b Standard for sulfur dioxide (SO2).**

(a) Except as provided in paragraphs (b), (c), (d), or (k) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever 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 oil shall cause to be discharged into the atmosphere any gases that contain $SO_2$in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential $SO_2$emission rate (90 percent reduction) and the emission limit determined according to the following formula:

Where:

$E_s$= $SO_2$emission limit, in ng/J or lb/MMBtu heat input;

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

$K_b$= 340 ng/J (or 0.80 lb/MMBtu);

$H_a$= Heat input from the combustion of coal, in J (MMBtu); and

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

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 the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(b) On and after the date on which the 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 refuse alone in a fluidized bed combustion steam generating unit shall cause to be discharged into the atmosphere any gases that contain $SO_2$in excess of 87 ng/J (0.20 lb/MMBtu) or 20 percent (0.20) of the potential $SO_2$emission rate (80 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. If coal or oil is fired with coal refuse, the affected facility is subject to paragraph (a) or (d) of this section, as applicable.

(c) On and after the date on which the performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that combusts coal or oil, either alone or in combination with any other fuel, and that uses an emerging technology for the control of $SO_2$emissions, shall cause to be discharged into the atmosphere any gases that contain $SO_2$in excess of 50 percent of the potential $SO_2$emission rate (50 percent reduction) and that contain $SO_2$in excess of the emission limit determined according to the following formula:

Where:

$E_s$= $SO_2$emission limit, in ng/J or lb/MM Btu heat input;

$K_c$= 260 ng/J (or 0.60 lb/MMBtu);

$K_d$= 170 ng/J (or 0.40 lb/MMBtu);

$H_c$= Heat input from the combustion of coal, in J (MMBtu); and

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

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 the combustion of natural gas, wood, municipal-type solid waste, or other fuels, or from the heat input derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(d) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 and listed in paragraphs (d)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere any gases that contain $SO_2$in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/MMBtu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under paragraphs (d)(1), (2), (3) or (4) of this section.

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less;

(2) Affected facilities located in a noncontinental area; or

(3) Affected facilities combusting coal or oil, alone or in combination with any fuel, 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 and oil in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from the exhaust gases entering the duct burner; or

(4) The affected facility burns coke oven gas alone or in combination with natural gas or very low sulfur distillate oil.

(e) Except as provided in paragraph (f) of this section, compliance with the emission limits, fuel oil sulfur limits, and/or percent reduction requirements under this section are determined on a 30-day rolling average basis.

(f) Except as provided in paragraph (j)(2) of this section, compliance with the emission limits or fuel oil sulfur limits under this section is determined on a 24-hour average basis for affected facilities that (1) have a federally enforceable permit limiting the annual capacity factor for oil to 10 percent or less, (2) combust only very low sulfur oil, and (3) do not combust any other fuel.

(g) Except as provided in paragraph (i) of this section and §60.45b(a), the $SO_2$emission limits and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(h) Reductions in the potential $SO_2$emission rate through fuel pretreatment are not credited toward the percent reduction requirement under paragraph (c) of this section unless:

(1) Fuel pretreatment results in a 50 percent or greater reduction in potential $SO_2$emissions and

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

(i) An affected facility subject to paragraph (a), (b), or (c) of this section may combust very low sulfur oil or natural gas when the $SO_2$control system is not being operated because of malfunction or maintenance of the $SO_2$control system.

(j) Percent reduction requirements are not applicable to affected facilities combusting only very low sulfur oil. The owner or operator of an affected facility combusting very low sulfur oil shall demonstrate that the oil meets the definition of very low sulfur oil by: (1) Following the performance testing procedures as described in §60.45b(c) or §60.45b(d), and following the monitoring procedures as described in §60.47b(a) or §60.47b(b) to determine $SO_2$emission rate or fuel oil sulfur content; or (2) maintaining fuel records as described in §60.49b(r).

(k)(1) Except as provided in paragraphs (k)(2), (k)(3), and (k)(4) 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, 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, natural gas, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that contain $SO_2$in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential $SO_2$emission rate (92 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input.

(2) Units firing only very low sulfur oil and/or a mixture of gaseous fuels with a potential $SO_2$emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the $SO_2$emissions limit in paragraph 60.42b(k)(1).

(3) Units that are located in a noncontinental area and that combust coal or oil shall not discharge any gases that contain $SO_2$in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.50 lb/MMBtu) heat input if the affected facility combusts oil.

(4) As an alternative to meeting the requirements under paragraph (k)(1) of this section, modified facilities that combust coal or a mixture of coal with other fuels shall not cause to be discharged into the atmosphere any gases that contain $SO_2$in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential $SO_2$emission rate (90 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input.

**§ 60.43b Standard for particulate matter (PM).**

(a) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever 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, 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, (i) If the affected facility combusts only coal, or

(ii) If the affected facility combusts coal and 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 and other fuels and 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.

(3) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts coal or coal and other fuels and

(i) Has an annual capacity factor for coal or coal and other fuels of 30 percent (0.30) or less,

(ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for coal or coal and other solid fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, and before November 25, 1986.

(4) An affected facility burning coke oven gas alone or in combination with other fuels not subject to a PM standard under §60.43b and not using a post-combustion technology (except a wet scrubber) for reducing PM or $SO_2$emissions is not subject to the PM limits under §60.43b(a).

(b) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce $SO_2$emissions 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.

(c) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain PM in excess of the following emission limits:

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

(2) 86 ng/J (0.20 lb/MMBtu) heat input if (i) The affected facility has an annual capacity factor of 30 percent (0.30) or less for wood;

(ii) Is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for wood; and

(iii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less.

(d) 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 combusts municipal-type solid waste or mixtures of municipal-type solid waste with other fuels, 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) 43 ng/J (0.10 lb/MMBtu) heat input;

(i) If the affected facility combusts only municipal-type solid waste; or

(ii) If the affected facility combusts municipal-type solid waste and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts municipal-type solid waste or municipal-type solid waste and other fuels; and

(i) Has an annual capacity factor for municipal-type solid waste and other fuels of 30 percent (0.30) or less;

(ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less;

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for municipal-type solid waste, or municipal-type solid waste and other fuels; and

(iv) Construction of the affected facility commenced after June 19, 1984, but on or before November 25, 1986.

(e) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal, wood, or municipal-type solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum heat input capacity.

(f) 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 combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere 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.

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

(h)(1) Except as provided in paragraphs (h)(2), (h)(3), (h)(4), and (h)(5) 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, whichever date comes first, no owner or operator of an affected facility that commenced 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 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,

(2) As an alternative to meeting the requirements of paragraph (h)(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, 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 maximum heat input capacity of 73 MW (250 MMBtu/h) or less 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, 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 maximum heat input capacity greater than 73 MW (250 MMBtu/h) shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 37 ng/J (0.085 lb/MMBtu) heat input.

(5) 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 0.3 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard under §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce $SO_2$or PM emissions is not subject to the PM limits under §60.43b(h)(1).

**§ 60.44b   Standard for nitrogen oxides (NOX).**

(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, 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 $NO_X$(expressed as $NO_2$) in excess of the following emission limits:

| **Fuel/steam generating unit type** | **Nitrogen oxide emission limits (expressed as $NO_2$) heat input** | |
|---|---|---|
| | **ng/J** | **lb/MMBTu** |
| (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 |

(b) 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, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain $NO_X$in excess of a limit determined by the use of the following formula:

Where:

$E_n$= $NO_X$emission limit (expressed as $NO_2$), ng/J (lb/MMBtu);

$EL_{go}$= Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

$H_{go}$= Heat input from combustion of natural gas or distillate oil, J (MMBtu);

$EL_{ro}$= Appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/MMBtu);

$H_{ro}$= Heat input from combustion of residual oil, J (MMBtu);

$EL_c$= Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

$H_c$= Heat input from combustion of coal, J (MMBtu).

(c) Except as provided under paragraph (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, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, or a mixture of these fuels with natural gas, and wood, municipal-type solid waste, or any other fuel shall cause to be discharged into the atmosphere any gases that contain $NO_X$in excess of the emission limit for the coal or oil, or mixtures of these fuels with natural gas combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section, unless the affected facility has an annual capacity factor for coal or oil, or mixture of these fuels with natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, or a mixture of these fuels with natural gas.

(d) 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 simultaneously combusts natural gas with wood, municipal-type solid waste, or other solid fuel, except coal, shall cause to be discharged into the atmosphere from that affected facility any gases that contain $NO_X$ in excess of 130 ng/J (0.30 lb/MMBtu) heat input unless the affected facility has an annual capacity factor for natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas.

(e) Except as provided under paragraph (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, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere any gases that contain $NO_X$ in excess of the emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

Where:

$E_n$ = $NO_X$ emission limit (expressed as $NO_2$), ng/J (lb/MMBtu);

$EL_{go}$ = Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

$H_{go}$ = Heat input from combustion of natural gas, distillate oil and gaseous byproduct/waste, J (MMBtu);

$EL_{ro}$ = Appropriate emission limit from paragraph (a)(2) for combustion of residual oil and/or byproduct/waste, ng/J (lb/MMBtu);

$H_{ro}$ = Heat input from combustion of residual oil, J (MMBtu);

$EL_c$ = Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

$H_c$ = Heat input from combustion of coal, J (MMBtu).

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a $NO_X$ emission limit that shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as $NO_X$ emissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific $NO_X$ emission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, by conducting a 30-day performance test as provided in §60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The $NO_X$emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific $NO_X$emission limit will be established at the $NO_X$emission level achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing $NO_X$emissions. In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific $NO_X$limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40 CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility for a waiver from compliance with the $NO_X$emission limit that applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on $NO_X$emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the affected facility is able to comply with the $NO_X$emission limits required by this section. The owner or operator of the affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement preclude compliance with the $NO_X$emission limits of this section. The $NO_X$emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, are applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70 for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).) In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific $NO_X$limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(h) For purposes of paragraph (i) of this section, the $NO_X$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.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

(1) Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;

(2) Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and

(3) Are subject to a federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j)(1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 MMBtu/hr) or less, are not subject to the $NO_X$ emission limits under this section.

(l) 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 commenced construction or reconstruction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain $NO_X$ (expressed as $NO_2$) in excess of the following limits:

(1) If the affected facility combusts coal, oil, or natural gas, or a mixture of these fuels, or with any other fuels: A limit of 86 ng/J (0.20 lb/MMBtu) heat input unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas; or

(2) If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input on a 30-day rolling average from the combustion of all fuels, a limit determined by use of the following formula:

Where:

$E_n$ = $NO_X$ emission limit, (lb/MMBtu);

$H_{go}$ = 30-day heat input from combustion of natural gas or distillate oil; and

$H_r$ = 30-day heat input from combustion of any other fuel.

(3) After February 27, 2006, units where more than 10 percent of total annual output is electrical or mechanical may comply with an optional limit of 270 ng/J (2.1 lb/MWh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of §60.48Da(i) of subpart Da of this part, and must monitor emissions according to §60.49Da(c), (k), through (n) of subpart Da of this part.

**§ 60.45b Compliance and performance test methods and procedures for sulfur dioxide.**

(a) The $SO_2$ emission standards under §60.42b apply at all times. Facilities burning coke oven gas alone or in combination with any other gaseous fuels or distillate oil and complying with the fuel based limit under §60.42b(d) or §60.42b(k)(2) are allowed to exceed the limit 30 operating days per calendar year for by-product plant maintenance.

(b) In conducting the performance tests required under §60.8, the owner or operator shall use the methods and procedures in appendix A (including fuel certification and sampling) of this part or the methods and procedures as specified in this section, except as provided in §60.8(b). 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.

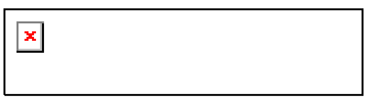
(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential $SO_2$emission rate (% $P_s$) and the $SO_2$emission rate ($E_s$) pursuant to §60.42b following the procedures listed below, except as provided under paragraph (d) and (k) of this section.

(1) The initial performance test shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the $SO_2$standards 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 affected facility will be operated, but not later than 180 days after initial startup of the facility.

(2) If only coal, only oil, or a mixture of coal and oil is combusted, the following procedures are used:

(i) The procedures in Method 19 of appendix A of this part are used to determine the hourly $SO_2$emission rate ($E_{ho}$) and the 30-day average emission rate ($E_{ao}$). The hourly averages used to compute the 30-day averages are obtained from the continuous emission monitoring system (CEMS) of §60.47b (a) or (b).

(ii) The percent of potential $SO_2$emission rate (%$P_s$) emitted to the atmosphere is computed using the following formula:



Where:

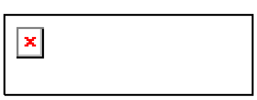
%$P_s$= Potential $SO_2$emission rate, percent;

%$R_g$= $SO_2$removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

%$R_f$= $SO_2$removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(3) If coal or oil is combusted with other fuels, the same procedures required in paragraph (c)(2) of this section are used, except as provided in the following:

(i) An adjusted hourly $SO_2$emission rate ($E_{ho}^{o}$ ) is used in Equation 19–19 of Method 19 of appendix A of this part to compute an adjusted 30-day average emission rate ($E_{ao}^{o}$ ). The Eho° is computed using the following formula:



Where:

$E_{ho}^{o}$ = Adjusted hourly $SO_2$emission rate, ng/J (lb/MMBtu);

$E_{ho}$= Hourly $SO_2$emission rate, ng/J (lb/MMBtu);

$E_w$= $SO_2$concentration in fuels other than coal and oil combusted in the affected facility, as determined by the 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; and

$X_k$= Fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(ii) To compute the percent of potential $SO_2$emission rate (%$P_s$), an adjusted %$R_g$(%$R_g^o$ ) is computed from the adjusted $E_{ao}^o$ from paragraph (b)(3)(i) of this section and an adjusted average $SO_2$inlet rate ($E_{ai}^o$ ) using the following formula:

To compute $E_{ai}^o$ , an adjusted hourly $SO_2$inlet rate ($E_{hi}^o$ ) is used. The $E_{hi}^o$ is computed using the following formula:

Where:

$E_{hi}^o$ = Adjusted hourly $SO_2$inlet rate, ng/J (lb/MMBtu); and

$E_{hi}$= Hourly $SO_2$inlet rate, ng/J (lb/MMBtu).

(4) The owner or operator of an affected facility subject to paragraph (b)(3) of this section does not have to measure parameters $E_w$or $X_k$if the owner or operator elects to assume that $X_k$= 1.0. Owners or operators of affected facilities who assume $X_k$= 1.0 shall:

(i) Determine %$P_s$following the procedures in paragraph (c)(2) of this section; and

(ii) Sulfur dioxide emissions ($E_s$) are considered to be in compliance with $SO_2$emission limits under §60.42b.

(5) The owner or operator of an affected facility that qualifies under the provisions of §60.42b(d) does not have to measure parameters $E_w$or $X_k$under paragraph (b)(3) of this section if the owner or operator of the affected facility elects to measure $SO_2$emission rates of the coal or oil following the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(d) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility that combusts only very low sulfur oil, has an annual capacity factor for oil of 10 percent (0.10) or less, and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for oil of 10 percent (0.10) or less shall:

(1) Conduct the initial performance test over 24 consecutive steam generating unit operating hours at full load;

(2) Determine compliance with the standards after the initial performance test based on the arithmetic average of the hourly emissions data during each steam generating unit operating day if a CEMS is used, or based on a daily average if Method 6B of appendix A of this part or fuel sampling and analysis procedures under Method 19 of appendix A of this part are used.

(e) The owner or operator of an affected facility subject to §60.42b(d)(1) shall demonstrate the maximum design capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. This demonstration will be made during the initial performance test and a subsequent demonstration may be requested at any other time. If the 24-hour average firing rate for the affected facility is less than the maximum design capacity provided by the manufacturer of the affected facility, the 24-hour average firing rate shall be used to determine the capacity utilization rate for the affected facility, otherwise the maximum design capacity provided by the manufacturer is used.

(f) For the initial performance test required under §60.8, compliance with the $SO_2$emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for $SO_2$for the first 30 consecutive steam generating unit operating days, except as provided under paragraph (d) of this section. The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

(g) After the initial performance test required under §60.8, compliance with the $SO_2$emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for $SO_2$for 30 successive steam generating unit operating days, except as provided under paragraph (d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for $SO_2$are calculated to show compliance with the standard.

(h) Except as provided under paragraph (i) of this section, the owner or operator of an affected facility shall use all valid $SO_2$emissions data in calculating $\%P_s$and $E_{ho}$under paragraph (c), of this section whether or not the minimum emissions data requirements under §60.46b are achieved. All valid emissions data, including valid $SO_2$emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating $\%P_s$and $E_{ho}$pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the $SO_2$control systems when oil is combusted as provided under §60.42b(i), emission data are not used to calculate $\%P_s$or $E_s$under §60.42b(a), (b) or (c), however, the emissions data are used to determine compliance with the emission limit under §60.42b(i).

(j) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r).

(k) The owner or operator of an affected facility seeking to demonstrate compliance under §§60.42b(d)(4), 60.42b(j), and 60.42b(k)(2) shall follow the applicable procedures under §60.49b(r).

**§ 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.**

(a) The PM emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction. The $NO_X$emission standards under §60.44b apply at all times.

(b) Compliance with the PM emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) of this section.

(c) Compliance with the $NO_X$ 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.

(d) To determine compliance with the PM emission limits and opacity limits under §60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, using the following procedures and reference methods:

(1) Method 3B of appendix A of this part is used for gas analysis when applying Method 5 or 17 of appendix A of this part.

(2) 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 shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

(ii) Method 17 of appendix A of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (32 °F). The procedures of sections 2.1 and 2.3 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A of this part after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.

(3) Method 1 of appendix A of this part is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(4) For Method 5 of appendix A of this part, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160±14 °C (320±25 °F).

(5) For determination of PM emissions, the oxygen ($O_2$) or $CO_2$ sample is 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.

(6) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rate expressed in ng/J heat input is determined using:

(i) The $O_2$ or $CO_2$ 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.

(7) Method 9 of appendix A of this part is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for $NO_X$ 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 $NO_X$ under §60.48(b).

(1) For the initial compliance test, $NO_X$ 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 $NO_X$ 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.

(2) Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility which combusts coal or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the $NO_X$ emission standards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly $NO_X$ emission data for the preceding 30 steam generating unit operating days.

(3) Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity greater than 73 MW (250 MMBtu/hr) and that combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the $NO_X$ standards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly $NO_X$ emission data for the preceding 30 steam generating unit operating days.

(4) Following the date on which the initial 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 has a heat input capacity of 73 MW (250 MMBtu/hr) or less and that combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the $NO_X$ standards under §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, $NO_X$ emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the $NO_X$ emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly $NO_X$ emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility that combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in §60.49b(e), the requirements of §60.48b(g)(1) apply and the provisions of §60.48b(g)(2) are inapplicable.

(f) To determine compliance with the emissions limits for $NO_X$ required by §60.44b(a)(4) or §60.44b(l) for duct burners used in combined cycle systems, either of the procedures described in paragraph (f)(1) or (2) of this section may be used:

(1) The owner or operator of an affected facility shall conduct the performance test required under §60.8 as follows:

(i) The emissions rate (E) of $NO_X$ shall be computed using Equation 1 in this section:

Where:

E = Emissions rate of $NO_X$ from the duct burner, ng/J (lb/MMBtu) heat input;

$E_{sg}$= Combined effluent emissions rate, in ng/J (lb/MMBtu) heat input using appropriate F factor as described in Method 19 of appendix A of this part;

$H_g$= Heat input rate to the combustion turbine, in J/hr (MMBtu/hr);

$H_b$= Heat input rate to the duct burner, in J/hr (MMBtu/hr); and

$E_g$= Emissions rate from the combustion turbine, in ng/J (lb/MMBtu) heat input calculated using appropriate F factor as described in Method 19 of appendix A of this part.

(ii) Method 7E of appendix A of this part shall be used to determine the $NO_X$ concentrations. Method 3A or 3B of appendix A of this part shall be used to determine $O_2$ concentration.

(iii) The owner or operator shall identify and demonstrate to the Administrator's satisfaction suitable methods to determine the average hourly heat input rate to the combustion turbine and the average hourly heat input rate to the affected duct burner.

(iv) Compliance with the emissions limits under §60.44b(a)(4) or §60.44b(l) is determined by the three-run average (nominal 1-hour runs) for the initial and subsequent performance tests; or

(2) The owner or operator of an affected facility may elect to determine compliance on a 30-day rolling average basis by using the CEMS specified under §60.48b for measuring $NO_X$ and $O_2$ and meet the requirements of §60.48b. The sampling site shall be located at the outlet from the steam generating unit. The $NO_X$ emissions rate at the outlet from the steam generating unit shall constitute the $NO_X$ emissions rate from the duct burner of the combined cycle system.

(g) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall demonstrate the maximum heat input capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. The owner or operator of an affected facility shall determine the maximum heat input capacity using the heat loss method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1 (incorporated by reference, see §60.17). This demonstration of maximum heat input capacity shall be made during the initial performance test for affected facilities that meet the criteria of §60.44b(j). It shall be made within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of each facility, for affected facilities meeting the criteria of §60.44b(k). Subsequent demonstrations may be required by the Administrator at any other time. If this demonstration indicates that the maximum heat input capacity of the affected facility is less than that stated by the manufacturer of the affected facility, the maximum heat input capacity determined during this demonstration shall be used to determine the capacity utilization rate for the affected facility. Otherwise, the maximum heat input capacity provided by the manufacturer is used.

(h) The owner or operator of an affected facility described in §60.44b(j) that has a heat input capacity greater than 73 MW (250 MMBtu/hr) shall:

(1) Conduct an initial performance test as required under §60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the

$NO_X$emission standards under §60.44b using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the $NO_X$emission standards under §60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods.

(i) The owner or operator of an affected facility seeking to demonstrate compliance under paragraph §60.43b(h)(5) shall follow the applicable procedures under §60.49b(r).

(j) In place of PM testing with EPA Reference Method 5, 5B, or 17 of appendix A 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 EPA Method 5, 5B, or 17 of appendix A of this part shall comply with the requirements specified in paragraphs (j)(1) through (j)(13) of this section.

(1) Notify the Administrator one month before starting use of the system.

(2) Notify the Administrator one 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 the 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 (j) 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 paragraphs (j)(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 (j)(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 (j)(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 $O_2$(or $CO_2$) data shall be collected concurrently (or within a 30-to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (j)(7)(i) of this section.

(i) For PM, EPA Reference Method 5, 5B, or 17 of appendix A of this part shall be used.

(ii) For $O_2$(or $CO_2$), EPA reference Method 3, 3A, or 3B of appendix A 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 per 30-day rolling average.

**§ 60.47b Emission monitoring for sulfur dioxide.**

(a) Except as provided in paragraphs (b), (f), and (h) of this section, the owner or operator of an affected facility subject to the $SO_2$standards under §60.42b shall install, calibrate, maintain, and operate CEMS for measuring $SO_2$concentrations and either $O_2$or $CO_2$concentrations and shall record the output of the systems. For units complying with the percent reduction standard, the $SO_2$and either $O_2$or $CO_2$concentrations shall both be monitored at the inlet and outlet of the $SO_2$control device. If the owner or operator has installed and certified $SO_2$and $O_2$or $CO_2$CEMS according to the requirements of §75.20(c)(1) of this chapter and appendix A to part 75 of this chapter, and is continuing to meet the ongoing quality assurance requirements of §75.21 of this chapter and appendix B to part 75 of this chapter, those CEMS may be used to meet the requirements of this section, provided that:

(1) When relative accuracy testing is conducted, $SO_2$concentration data and $CO_2$(or $O_2$) data are collected simultaneously; and

(2) In addition to meeting the applicable $SO_2$and $CO_2$(or $O_2$) relative accuracy specifications in Figure 2 of appendix B to part 75 of this chapter, the relative accuracy (RA) standard in section 13.2 of Performance Specification 2 in appendix B to this part is met when the RA is calculated on a lb/MMBtu basis; and

(3) The reporting requirements of §60.49b are met. $SO_2$and $CO_2$(or $O_2$) data used to meet the requirements of §60.49b shall not include substitute data values derived from the missing data procedures in subpart D of part 75 of this chapter, nor shall the $SO_2$data have been bias adjusted according to the procedures of part 75 of this chapter.

(b) As an alternative to operating CEMS as required under paragraph (a) of this section, an owner or operator may elect to determine the average $SO_2$emissions and percent reduction by:

(1) Collecting coal or oil samples in an as-fired condition at the inlet to the steam generating unit and analyzing them for sulfur and heat content according to 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 $SO_2$input rate, or

(2) Measuring $SO_2$according to Method 6B of appendix A of this part at the inlet or outlet to the $SO_2$control 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 $SO_2$and $CO_2$measurement train operated at the candidate location and a second similar train operated according to the procedures in section 3.2 and the applicable procedures in section 7 of Performance Specification 2. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 or 3B 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.

(3) A daily $SO_2$emission rate, $E_D$, shall be determined using the procedure described in Method 6A of appendix A of this part, section 7.6.2 (Equation 6A–8) and stated in ng/J (lb/MMBtu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/MMBtu) for 30 successive steam generating unit operating days using equation 19–20 of Method 19 of appendix A of this part.

(c) The owner or operator of an affected facility shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler 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 or the reference methods and procedures as described in paragraph (b) of this section.

(d) The 1-hour average $SO_2$emission rates measured by the CEMS required by paragraph (a) of this section and required under §60.13(h) is expressed in ng/J or lb/MMBtu heat input and is used to calculate the average emission rates under §60.42(b). Each 1-hour average $SO_2$emission rate must be based on 30 or more minutes of steam generating unit operation. The hourly averages shall be calculated according to §60.13(h)(2). Hourly $SO_2$emission rates are not calculated if the affected facility is operated less than 30 minutes in a given clock hour and are not counted toward determination of a steam generating unit operating day.

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) Except as provided for in paragraph (e)(4) of this section, 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) Except as provided for in paragraph (e)(4) of this section, 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 combusting coal or oil, alone or in combination with other fuels, the span value of the $SO_2$CEMS at the inlet to the $SO_2$control device is 125 percent of the maximum estimated hourly potential $SO_2$emissions of the fuel combusted, and the span value of the CEMS at the outlet to the $SO_2$control device is 50 percent of the maximum estimated hourly potential $SO_2$emissions of the fuel combusted. Alternatively, $SO_2$span values determined according to section 2.1.1 in appendix A to part 75 of this chapter may be used.

(4) As an alternative to meeting the requirements of requirements of paragraphs (e)(1) and (e)(2) of this section, the owner or operator may elect to implement the following alternative data accuracy assessment procedures:

(i) For all required $CO_2$and $O_2$monitors and for $SO_2$and $NO_X$monitors with span values less than 100 ppm, the daily calibration error test and calibration adjustment procedures described in sections 2.1.1 and 2.1.3 of appendix B to part 75 of this chapter may be followed instead of the CD assessment procedures in Procedure 1, section 4.1 of appendix F to this part. If this option is selected, the data validation and out-of-control provisions in sections 2.1.4 and 2.1.5 of appendix B to part 75 of this chapter shall be followed instead of the excessive CD and out-of-control criteria in Procedure 1, section 4.3 of appendix F to this part. For the purposes of data validation under this subpart, the excessive CD and out-of-control criteria in Procedure 1, section 4.3 of appendix F to this part shall apply to $SO_2$and $NO_X$span values less than 100 ppm;

(ii) For all required $CO_2$and $O_2$monitors and for $SO_2$and $NO_X$monitors with span values greater than 30 ppm, quarterly linearity checks may be performed in accordance with section 2.2.1 of appendix B to part 75 of this chapter, instead of performing the cylinder gas audits (CGAs) described in Procedure 1, section 5.1.2 of appendix F to this part. If this option is selected: The frequency of the linearity checks shall be as specified in section 2.2.1 of appendix B to part 75 of this chapter; the applicable linearity specifications in section 3.2 of appendix A to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.2.3 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.2.4 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the cylinder gas audits described in Procedure 1, section 5.1.2 of appendix F to this part shall be performed for $SO_2$and $NO_X$span values less than or equal to 30 ppm; and

(iii) For $SO_2$, $CO_2$, and $O_2$monitoring systems and for $NO_X$emission rate monitoring systems, RATAs may be performed in accordance with section 2.3 of appendix B to part 75 of this chapter instead of following the procedures described in Procedure 1, section 5.1.1 of appendix F to this part. If this option is selected: The frequency of each RATA shall be as specified in section 2.3.1 of appendix B to part 75 of this chapter; the applicable relative accuracy specifications shown in Figure 2 in appendix B to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.3.2 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.3.3 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the relative accuracy specification in section 13.2 of Performance Specification 2 in appendix B to this part shall be met on a lb/MMBtu basis for $SO_2$(regardless of the $SO_2$emission level during the RATA), and for $NO_X$when the average $NO_X$emission rate measured by the reference method during the RATA is less than 0.100 lb/MMBtu.

(f) The owner or operator of an affected facility that combusts very low sulfur oil or is demonstrating compliance under §60.45b(k) is not subject to the emission monitoring requirements under paragraph (a) of this section if the owner or operator maintains fuel records as described in §60.49b(r).

**§ 60.48b Emission monitoring for particulate matter and nitrogen oxides.**

(a) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility subject to the opacity standard under §60.43b shall install, calibrate, maintain, and operate a CEMS for measuring the opacity of emissions discharged to the atmosphere and record the output of the system.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a $NO_X$standard under §60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate CEMS for measuring $NO_X$and $O_2$(or $CO_2$) emissions discharged to the atmosphere, and shall record the output of the system; or

(2) If the owner or operator has installed a $NO_X$emission rate CEMS to meet the requirements of part 75 of this chapter and is continuing to meet the ongoing requirements of part 75 of this chapter, that CEMS may be used to meet the requirements of this section, except that the owner or operator shall also meet the requirements of §60.49b. Data reported to meet the requirements of §60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of this chapter, nor shall the data have been bias adjusted according to the procedures of part 75 of this chapter.

(c) The CEMS required under paragraph (b) of this section 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.

(d) The 1-hour average $NO_X$emission rates measured by the continuous $NO_X$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.

(1) For affected facilities combusting coal, wood or municipal-type solid waste, the span value for a continuous monitoring system for measuring opacity shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for $NO_X$is determined using one of the following procedures:

(i) Except as provided under paragraph (e)(2)(ii) of this section, $NO_X$span values shall be determined as follows:

| **Fuel** | **Span values for $NO_X$ (ppm)** |
|---|---|
| Natural gas | 500. |
| Oil | 500. |
| Coal | 1,000. |
| Mixtures | 500 (x + y) + 1,000z. |

Where:

x = Fraction of total heat input derived from natural gas;

y = Fraction of total heat input derived from oil; and

z = Fraction of total heat input derived from coal.

(ii) As an alternative to meeting the requirements of paragraph (e)(2)(i) of this section, the owner or operator of an affected facility may elect to use the $NO_X$span values determined according to section 2.1.2 in appendix A to part 75 of this chapter.

(3) All span values computed under paragraph (e)(2)(i) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm. Span values computed under paragraph (e)(2)(ii) of this section shall be rounded off according to section 2.1.2 in appendix A to part 75 of this chapter.

(f) When $NO_X$ emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of this part, Method 7A of appendix A of this part, 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 MMBtu/hr) or less, and that 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 $NO_X$ emission rates as specified in a plan submitted pursuant to §60.49b(c).

(h) The owner or operator of a duct burner, as described in §60.41b, that is subject to the $NO_X$ standards of §60.44b(a)(4) or §60.44b(l) is not required to install or operate a continuous emissions monitoring system to measure $NO_X$ emissions.

(i) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) is not required to install or operate a CEMS for measuring $NO_X$ emissions.

(j) The owner or operator of an affected facility that meets the conditions in either paragraph (j)(1), (2), (3), (4), or (5) of this section is not required to install or operate a COMS for measuring opacity if:

(1) The affected facility uses a PM CEMS to monitor PM emissions; or

(2) The affected facility burns only liquid (excluding residual oil) or gaseous fuels with potential $SO_2$ emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and does not use a post-combustion technology to reduce $SO_2$ or PM emissions. The owner or operator must maintain fuel records of the sulfur content of the fuels burned, as described under §60.49b(r); or

(3) The affected facility burns coke oven gas alone or in combination with fuels meeting the criteria in paragraph (j)(2) of this section and does not use a post-combustion technology to reduce $SO_2$ or PM emissions; or

(4) The affected facility does not use post-combustion technology (except a wet scrubber) for reducing PM, $SO_2$, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a steam generating unit operating day average basis. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (j)(4)(i) through (iv) of this section.

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (j)(4)(i)(A) through (D) of this section.

(A) 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.

(B) 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).

(C) 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. At least two data points per hour must be used to calculate each 1-hour average.

(D) 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.

(ii) 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.

(iii) 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.

(iv) You must record the CO measurements and calculations performed according to paragraph (j)(4) 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.

(5) The affected facility burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the appropriate delegated permitting authority. 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.

(k) Owners or operators complying with the PM emission limit by using a PM CEMS monitor instead of monitoring opacity must calibrate, maintain, and operate a CEMS, and record the output of the system, for PM emissions discharged to the atmosphere as specified in §60.46b(j). The CEMS specified in paragraph §60.46b(j) 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.

**§ 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;

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i);

(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

(4) Notification that an emerging technology will be used for controlling emissions of $SO_2$. The Administrator will examine the description of the emerging technology 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 §60.42b(a) unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the $SO_2$, PM, and/or $NO_X$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 of this part. 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 $NO_X$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. 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. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and $NO_X$emission rates ( *i.e.* , ng/J or lbs/MMBtu 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 $O_2$level);

(2) Include the data and information that the owner or operator used to identify the relationship between $NO_X$emission rates and these operating conditions; and

(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).

(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.

(e) For an affected facility that combusts residual oil and meets the criteria under §§60.46b(e)(4), 60.44b(j), or (k), the owner or operator shall maintain records of the nitrogen content of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content for the reporting period.

The nitrogen content shall be determined using ASTM Method D4629 (incorporated by reference, see §60.17), or fuel suppliers. If residual oil blends are being combusted, fuel nitrogen specifications may be prorated based on the ratio of residual oils of different nitrogen content in the fuel blend.

(f) For facilities subject to the opacity standard under §60.43b, the owner or operator shall maintain records of opacity.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the $NO_X$ 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 $NO_X$ emission rates (expressed as $NO_2$) (ng/J or lb/MMBtu heat input) measured or predicted;

(3) The 30-day average $NO_X$ emission rates (ng/J or lb/MMBtu 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 $NO_X$ emission rates are in excess of the $NO_X$ 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 CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h)(1) or (2) of this section is required to submit excess emission reports for any excess emissions that occurred during the reporting period.

(1) Any affected facility subject to the opacity standards under §60.43b(e) or to the operating parameter monitoring requirements under §60.13(i)(1).

(2) Any affected facility that is subject to the $NO_X$ standard of §60.44b, and that:

(i) Combusts natural gas, distillate oil, or residual oil with a nitrogen content of 0.3 weight percent or less; or

(ii) Has a heat input capacity of 73 MW (250 MMBtu/hr) or less and is required to monitor $NO_X$ emissions on a continuous basis under §60.48b(g)(1) or steam generating unit operating conditions under §60.48b(g)(2).

(3) For the purpose of §60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under §60.43b(f).

(4) For purposes of §60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average $NO_X$ emission rate, as determined under §60.46b(e), that exceeds the applicable emission limits in §60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for $NO_X$ under §60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.

(j) The owner or operator of any affected facility subject to the $SO_2$ standards under §60.42b shall submit reports.

(k) For each affected facility subject to the compliance and performance testing requirements of §60.45b and the reporting requirement in paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates covered in the reporting period;

(2) Each 30-day average $SO_2$ emission rate (ng/J or lb/MMBtu heat input) measured during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(3) Each 30-day average percent reduction in $SO_2$ emissions calculated during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(4) Identification of the steam generating unit operating days that coal or oil was combusted and for which $SO_2$ or diluent ($O_2$ or $CO_2$) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken;

(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action 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 “F” factor used for calculations, method of determination, and type of fuel combusted;

(7) Identification of times when hourly averages have been obtained based on manual sampling methods;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS 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 of this part; and

(11) The annual capacity factor of each fired as provided under paragraph (d) of this section.

(l) For each affected facility subject to the compliance and performance testing requirements of §60.45b(d) and the reporting requirements of paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates when the facility was in operation during the reporting period;

(2) The 24-hour average $SO_2$emission rate measured for each steam generating unit operating day during the reporting period that coal or oil was combusted, ending in the last 24-hour period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(3) Identification of the steam generating unit operating days that coal or oil was combusted for which $S0_2$or diluent ($O_2$or $CO_2$) 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 description of corrective action taken;

(4) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit;

(5) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(6) Identification of times when hourly averages have been obtained based on manual sampling methods;

(7) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(8) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Procedure 1 of appendix F 1 of this part. If the owner or operator elects to implement the alternative data assessment procedures described in §§60.47b(e)(4)(i) through (e)(4)(iii), each data assessment report shall include a summary of the results of all of the RATAs, linearity checks, CGAs, and calibration error or drift assessments required by §§60.47b(e)(4)(i) through (e)(4)(iii).

(m) For each affected facility subject to the $SO_2$standards under §60.42(b) for which the minimum amount of data required under §60.47b(f) were not obtained during the reporting period, the following information is reported to the Administrator in addition to that required under paragraph (k) of this section:

(1) The number of hourly averages available for outlet emission rates and inlet emission rates;

(2) The standard deviation of hourly averages for outlet emission rates and inlet emission rates, as determined in Method 19 of appendix A of this part, section 7;

(3) The lower confidence limit for the mean outlet emission rate and the upper confidence limit for the mean inlet emission rate, as calculated in Method 19 of appendix A of this part, section 7; and

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19 of appendix A of this part, section 7.

(n) If a percent removal efficiency by fuel pretreatment ( *i.e.* , $\%R_f$) is used to determine the overall percent reduction ( *i.e.* , $\%R_o$) under §60.45b, the owner or operator of the affected facility shall submit a signed statement with the report.

(1) Indicating what removal efficiency by fuel pretreatment ( *i.e.* , $\%R_f$) was credited during the reporting period;

(2) Listing the quantity, heat content, and date each pre-treated fuel shipment was received during the reporting period, the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the reporting period;

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit; and

(4) Including a signed statement from the owner or operator of the fuel pretreatment facility certifying that the percent removal efficiency achieved by fuel pretreatment was determined in accordance with the provisions of Method 19 of appendix A of this part and listing the heat content and sulfur content of each fuel before and after fuel pretreatment.

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p) The owner or operator of an affected facility described in §60.44b(j) or (k) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The number of hours of operation; and

(3) A record of the hourly steam load.

(q) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator a report containing:

(1) The annual capacity factor over the previous 12 months;

(2) The average fuel nitrogen content during the reporting period, if residual oil was fired; and

(3) If the affected facility meets the criteria described in §60.44b(j), the results of any $NO_X$emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last $NO_X$emission test.

(r) The owner or operator of an affected facility who elects to use the fuel based compliance alternatives in §60.42b or §60.43b shall either:

(1) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) or §60.42b(k)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier that certify that the oil meets the definition of distillate oil as defined in §60.41b and the applicable sulfur limit. For the purposes of this section, the distillate oil

need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition and/or pipeline quality natural gas was combusted in the affected facility during the reporting period; or

(2) The owner or operator of an affected facility who elects to demonstrate compliance based on fuel analysis in §60.42b or §60.43b shall develop and submit a site-specific fuel analysis plan to the Administrator for review and approval no later than 60 days before the date you intend to demonstrate compliance. Each fuel analysis plan shall include a minimum initial requirement of weekly testing and each analysis report shall contain, at a minimum, the following information:

(i) The potential sulfur emissions rate of the representative fuel mixture in ng/J heat input;

(ii) The method used to determine the potential sulfur emissions rate of each constituent of the mixture. For distillate oil and natural gas a fuel receipt or tariff sheet is acceptable;

(iii) The ratio of different fuels in the mixture; and

(iv) The owner or operator can petition the Administrator to approve monthly or quarterly sampling in place of weekly sampling.

(s) Facility specific $NO_X$ standard for Cytec Industries Fortier Plant's C.AOG incinerator located in Westwego, Louisiana:

(1) *Definitions* .

*Oxidation zone* is defined as the portion of the C.AOG incinerator that extends from the inlet of the oxidizing zone combustion air to the outlet gas stack.

*Reducing zone* is defined as the portion of the C.AOG incinerator that extends from the burner section to the inlet of the oxidizing zone combustion air.

*Total inlet air* is defined as the total amount of air introduced into the C.AOG incinerator for combustion of natural gas and chemical by-product waste and is equal to the sum of the air flow into the reducing zone and the air flow into the oxidation zone.

(2) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the $NO_X$ emission limit for fossil fuel in §60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the $NO_X$ emission limit is 289 ng/J (0.67 lb/MMBtu) and a maximum of 81 percent of the total inlet air provided for combustion shall be provided to the reducing zone of the C.AOG incinerator.

(3) *Emission monitoring* . (i) The percent of total inlet air provided to the reducing zone shall be determined at least every 15 minutes by measuring the air flow of all the air entering the reducing zone and the air flow of all the air entering the oxidation zone, and compliance with the percentage of total inlet air that is provided to the reducing zone shall be determined on a 3-hour average basis.

(ii) The $NO_X$ emission limit shall be determined by the compliance and performance test methods and procedures for $NO_X$ in §60.46b(i).

(iii) The monitoring of the $NO_X$ emission limit shall be performed in accordance with §60.48b.

(4) *Reporting and recordkeeping requirements* . (i) The owner or operator of the C.AOG incinerator shall submit a report on any excursions from the limits required by paragraph (a)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the C.AOG incinerator shall keep records of the monitoring required by paragraph (a)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of the C.AOG incinerator shall perform all the applicable reporting and recordkeeping requirements of this section.

(t) Facility-specific $NO_X$ standard for Rohm and Haas Kentucky Incorporated's Boiler No. 100 located in Louisville, Kentucky:

(1) *Definitions* .

*Air ratio control damper* is defined as the part of the low $NO_X$ burner that is adjusted to control the split of total combustion air delivered to the reducing and oxidation portions of the combustion flame.

*Flue gas recirculation line* is defined as the part of Boiler No. 100 that recirculates a portion of the boiler flue gas back into the combustion air.

(2) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the $NO_X$ emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the $NO_X$ emission limit is 473 ng/J (1.1 lb/MMBtu), and the air ratio control damper tee handle shall be at a minimum of 5 inches (12.7 centimeters) out of the boiler, and the flue gas recirculation line shall be operated at a minimum of 10 percent open as indicated by its valve opening position indicator.

(3) *Emission monitoring for nitrogen oxides* . (i) The air ratio control damper tee handle setting and the flue gas recirculation line valve opening position indicator setting shall be recorded during each 8-hour operating shift.

(ii) The $NO_X$ emission limit shall be determined by the compliance and performance test methods and procedures for $NO_X$ in §60.46b.

(iii) The monitoring of the $NO_X$ emission limit shall be performed in accordance with §60.48b.

(4) *Reporting and recordkeeping requirements* . (i) The owner or operator of Boiler No. 100 shall submit a report on any excursions from the limits required by paragraph (b)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of Boiler No. 100 shall keep records of the monitoring required by paragraph (b)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of Boiler No. 100 shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(u) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia* . (1) This paragraph (u) applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia (“site”) and only to the natural gas-fired boilers installed as part of the powerhouse conversion required pursuant to 40 CFR 52.2454(g). The requirements of this paragraph shall apply, and the requirements of §§60.40b through 60.49b(t) shall not apply, to the natural gas-fired boilers installed pursuant to 40 CFR 52.2454(g).

(i) The site shall equip the natural gas-fired boilers with low $NO_X$technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring $NO_X$emissions discharged to the atmosphere and opacity using a continuous emissions monitoring system or a predictive emissions monitoring system.

(iii) Within 180 days of the completion of the powerhouse conversion, as required by 40 CFR 52.2454, the site shall perform a performance test to quantify criteria pollutant emissions.

(2) [Reserved]

(v) The owner or operator of an affected facility may submit electronic quarterly reports for $SO_2$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.

(x) Facility-specific $NO_X$standard for Weyerhaeuser Company's No. 2 Power Boiler located in New Bern, North Carolina:

(1) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the $NO_X$emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the $NO_X$emission limit is 215 ng/J (0.5 lb/MMBtu).

(2) *Emission monitoring for nitrogen oxides* . (i) The $NO_X$emissions shall be determined by the compliance and performance test methods and procedures for $NO_X$in §60.46b.

(ii) The monitoring of the $NO_X$emissions shall be performed in accordance with §60.48b.

(3) *Reporting and recordkeeping requirements* . (i) The owner or operator of the No. 2 Power Boiler shall submit a report on any excursions from the limits required by paragraph (x)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of the No. 2 Power Boiler shall keep records of the monitoring required by paragraph (x)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the No. 2 Power Boiler shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(y) Facility-specific $NO_X$ standard for INEOS USA's AOGI located in Lima, Ohio:

(1) *Standard for NO* $_X$. (i) When fossil fuel alone is combusted, the $NO_X$ emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical byproduct/waste are simultaneously combusted, the $NO_X$ emission limit is 645 ng/J (1.5 lb/MMBtu).

(2) *Emission monitoring for NO* $_X$. (i) The $NO_X$ emissions shall be determined by the compliance and performance test methods and procedures for $NO_X$ in §60.46b.

(ii) The monitoring of the $NO_X$ emissions shall be performed in accordance with §60.48b.

(3) *Reporting and recordkeeping requirements* . (i) The owner or operator of the AOGI shall submit a report on any excursions from the limits required by paragraph (y)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the AOGI shall keep records of the monitoring required by paragraph (y)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the AOGI shall perform all the applicable reporting and recordkeeping requirements of this section.

This document was downloaded from the following source on December 5, 2007:

Subpart DB--STANDARDS OF PERFORMANCE FOR INDUSTRIAL-COMMERCIAL-INSTITUTIONAL STEAM GENERATING UNITS

**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

**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 $m^3$ 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 $m^3$ but less than 151 $m^3$ 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 $m^3$ 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 $m^3$ but less than 151 $m^3$ 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 $m^3$ 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 theFederal Registera 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 §61.112b(a)(1) or §60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with §61.112b(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 $m^3$ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 $m^3$ but less than 151 $m^3$ 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 $m^3$ 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 $m^3$ but less than 151 $m^3$ 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 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.

[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]

**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

**Subpart VV—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006**

**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, reconstruction, or modification after January 5, 1981, and on or before 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 §60.486(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 §§60.482–1 through 60.482–10.

(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from §§60.482–1 through 60.482–10.

(4) Any affected facility that produces beverage alcohol is exempt from §§60.482–1 through 60.482–10.

(5) Any affected facility that has no equipment in volatile organic compounds (VOC) service is exempt from §§60.482–1 through 60.482–10.

(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 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.

(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 and 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) *Subpart VVa* . Owners or operators may choose to comply with the provisions of subpart VVa of this part 60 to satisfy the requirements of this subpart VV for an affected facility.

(f) *Stay of standards* . Owners or operators are not required to comply with the definition of “process unit” in §60.481 and the requirements in §60.482–1(g) of this subpart until the EPA takes final action to require compliance and publishes a document in theFederal Register.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.

[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; 72 FR 64879, Nov. 16, 2007, 73 FR 31379, June 2, 2008; 73 FR 31375, June 2, 2008]

**§ 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 Value 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-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 subpart.

*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, PO 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 §60.485(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 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 §60.482–1(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 §§60.482–2(b)(2)(ii) and (d)(6)(ii) and (iii), 60.482–3(f), and 60.482–10(f)(1)(ii), is re-monitored as specified in §60.485(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.

[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; 72 FR 64879, Nov. 16, 2007]

**Effective Date Note:** At 73 FR 31375, June 2, 2008, in §60.481, the definition of “process unit” was stayed until further notice.

**§ 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).

(e) Equipment that an owner or operator designates as being in VOC service less than 300 hours (hr)/yr is excluded from the requirements of §§60.482–2 through 60.482–10 if it is identified as required in §60.486(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 and valves at the frequency specified in the following table instead of monitoring as specified in §§60.482–2, 60.482–7, and 60.483–2:

| **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 subpart VVa of this part, 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 subpart VVa of this part, the storage vessel is assigned to any process unit subject to this subpart. 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.

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 78276, Dec. 14, 2000; 72 FR 64880, Nov. 16, 2007]

**Effective Date Note:** At 73 FR 31375, June 2, 2008, in §60.482–1, paragraph (g) was stayed until further notice.

**§ 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 (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 §60.482–1(c) and (f) 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 §60.482–1(f).

(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, 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 if the instrument reading for that monitoring event was less than 10,000 ppm and the pump was not repaired since that monitoring event.

(i) Monitor the pump within 5 days as specified in §60.485(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. 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 within 15 days of detection 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 §60.482–9.

(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 §60.482–10; 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)(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.

(A) Monitor the pump within 5 days as specified in §60.485(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 10,000 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) of this section 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 §60.486(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), (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; 72 FR 64880, Nov. 16, 2007]

**§ 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 paragraphs (h), (i), and (j) 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 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.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000; 72 FR 64881, Nov. 16, 2007]

**§ 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-purge, closed-loop, or closed-vent system, except as provided in §60.482–1(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 §60.482–10.

(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 §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 §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 §§61.343 through 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 FR 43258, Aug. 18, 1995, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000; 72 FR 64881, Nov. 16, 2007]

**§ 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) 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) 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; 72 FR 64881, Nov. 16, 2007]

**§ 60.482-7 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 §60.485(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, §60.482–1(c) and (f), and §§60.483–1 and 60.483–2.

(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, §60.482–1(c), and §§60.483–1 and 60.483–2.

(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 valves on the process unit are monitored in accordance with §60.483–1 or §60.483–2, count the new valve as leaking when calculating the percentage of valves leaking as described in §60.483–2(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 10,000 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 2 or 3 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 §60.482–9.

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

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

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

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

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

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

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

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

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

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

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

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

(2) The process unit within which the valve is located either becomes an affected facility through §60.14 or §60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and

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

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 61762, Oct. 17, 2000; 72 FR 64881, Nov. 16, 2007]

**§ 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 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 §60.482–9.

(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 §§60.482–2(c)(2) and 60.482–7(e).

[48 CFR 48335, Oct. 18, 1983, as amended at 65 FR 78277, Dec. 14, 2000; 72 FR 64882, Nov. 16, 2007]

**§ 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. 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 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.

(f) When delay of repair is allowed for a leaking pump or valve that remains in service, the pump or valve 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.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 78277, Dec. 14, 2000; 72 FR 64882, Nov. 16, 2007]

**§ 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, determined as described in §60.485(h).

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000; 72 FR 64882, Nov. 16, 2007]

**§ 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 as described in §60.485(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 §60.482–7(a)(2)(i) or (ii) before the provisions of this section can be applied to that valve.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000; 72 FR 64882, Nov. 16, 2007]

**§ 60.484 Equivalence of means of emission limitation.**

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

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

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

(2) The Administrator will compare test data for 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).

(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 theFederal Registerand 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 theFederal Register.

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

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

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

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 72 FR 64882, Nov. 16, 2007]

**§ 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 §§60.482–1 through 60.482–10, 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 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. $H_2O$ at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. $H_2O$ at 68 °F) is equal to or greater than 20 percent by weight.

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

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

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

(1) Method 22 shall be used to determine visible emissions.

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

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

Where:

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

$H_T$= Net heating value of the gas being combusted, MJ/scm (Btu/scf).

$K_1$= 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

$K_2$= 0.7084 $m^4$ /(MJ-sec) (metric units)

= 0.087 $ft^4$ /(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:

Where:

K = Conversion constant, $1.740 \times 10^{-7}$ (g-mole)(MJ)/(ppm-scm-kcal) (metric units) = $4.674 \times 10^{-6}$ [(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 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 parts per million by volume) 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.

(h) The owner or operator shall determine compliance with §60.483–1 or §60.483–2 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 §60.482–7(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.

[54 FR 6678, Feb. 14, 1989, as amended at 54 FR 27016, June 27, 1989; 65 FR 61763, Oct. 17, 2000; 72 FR 64882, Nov. 16, 2007]

**§ 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. 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 §60.482–4.

(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.

(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 §60.482–1(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.

(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; 72 FR 64883, Nov. 16, 2007]

**§ 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), (d)(4)(ii)(A) or (B), or (d)(5)(iii),

(iv) Number of pumps for which leaks were not repaired as required in §60.482–2(c)(1) and (d)(6),

(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; 72 FR 64883, Nov. 16, 2007]

### § 60.488 Reconstruction.

For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable new facility” under §60.15: pump seals, nuts and bolts, rupture disks, and packings.

(b) Under §60.15, the “fixed capital cost of new components” includes the fixed capital cost of all depreciable components (except components specified in §60.488 (a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the “Applicability and designation of affected facility” section of the appropriate subpart.) For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

[49 FR 22608, May 30, 1984]

### § 60.489 List of chemicals produced by affected facilities.

The following chemicals are produced, as intermediates or final products, by process units covered under this subpart. The applicability date for process units producing one or more of these chemicals is January 5, 1981.

| CAS No.[a] | Chemical |
| --- | --- |
| 105–57–7 | Acetal. |
| 75–07–0 | Acetaldehyde. |
| 107–89–1 | Acetaldol. |
| 60–35–5 | Acetamide. |
| 103–84–4 | Acetanilide. |
| 64–19–7 | Acetic acid. |
| 108–24–7 | Acetic anhydride. |
| 67–64–1 | Acetone. |
| 75–86–5 | Acetone cyanohydrin. |
| 75–05–8 | Acetonitrile. |
| 98–86–2 | Acetophenone. |
| 75–36–5 | Acetyl chloride. |
| 74–86–2 | Acetylene. |
| 107–02–8 | Acrolein. |
| 79–06–1 | Acrylamide. |
| 79–10–7 | Acrylic acid. |
| 107–13–1 | Acrylonitrile. |
| 124–04–9 | Adipic acid. |
| 111–69–3 | Adiponitrile. |
| ([b]) | Alkyl naphthalenes. |
| 107–18–6 | Allyl alcohol. |
| 107–05–1 | Allyl chloride. |
| 1321–11–5 | Aminobenzoic acid. |
| 111–41–1 | Aminoethylethanolamine. |
| 123–30–8 | p-Aminophenol. |
| 628–63–7, 123–92–2 | Amyl acetates. |
| 71–41–0[c] | Amyl alcohols. |
| 110–58–7 | Amyl amine. |
| 543–59–9 | Amyl chloride. |
| 110–66–7[c] | Amyl mercaptans. |
| 1322–06–1 | Amyl phenol. |
| 62–53–3 | Aniline. |

| CAS No.[a] | Chemical |
|---|---|
| 142–04–1 | Aniline hydrochloride. |
| 29191–52–4 | Anisidine. |
| 100–66–3 | Anisole. |
| 118–92–3 | Anthranilic acid. |
| 84–65–1 | Anthraquinone. |
| 100–52–7 | Benzaldehyde. |
| 55–21–0 | Benzamide. |
| 71–43–2 | Benzene. |
| 98–48–6 | Benzenedisulfonic acid. |
| 98–11–3 | Benzenesulfonic acid. |
| 134–81–6 | Benzil. |
| 76–93–7 | Benzilic acid. |
| 65–85–0 | Benzoic acid. |
| 119–53–9 | Benzoin. |
| 100–47–0 | Benzonitrile. |
| 119–61–9 | Benzophenone. |
| 98–07–7 | Benzotrichloride. |
| 98–88–4 | Benzoyl chloride. |
| 100–51–6 | Benzyl alcohol. |
| 100–46–9 | Benzylamine. |
| 120–51–4 | Benzyl benzoate. |
| 100–44–7 | Benzyl chloride. |
| 98–87–3 | Benzyl dichloride. |
| 92–52–4 | Biphenyl. |
| 80–05–7 | Bisphenol A. |
| 10–86–1 | Bromobenzene. |
| 27497–51–4 | Bromonaphthalene. |
| 106–99–0 | Butadiene. |
| 106–98–9 | 1-butene. |
| 123–86–4 | n-butyl acetate. |
| 141–32–2 | n-butyl acrylate. |
| 71–36–3 | n-butyl alcohol. |

| CAS No.[a] | Chemical |
|---|---|
| 78–92–2 | s-butyl alcohol. |
| 75–65–0 | t-butyl alcohol. |
| 109–73–9 | n-butylamine. |
| 13952–84–6 | s-butylamine. |
| 75–64–9 | t-butylamine. |
| 98–73–7 | p-tert-butyl benzoic acid. |
| 107–88–0 | 1,3-butylene glycol. |
| 123–72–8 | n-butyraldehyde. |
| 107–92–6 | Butyric acid. |
| 106–31–0 | Butyric anhydride. |
| 109–74–0 | Butyronitrile. |
| 105–60–2 | Caprolactam. |
| 75–1–50 | Carbon disulfide. |
| 558–13–4 | Carbon tetrabromide. |
| 56–23–5 | Carbon tetrachloride. |
| 9004–35–7 | Cellulose acetate. |
| 79–11–8 | Chloroacetic acid. |
| 108–42–9 | m-chloroaniline. |
| 95–51–2 | o-chloroaniline. |
| 106–47–8 | p-chloroaniline. |
| 35913–09–8 | Chlorobenzaldehyde. |
| 108–90–7 | Chlorobenzene. |
| 118–91–2, 535–80–8, 74–11–3[c] | Chlorobenzoic acid. |
| 2136–81–4, 2136–89–2, 5216–25–1[c] | Chlorobenzotrichloride. |
| 1321–03–5 | Chlorobenzoyl chloride. |
| 25497–29–4 | Chlorodifluoromethane. |
| 75–45–6 | Chlorodifluoroethane. |
| 67–66–3 | Chloroform. |
| 25586–43–0 | Chloronaphthalene. |
| 88–73–3 | o-chloronitrobenzene. |
| 100–00–5 | p-chloronitrobenzene. |
| 25167–80–0 | Chlorophenols. |

| CAS No.[a] | Chemical |
|---|---|
| 126–99–8 | Chloroprene. |
| 7790–94–5 | Chlorosulfonic acid. |
| 108–41–8 | m-chlorotoluene. |
| 95–49–8 | o-chlorotoluene. |
| 106–43–4 | p-chlorotoluene. |
| 75–72–9 | Chlorotrifluoromethane. |
| 108–39–4 | m-cresol. |
| 95–48–7 | o-cresol. |
| 106–44–5 | p-cresol. |
| 1319–77–3 | Mixed cresols. |
| 1319–77–3 | Cresylic acid. |
| 4170–30–0 | Crotonaldehyde. |
| 3724–65–0 | Crotonic acid. |
| 98–82–8 | Cumene. |
| 80–15–9 | Cumene hydroperoxide. |
| 372–09–8 | Cyanoacetic acid. |
| 506–77–4 | Cyanogen chloride. |
| 108–80–5 | Cyanuric acid. |
| 108–77–0 | Cyanuric chloride. |
| 110–82–7 | Cyclohexane. |
| 108–93–0 | Cyclohexanol. |
| 108–94–1 | Cyclohexanone. |
| 110–83–8 | Cyclohexene. |
| 108–91–8 | Cyclohexylamine. |
| 111–78–4 | Cyclooctadiene. |
| 112–30–1 | Decanol. |
| 123–42–2 | Diacetone alcohol. |
| 27576–04–1 | Diaminobenzoic acid. |
| 95–76–1, 95–82–9, 554–00–7, 608–27–5, 608–31–1, 626–43–7, 27134–27–6, 57311–92–9[c] | Dichloroaniline. |
| 541–73–1 | m-dichlorobenzene. |
| 95–50–1 | o-dichlorobenzene. |
| 106–46–7 | p-dichlorobenzene. |

| CAS No.[a] | Chemical |
|---|---|
| 75–71–8 | Dichlorodifluoromethane. |
| 111–44–4 | Dichloroethyl ether. |
| 107–06–2 | 1,2-dichloroethane (EDC). |
| 96–23–1 | Dichlorohydrin. |
| 26952–23–8 | Dichloropropene. |
| 101–83–7 | Dicyclohexylamine. |
| 109–89–7 | Diethylamine. |
| 111–46–6 | Diethylene glycol. |
| 112–36–7 | Diethylene glycol diethyl ether. |
| 111–96–6 | Diethylene glycol dimethyl ether. |
| 112–34–5 | Diethylene glycol monobutyl ether. |
| 124–17–4 | Diethylene glycol monobutyl ether acetate. |
| 111–90–0 | Diethylene glycol monoethyl ether. |
| 112–15–2 | Diethylene glycol monoethyl ether acetate. |
| 111–77–3 | Diethylene glycol monomethyl ether. |
| 64–67–5 | Diethyl sulfate. |
| 75–37–6 | Difluoroethane. |
| 25167–70–8 | Diisobutylene. |
| 26761–40–0 | Diisodecyl phthalate. |
| 27554–26–3 | Diisooctyl phthalate. |
| 674–82–8 | Diketene. |
| 124–40–3 | Dimethylamine. |
| 121–69–7 | N,N-dimethylaniline. |
| 115–10–6 | N,N-dimethyl ether. |
| 68–12–2 | N,N-dimethylformamide. |
| 57–14–7 | Dimethylhydrazine. |
| 77–78–1 | Dimethyl sulfate. |
| 75–18–3 | Dimethyl sulfide. |
| 67–68–5 | Dimethyl sulfoxide. |
| 120–61–6 | Dimethyl terephthalate. |
| 99–34–3 | 3,5-dinitrobenzoic acid. |

| CAS No.[a] | Chemical |
|---|---|
| 51–28–5 | Dinitrophenol. |
| 25321–14–6 | Dinitrotoluene. |
| 123–91–1 | Dioxane. |
| 646–06–0 | Dioxilane. |
| 122–39–4 | Diphenylamine. |
| 101–84–8 | Diphenyl oxide. |
| 102–08–9 | Diphenyl thiourea. |
| 25265–71–8 | Dipropylene glycol. |
| 25378–22–7 | Dodecene. |
| 28675–17–4 | Dodecylaniline. |
| 27193–86–8 | Dodecylphenol. |
| 106–89–8 | Epichlorohydrin. |
| 64–17–5 | Ethanol. |
| 141–43–5[c] | Ethanolamines. |
| 141–78–6 | Ethyl acetate. |
| 141–97–9 | Ethyl acetoacetate. |
| 140–88–5 | Ethyl acrylate. |
| 75–04–7 | Ethylamine. |
| 100–41–4 | Ethylbenzene. |
| 74–96–4 | Ethyl bromide. |
| 9004–57–3 | Ethylcellulose. |
| 75–00–3 | Ethyl chloride. |
| 105–39–5 | Ethyl chloroacetate. |
| 105–56–6 | Ethylcyanoacetate. |
| 74–85–1 | Ethylene. |
| 96–49–1 | Ethylene carbonate. |
| 107–07–3 | Ethylene chlorohydrin. |
| 107–15–3 | Ethylenediamine. |
| 106–93–4 | Ethylene dibromide. |
| 107–21–1 | Ethylene glycol. |
| 111–55–7 | Ethylene glycol diacetate. |
| 110–71–4 | Ethylene glycol dimethyl ether. |

| CAS No.[a] | Chemical |
|---|---|
| 111–76–2 | Ethylene glycol monobutyl ether. |
| 112–07–2 | Ethylene glycol monobutyl ether acetate. |
| 110–80–5 | Ethylene glycol monoethyl ether. |
| 111–15–9 | Ethylene glycol monethyl ether acetate. |
| 109–86–4 | Ethylene glycol monomethyl ether. |
| 110–49–6 | Ethylene glycol monomethyl ether acetate. |
| 122–99–6 | Ethylene glycol monophenyl ether. |
| 2807–30–9 | Ethylene glycol monopropyl ether. |
| 75–21–8 | Ethylene oxide. |
| 60–29–7 | Ethyl ether |
| 104–76–7 | 2-ethylhexanol. |
| 122–51–0 | Ethyl orthoformate. |
| 95–92–1 | Ethyl oxalate. |
| 41892–71–1 | Ethyl sodium oxalacetate. |
| 50–00–0 | Formaldehyde. |
| 75–12–7 | Formamide. |
| 64–18–6 | Formic acid. |
| 110–17–8 | Fumaric acid. |
| 98–01–1 | Furfural. |
| 56–81–5 | Glycerol. |
| 26545–73–7 | Glycerol dichlorohydrin. |
| 25791–96–2 | Glycerol triether. |
| 56–40–6 | Glycine. |
| 107–22–2 | Glyoxal. |
| 118–74–1 | Hexachlorobenzene. |
| 67–72–1 | Hexachloroethane. |
| 36653–82–4 | Hexadecyl alcohol. |
| 124–09–4 | Hexamethylenediamine. |
| 629–11–8 | Hexamethylene glycol. |
| 100–97–0 | Hexamethylenetetramine. |
| 74–90–8 | Hydrogen cyanide. |

| CAS No.[a] | Chemical |
|---|---|
| 123–31–9 | Hydroquinone. |
| 99–96–7 | p-hydroxybenzoic acid. |
| 26760–64–5 | Isoamylene. |
| 78–83–1 | Isobutanol. |
| 110–19–0 | Isobutyl acetate. |
| 115–11–7 | Isobutylene. |
| 78–84–2 | Isobutyraldehyde. |
| 79–31–2 | Isobutyric acid. |
| 25339–17–7 | Isodecanol. |
| 26952–21–6 | Isooctyl alcohol. |
| 78–78–4 | Isopentane. |
| 78–59–1 | Isophorone. |
| 121–91–5 | Isophthalic acid. |
| 78–79–5 | Isoprene. |
| 67–63–0 | Isopropanol. |
| 108–21–4 | Isopropyl acetate. |
| 75–31–0 | Isopropylamine. |
| 75–29–6 | Isopropyl chloride. |
| 25168–06–3 | Isopropylphenol. |
| 463–51–4 | Ketene. |
| ([b]) | Linear alkyl sulfonate. |
| 123–01–3 | Linear alkylbenzene (linear dodecylbenzene). |
| 110–16–7 | Maleic acid. |
| 108–31–6 | Maleic anhydride. |
| 6915–15–7 | Malic acid. |
| 141–79–7 | Mesityl oxide. |
| 121–47–1 | Metanilic acid. |
| 79–41–4 | Methacrylic acid. |
| 563–47–3 | Methallyl chloride. |
| 67–56–1 | Methanol. |
| 79–20–9 | Methyl acetate. |
| 105–45–3 | Methyl acetoacetate. |

| CAS No.[a] | Chemical |
|---|---|
| 74–89–5 | Methylamine. |
| 100–61–8 | n-methylaniline. |
| 74–83–9 | Methyl bromide. |
| 37365–71–2 | Methyl butynol. |
| 74–87–3 | Methyl chloride. |
| 108–87–2 | Methylcyclohexane. |
| 1331–22–2 | Methylcyclohexanone. |
| 75–09–2 | Methylene chloride. |
| 101–77–9 | Methylene dianiline. |
| 101–68–8 | Methylene diphenyl diisocyanate. |
| 78–93–3 | Methyl ethyl ketone. |
| 107–31–3 | Methyl formate. |
| 108–11–2 | Methyl isobutyl carbinol. |
| 108–10–1 | Methyl isobutyl ketone. |
| 80–62–6 | Methyl methacrylate. |
| 77–75–8 | Methylpentynol. |
| 98–83–9 | a-methylstyrene. |
| 110–91–8 | Morpholine. |
| 85–47–2 | a-naphthalene sulfonic acid. |
| 120–18–3 | b-naphthalene sulfonic acid. |
| 90–15–3 | a-naphthol. |
| 135–19–3 | b-naphthol. |
| 75–98–9 | Neopentanoic acid. |
| 88–74–4 | o-nitroaniline. |
| 100–01–6 | p-nitroaniline. |
| 91–23–6 | o-nitroanisole. |
| 100–17–4 | p-nitroanisole. |
| 98–95–3 | Nitrobenzene. |
| 27178–83–2[c] | Nitrobenzoic acid (o,m, and p). |
| 79–24–3 | Nitroethane. |
| 75–52–5 | Nitromethane. |
| 88–75–5 | 2-Nitrophenol. |

| CAS No.[a] | Chemical |
|---|---|
| 25322–01–4 | Nitropropane. |
| 1321–12–6 | Nitrotoluene. |
| 27215–95–8 | Nonene. |
| 25154–52–3 | Nonylphenol. |
| 27193–28–8 | Octylphenol. |
| 123–63–7 | Paraldehyde. |
| 115–77–5 | Pentaerythritol. |
| 109–66–0 | n-pentane. |
| 109–67–1 | 1-pentene |
| 127–18–4 | Perchloroethylene. |
| 594–42–3 | Perchloromethyl mercaptan. |
| 94–70–2 | o-phenetidine. |
| 156–43–4 | p-phenetidine. |
| 108–95–2 | Phenol. |
| 98–67–9, 585–38–6, 609–46–1, 1333–39–7[c] | Phenolsulfonic acids. |
| 91–40–7 | Phenyl anthranilic acid. |
| ([b]) | Phenylenediamine. |
| 75–44–5 | Phosgene. |
| 85–44–9 | Phthalic anhydride. |
| 85–41–6 | Phthalimide. |
| 108–99–6 | b-picoline. |
| 110–85–0 | Piperazine. |
| 9003–29–6, 25036–29–7[c] | Polybutenes. |
| 25322–68–3 | Polyethylene glycol. |
| 25322–69–4 | Polypropylene glycol. |
| 123–38–6 | Propionaldehyde. |
| 79–09–4 | Propionic acid. |
| 71–23–8 | n-propyl alcohol. |
| 107–10–8 | Propylamine. |
| 540–54–5 | Propyl chloride. |
| 115–07–1 | Propylene. |
| 127–00–4 | Propylene chlorohydrin. |

| CAS No.[a] | Chemical |
|---|---|
| 78–87–5 | Propylene dichloride. |
| 57–55–6 | Propylene glycol. |
| 75–56–9 | Propylene oxide. |
| 110–86–1 | Pyridine. |
| 106–51–4 | Quinone. |
| 108–46–3 | Resorcinol. |
| 27138–57–4 | Resorcylic acid. |
| 69–72–7 | Salicylic acid. |
| 127–09–3 | Sodium acetate. |
| 532–32–1 | Sodium benzoate. |
| 9004–32–4 | Sodium carboxymethyl cellulose. |
| 3926–62–3 | Sodium chloroacetate. |
| 141–53–7 | Sodium formate. |
| 139–02–6 | Sodium phenate. |
| 110–44–1 | Sorbic acid. |
| 100–42–5 | Styrene. |
| 110–15–6 | Succinic acid. |
| 110–61–2 | Succinonitrile. |
| 121–57–3 | Sulfanilic acid. |
| 126–33–0 | Sulfolane. |
| 1401–55–4 | Tannic acid. |
| 100–21–0 | Terephthalic acid. |
| 79–34–5[c] | Tetrachloroethanes. |
| 117–08–8 | Tetrachlorophthalic anhydride. |
| 78–00–2 | Tetraethyl lead. |
| 119–64–2 | Tetrahydronaphthalene. |
| 85–43–8 | Tetrahydrophthalic anhydride. |
| 75–74–1 | Tetramethyl lead. |
| 110–60–1 | Tetramethylenediamine. |
| 110–18–9 | Tetramethylethylenediamine. |
| 108–88–3 | Toluene. |
| 95–80–7 | Toluene-2,4-diamine. |

| CAS No.[a] | Chemical |
|---|---|
| 584–84–9 | Toluene-2,4-diisocyanate. |
| 26471–62–5 | Toluene diisocyanates (mixture). |
| 1333–07–9 | Toluenesulfonamide. |
| 104–15–4[c] | Toluenesulfonic acids. |
| 98–59–9 | Toluenesulfonyl chloride. |
| 26915–12–8 | Toluidines. |
| 87–61–6, 108–70–3, 120–82–1[c] | Trichlorobenzenes. |
| 71–55–6 | 1,1,1-trichloroethane. |
| 79–00–5 | 1,1,2-trichloroethane. |
| 79–01–6 | Trichloroethylene. |
| 75–69–4 | Trichlorofluoromethane. |
| 96–18–4 | 1,2,3-trichloropropane. |
| 76–13–1 | 1,1,2-trichloro-1,2,2-trifluoroethane. |
| 121–44–8 | Triethylamine. |
| 112–27–6 | Triethylene glycol. |
| 112–49–2 | Triethylene glycol dimethyl ether. |
| 7756–94–7 | Triisobutylene. |
| 75–50–3 | Trimethylamine. |
| 57–13–6 | Urea. |
| 108–05–4 | Vinyl acetate. |
| 75–01–4 | Vinyl chloride. |
| 75–35–4 | Vinylidene chloride. |
| 25013–15–4 | Vinyl toluene. |
| 1330–20–7 | Xylenes (mixed). |
| 95–47–6 | o-xylene. |
| 106–42–3 | p-xylene. |
| 1300–71–6 | Xylenol. |
| 1300–73–8 | Xylidine. |

[a]CAS numbers refer to the Chemical Abstracts Registry numbers assigned to specific chemicals, isomers, or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

[b]No CAS number(s) have been assigned to this chemical, its isomers, or mixtures containing these chemicals.

[c]CAS numbers for some of the isomers are listed; the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61763, Oct. 17, 2000]

This document was downloaded from the following source on August 22, 2008:

Subpart VV--STANDARDS OF PERFORMANCE FOR EQUIPMENT LEAKS OF VOC IN THE SYNTHETIC ORGANIC CHEMICALS MANUFACTURING INDUSTRY FOR WHICH CONSTRUCTION, RECONSTRUCTION, OR MODIFICATION COMMENCED AFTER JANUARY 5, 1981, AND ON OR BEFORE NOVEMBER 7, 2006

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

**Attachment F**

**Title 40: Protection of Environment**

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

## 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:** 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, reconstruction, or modification after January 5, 1981, and on or before 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 §60.486(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 §§60.482–1 through 60.482–10.

(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from §§60.482–1 through 60.482–10.

(4) Any affected facility that produces beverage alcohol is exempt from §§60.482–1 through 60.482–10.

(5) Any affected facility that has no equipment in volatile organic compounds (VOC) service is exempt from §§60.482–1 through 60.482–10.

(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 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.

(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 and 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) *Subpart VVa* . Owners or operators may choose to comply with the provisions of subpart VVa of this part 60 to satisfy the requirements of this subpart VV for an affected facility.

(f) *Stay of standards* . Owners or operators are not required to comply with the definition of "process unit" in §60.481 and the requirements in §60.482–1(g) of this subpart until the EPA takes final action to require compliance and publishes a document in theFederal Register.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.

[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; 72 FR 64879, Nov. 16, 2007, 73 FR 31379, June 2, 2008; 73 FR 31375, June 2, 2008]

## § 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 Value 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-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 subpart.

*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, PO 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 §60.485(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 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 §60.482–1(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 §§60.482–2(b)(2)(ii) and (d)(6)(ii) and (iii), 60.482–3(f), and 60.482–10(f)(1)(ii), is re-monitored as specified in §60.485(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.

[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; 72 FR 64879, Nov. 16, 2007]

**Effective Date Note:** At 73 FR 31375, June 2, 2008, in §60.481, the definition of “process unit” was stayed until further notice.

### § 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).

(e) Equipment that an owner or operator designates as being in VOC service less than 300 hours (hr)/yr is excluded from the requirements of §§60.482–2 through 60.482–10 if it is identified as required in §60.486(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 and valves at the frequency specified in the following table instead of monitoring as specified in §§60.482–2, 60.482–7, and 60.483–2:

| 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 subpart VVa of this part, 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 subpart VVa of this part, the storage vessel is assigned to any process unit subject to this subpart. 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.

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 78276, Dec. 14, 2000; 72 FR 64880, Nov. 16, 2007]

**Effective Date Note:** At 73 FR 31375, June 2, 2008, in §60.482–1, paragraph (g) was stayed until further notice.

### § 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 (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 §60.482–1(c) and (f) 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 §60.482–1(f).

(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, 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 if the instrument reading for that monitoring event was less than 10,000 ppm and the pump was not repaired since that monitoring event.

(i) Monitor the pump within 5 days as specified in §60.485(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. 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 within 15 days of detection 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 §60.482–9.

(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 §60.482–10; 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)(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.

(A) Monitor the pump within 5 days as specified in §60.485(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 10,000 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) of this section 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 §60.486(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), (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; 72 FR 64880, Nov. 16, 2007]

### § 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 paragraphs (h), (i), and (j) 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 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.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000; 72 FR 64881, Nov. 16, 2007]

**§ 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-purge, closed-loop, or closed-vent system, except as provided in §60.482–1(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 §60.482–10.

(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 §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 §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 §§61.343 through 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 FR 43258, Aug. 18, 1995, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000; 72 FR 64881, Nov. 16, 2007]

**§ 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) 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) 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; 72 FR 64881, Nov. 16, 2007]

**§ 60.482-7 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 §60.485(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, §60.482–1(c) and (f), and §§60.483–1 and 60.483–2.

(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, §60.482–1(c), and §§60.483–1 and 60.483–2.

(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 valves on the process unit are monitored in accordance with §60.483–1 or §60.483–2, count the new valve as leaking when calculating the percentage of valves leaking as described in §60.483–2(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 10,000 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 2 or 3 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 §60.482–9.

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

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

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

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

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

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

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

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

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

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

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

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

(2) The process unit within which the valve is located either becomes an affected facility through §60.14 or §60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and

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

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 61762, Oct. 17, 2000; 72 FR 64881, Nov. 16, 2007]

**§ 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 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 §60.482–9.

(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 §§60.482–2(c)(2) and 60.482–7(e).

[48 CFR 48335, Oct. 18, 1983, as amended at 65 FR 78277, Dec. 14, 2000; 72 FR 64882, Nov. 16, 2007]

**§ 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. 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 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.

(f) When delay of repair is allowed for a leaking pump or valve that remains in service, the pump or valve 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.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 78277, Dec. 14, 2000; 72 FR 64882, Nov. 16, 2007]

### § 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, determined as described in §60.485(h).

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000; 72 FR 64882, Nov. 16, 2007]

### § 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 as described in §60.485(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 §60.482–7(a)(2)(i) or (ii) before the provisions of this section can be applied to that valve.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000; 72 FR 64882, Nov. 16, 2007]

### § 60.484 Equivalence of means of emission limitation.

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

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

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

(2) The Administrator will compare test data for 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).

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

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

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

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

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

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

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

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 72 FR 64882, Nov. 16, 2007]

### § 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 §§60.482–1 through 60.482–10, 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 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. $H_2O$ at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. $H_2O$ at 68 °F) is equal to or greater than 20 percent by weight.

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

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

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

(1) Method 22 shall be used to determine visible emissions.

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

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

Where:

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

$H_T$= Net heating value of the gas being combusted, MJ/scm (Btu/scf).

$K_1$= 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

$K_2$= 0.7084 $m^4$ /(MJ-sec) (metric units)

= 0.087 $ft^4$ /(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:

Where:

K = Conversion constant, $1.740 \times 10^{-7}$ (g-mole)(MJ)/(ppm-scm-kcal) (metric units) = $4.674 \times 10^{-6}$ [(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 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 parts per million by volume) 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.

(h) The owner or operator shall determine compliance with §60.483–1 or §60.483–2 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 §60.482–7(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.

[54 FR 6678, Feb. 14, 1989, as amended at 54 FR 27016, June 27, 1989; 65 FR 61763, Oct. 17, 2000; 72 FR 64882, Nov. 16, 2007]

## § 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. 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 §60.482–4.

(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.

(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 §60.482–1(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.

(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; 72 FR 64883, Nov. 16, 2007]

### § 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), (d)(4)(ii)(A) or (B), or (d)(5)(iii),

(iv) Number of pumps for which leaks were not repaired as required in §60.482–2(c)(1) and (d)(6),

(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; 72 FR 64883, Nov. 16, 2007]

### § 60.488 Reconstruction.

For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable new facility” under §60.15: pump seals, nuts and bolts, rupture disks, and packings.

(b) Under §60.15, the “fixed capital cost of new components” includes the fixed capital cost of all depreciable components (except components specified in §60.488 (a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the “Applicability and designation of affected facility” section of the appropriate subpart.) For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

[49 FR 22608, May 30, 1984]

### § 60.489 List of chemicals produced by affected facilities.

The following chemicals are produced, as intermediates or final products, by process units covered under this subpart. The applicability date for process units producing one or more of these chemicals is January 5, 1981.

| CAS No.[a] | Chemical |
|---|---|
| 105–57–7 | Acetal. |
| 75–07–0 | Acetaldehyde. |
| 107–89–1 | Acetaldol. |
| 60–35–5 | Acetamide. |
| 103–84–4 | Acetanilide. |

| **CAS No.**[a] | **Chemical** |
|---|---|
| 64–19–7 | Acetic acid. |
| 108–24–7 | Acetic anhydride. |
| 67–64–1 | Acetone. |
| 75–86–5 | Acetone cyanohydrin. |
| 75–05–8 | Acetonitrile. |
| 98–86–2 | Acetophenone. |
| 75–36–5 | Acetyl chloride. |
| 74–86–2 | Acetylene. |
| 107–02–8 | Acrolein. |
| 79–06–1 | Acrylamide. |
| 79–10–7 | Acrylic acid. |
| 107–13–1 | Acrylonitrile. |
| 124–04–9 | Adipic acid. |
| 111–69–3 | Adiponitrile. |
| ([b]) | Alkyl naphthalenes. |
| 107–18–6 | Allyl alcohol. |
| 107–05–1 | Allyl chloride. |
| 1321–11–5 | Aminobenzoic acid. |
| 111–41–1 | Aminoethylethanolamine. |
| 123–30–8 | p-Aminophenol. |
| 628–63–7, 123–92–2 | Amyl acetates. |
| 71–41–0[c] | Amyl alcohols. |
| 110–58–7 | Amyl amine. |
| 543–59–9 | Amyl chloride. |
| 110–66–7[c] | Amyl mercaptans. |
| 1322–06–1 | Amyl phenol. |
| 62–53–3 | Aniline. |
| 142–04–1 | Aniline hydrochloride. |
| 29191–52–4 | Anisidine. |
| 100–66–3 | Anisole. |
| 118–92–3 | Anthranilic acid. |
| 84–65–1 | Anthraquinone. |
| 100–52–7 | Benzaldehyde. |

| CAS No.[a] | Chemical |
|---|---|
| 55–21–0 | Benzamide. |
| 71–43–2 | Benzene. |
| 98–48–6 | Benzenedisulfonic acid. |
| 98–11–3 | Benzenesulfonic acid. |
| 134–81–6 | Benzil. |
| 76–93–7 | Benzilic acid. |
| 65–85–0 | Benzoic acid. |
| 119–53–9 | Benzoin. |
| 100–47–0 | Benzonitrile. |
| 119–61–9 | Benzophenone. |
| 98–07–7 | Benzotrichloride. |
| 98–88–4 | Benzoyl chloride. |
| 100–51–6 | Benzyl alcohol. |
| 100–46–9 | Benzylamine. |
| 120–51–4 | Benzyl benzoate. |
| 100–44–7 | Benzyl chloride. |
| 98–87–3 | Benzyl dichloride. |
| 92–52–4 | Biphenyl. |
| 80–05–7 | Bisphenol A. |
| 10–86–1 | Bromobenzene. |
| 27497–51–4 | Bromonaphthalene. |
| 106–99–0 | Butadiene. |
| 106–98–9 | 1-butene. |
| 123–86–4 | n-butyl acetate. |
| 141–32–2 | n-butyl acrylate. |
| 71–36–3 | n-butyl alcohol. |
| 78–92–2 | s-butyl alcohol. |
| 75–65–0 | t-butyl alcohol. |
| 109–73–9 | n-butylamine. |
| 13952–84–6 | s-butylamine. |
| 75–64–9 | t-butylamine. |
| 98–73–7 | p-tert-butyl benzoic acid. |
| 107–88–0 | 1,3-butylene glycol. |

| **CAS No.**[a] | **Chemical** |
|---|---|
| 123–72–8 | n-butyraldehyde. |
| 107–92–6 | Butyric acid. |
| 106–31–0 | Butyric anhydride. |
| 109–74–0 | Butyronitrile. |
| 105–60–2 | Caprolactam. |
| 75–1–50 | Carbon disulfide. |
| 558–13–4 | Carbon tetrabromide. |
| 56–23–5 | Carbon tetrachloride. |
| 9004–35–7 | Cellulose acetate. |
| 79–11–8 | Chloroacetic acid. |
| 108–42–9 | m-chloroaniline. |
| 95–51–2 | o-chloroaniline. |
| 106–47–8 | p-chloroaniline. |
| 35913–09–8 | Chlorobenzaldehyde. |
| 108–90–7 | Chlorobenzene. |
| 118–91–2, 535–80–8, 74–11–3[c] | Chlorobenzoic acid. |
| 2136–81–4, 2136–89–2, 5216–25–1[c] | Chlorobenzotrichloride. |
| 1321–03–5 | Chlorobenzoyl chloride. |
| 25497–29–4 | Chlorodifluoromethane. |
| 75–45–6 | Chlorodifluoroethane. |
| 67–66–3 | Chloroform. |
| 25586–43–0 | Chloronaphthalene. |
| 88–73–3 | o-chloronitrobenzene. |
| 100–00–5 | p-chloronitrobenzene. |
| 25167–80–0 | Chlorophenols. |
| 126–99–8 | Chloroprene. |
| 7790–94–5 | Chlorosulfonic acid. |
| 108–41–8 | m-chlorotoluene. |
| 95–49–8 | o-chlorotoluene. |
| 106–43–4 | p-chlorotoluene. |
| 75–72–9 | Chlorotrifluoromethane. |
| 108–39–4 | m-cresol. |
| 95–48–7 | o-cresol. |

| CAS No.[a] | Chemical |
|---|---|
| 106–44–5 | p-cresol. |
| 1319–77–3 | Mixed cresols. |
| 1319–77–3 | Cresylic acid. |
| 4170–30–0 | Crotonaldehyde. |
| 3724–65–0 | Crotonic acid. |
| 98–82–8 | Cumene. |
| 80–15–9 | Cumene hydroperoxide. |
| 372–09–8 | Cyanoacetic acid. |
| 506–77–4 | Cyanogen chloride. |
| 108–80–5 | Cyanuric acid. |
| 108–77–0 | Cyanuric chloride. |
| 110–82–7 | Cyclohexane. |
| 108–93–0 | Cyclohexanol. |
| 108–94–1 | Cyclohexanone. |
| 110–83–8 | Cyclohexene. |
| 108–91–8 | Cyclohexylamine. |
| 111–78–4 | Cyclooctadiene. |
| 112–30–1 | Decanol. |
| 123–42–2 | Diacetone alcohol. |
| 27576–04–1 | Diaminobenzoic acid. |
| 95–76–1, 95–82–9, 554–00–7, 608–27–5, 608–31–1, 626–43–7, 27134–27–6, 57311–92–9[c] | Dichloroaniline. |
| 541–73–1 | m-dichlorobenzene. |
| 95–50–1 | o-dichlorobenzene. |
| 106–46–7 | p-dichlorobenzene. |
| 75–71–8 | Dichlorodifluoromethane. |
| 111–44–4 | Dichloroethyl ether. |
| 107–06–2 | 1,2-dichloroethane (EDC). |
| 96–23–1 | Dichlorohydrin. |
| 26952–23–8 | Dichloropropene. |
| 101–83–7 | Dicyclohexylamine. |
| 109–89–7 | Diethylamine. |
| 111–46–6 | Diethylene glycol. |

| CAS No.[a] | Chemical |
|---|---|
| 112–36–7 | Diethylene glycol diethyl ether. |
| 111–96–6 | Diethylene glycol dimethyl ether. |
| 112–34–5 | Diethylene glycol monobutyl ether. |
| 124–17–4 | Diethylene glycol monobutyl ether acetate. |
| 111–90–0 | Diethylene glycol monoethyl ether. |
| 112–15–2 | Diethylene glycol monoethyl ether acetate. |
| 111–77–3 | Diethylene glycol monomethyl ether. |
| 64–67–5 | Diethyl sulfate. |
| 75–37–6 | Difluoroethane. |
| 25167–70–8 | Diisobutylene. |
| 26761–40–0 | Diisodecyl phthalate. |
| 27554–26–3 | Diisooctyl phthalate. |
| 674–82–8 | Diketene. |
| 124–40–3 | Dimethylamine. |
| 121–69–7 | N,N-dimethylaniline. |
| 115–10–6 | N,N-dimethyl ether. |
| 68–12–2 | N,N-dimethylformamide. |
| 57–14–7 | Dimethylhydrazine. |
| 77–78–1 | Dimethyl sulfate. |
| 75–18–3 | Dimethyl sulfide. |
| 67–68–5 | Dimethyl sulfoxide. |
| 120–61–6 | Dimethyl terephthalate. |
| 99–34–3 | 3,5-dinitrobenzoic acid. |
| 51–28–5 | Dinitrophenol. |
| 25321–14–6 | Dinitrotoluene. |
| 123–91–1 | Dioxane. |
| 646–06–0 | Dioxilane. |
| 122–39–4 | Diphenylamine. |
| 101–84–8 | Diphenyl oxide. |
| 102–08–9 | Diphenyl thiourea. |
| 25265–71–8 | Dipropylene glycol. |

| CAS No.[a] | Chemical |
|---|---|
| 25378–22–7 | Dodecene. |
| 28675–17–4 | Dodecylaniline. |
| 27193–86–8 | Dodecylphenol. |
| 106–89–8 | Epichlorohydrin. |
| 64–17–5 | Ethanol. |
| 141–43–5[c] | Ethanolamines. |
| 141–78–6 | Ethyl acetate. |
| 141–97–9 | Ethyl acetoacetate. |
| 140–88–5 | Ethyl acrylate. |
| 75–04–7 | Ethylamine. |
| 100–41–4 | Ethylbenzene. |
| 74–96–4 | Ethyl bromide. |
| 9004–57–3 | Ethylcellulose. |
| 75–00–3 | Ethyl chloride. |
| 105–39–5 | Ethyl chloroacetate. |
| 105–56–6 | Ethylcyanoacetate. |
| 74–85–1 | Ethylene. |
| 96–49–1 | Ethylene carbonate. |
| 107–07–3 | Ethylene chlorohydrin. |
| 107–15–3 | Ethylenediamine. |
| 106–93–4 | Ethylene dibromide. |
| 107–21–1 | Ethylene glycol. |
| 111–55–7 | Ethylene glycol diacetate. |
| 110–71–4 | Ethylene glycol dimethyl ether. |
| 111–76–2 | Ethylene glycol monobutyl ether. |
| 112–07–2 | Ethylene glycol monobutyl ether acetate. |
| 110–80–5 | Ethylene glycol monoethyl ether. |
| 111–15–9 | Ethylene glycol monethyl ether acetate. |
| 109–86–4 | Ethylene glycol monomethyl ether. |
| 110–49–6 | Ethylene glycol monomethyl ether acetate. |
| 122–99–6 | Ethylene glycol monophenyl ether. |

| CAS No.[a] | Chemical |
|---|---|
| 2807–30–9 | Ethylene glycol monopropyl ether. |
| 75–21–8 | Ethylene oxide. |
| 60–29–7 | Ethyl ether |
| 104–76–7 | 2-ethylhexanol. |
| 122–51–0 | Ethyl orthoformate. |
| 95–92–1 | Ethyl oxalate. |
| 41892–71–1 | Ethyl sodium oxalacetate. |
| 50–00–0 | Formaldehyde. |
| 75–12–7 | Formamide. |
| 64–18–6 | Formic acid. |
| 110–17–8 | Fumaric acid. |
| 98–01–1 | Furfural. |
| 56–81–5 | Glycerol. |
| 26545–73–7 | Glycerol dichlorohydrin. |
| 25791–96–2 | Glycerol triether. |
| 56–40–6 | Glycine. |
| 107–22–2 | Glyoxal. |
| 118–74–1 | Hexachlorobenzene. |
| 67–72–1 | Hexachloroethane. |
| 36653–82–4 | Hexadecyl alcohol. |
| 124–09–4 | Hexamethylenediamine. |
| 629–11–8 | Hexamethylene glycol. |
| 100–97–0 | Hexamethylenetetramine. |
| 74–90–8 | Hydrogen cyanide. |
| 123–31–9 | Hydroquinone. |
| 99–96–7 | p-hydroxybenzoic acid. |
| 26760–64–5 | Isoamylene. |
| 78–83–1 | Isobutanol. |
| 110–19–0 | Isobutyl acetate. |
| 115–11–7 | Isobutylene. |
| 78–84–2 | Isobutyraldehyde. |
| 79–31–2 | Isobutyric acid. |
| 25339–17–7 | Isodecanol. |

| CAS No.[a] | Chemical |
|---|---|
| 26952–21–6 | Isooctyl alcohol. |
| 78–78–4 | Isopentane. |
| 78–59–1 | Isophorone. |
| 121–91–5 | Isophthalic acid. |
| 78–79–5 | Isoprene. |
| 67–63–0 | Isopropanol. |
| 108–21–4 | Isopropyl acetate. |
| 75–31–0 | Isopropylamine. |
| 75–29–6 | Isopropyl chloride. |
| 25168–06–3 | Isopropylphenol. |
| 463–51–4 | Ketene. |
| ([b]) | Linear alkyl sulfonate. |
| 123–01–3 | Linear alkylbenzene (linear dodecylbenzene). |
| 110–16–7 | Maleic acid. |
| 108–31–6 | Maleic anhydride. |
| 6915–15–7 | Malic acid. |
| 141–79–7 | Mesityl oxide. |
| 121–47–1 | Metanilic acid. |
| 79–41–4 | Methacrylic acid. |
| 563–47–3 | Methallyl chloride. |
| 67–56–1 | Methanol. |
| 79–20–9 | Methyl acetate. |
| 105–45–3 | Methyl acetoacetate. |
| 74–89–5 | Methylamine. |
| 100–61–8 | n-methylaniline. |
| 74–83–9 | Methyl bromide. |
| 37365–71–2 | Methyl butynol. |
| 74–87–3 | Methyl chloride. |
| 108–87–2 | Methylcyclohexane. |
| 1331–22–2 | Methylcyclohexanone. |
| 75–09–2 | Methylene chloride. |
| 101–77–9 | Methylene dianiline. |

| CAS No.[a] | Chemical |
|---|---|
| 101–68–8 | Methylene diphenyl diisocyanate. |
| 78–93–3 | Methyl ethyl ketone. |
| 107–31–3 | Methyl formate. |
| 108–11–2 | Methyl isobutyl carbinol. |
| 108–10–1 | Methyl isobutyl ketone. |
| 80–62–6 | Methyl methacrylate. |
| 77–75–8 | Methylpentynol. |
| 98–83–9 | a-methylstyrene. |
| 110–91–8 | Morpholine. |
| 85–47–2 | a-naphthalene sulfonic acid. |
| 120–18–3 | b-naphthalene sulfonic acid. |
| 90–15–3 | a-naphthol. |
| 135–19–3 | b-naphthol. |
| 75–98–9 | Neopentanoic acid. |
| 88–74–4 | o-nitroaniline. |
| 100–01–6 | p-nitroaniline. |
| 91–23–6 | o-nitroanisole. |
| 100–17–4 | p-nitroanisole. |
| 98–95–3 | Nitrobenzene. |
| 27178–83–2[c] | Nitrobenzoic acid (o,m, and p). |
| 79–24–3 | Nitroethane. |
| 75–52–5 | Nitromethane. |
| 88–75–5 | 2-Nitrophenol. |
| 25322–01–4 | Nitropropane. |
| 1321–12–6 | Nitrotoluene. |
| 27215–95–8 | Nonene. |
| 25154–52–3 | Nonylphenol. |
| 27193–28–8 | Octylphenol. |
| 123–63–7 | Paraldehyde. |
| 115–77–5 | Pentaerythritol. |
| 109–66–0 | n-pentane. |
| 109–67–1 | 1-pentene |
| 127–18–4 | Perchloroethylene. |

| CAS No.[a] | Chemical |
|---|---|
| 594–42–3 | Perchloromethyl mercaptan. |
| 94–70–2 | o-phenetidine. |
| 156–43–4 | p-phenetidine. |
| 108–95–2 | Phenol. |
| 98–67–9, 585–38–6, 609–46–1, 1333–39–7[c] | Phenolsulfonic acids. |
| 91–40–7 | Phenyl anthranilic acid. |
| ([b]) | Phenylenediamine. |
| 75–44–5 | Phosgene. |
| 85–44–9 | Phthalic anhydride. |
| 85–41–6 | Phthalimide. |
| 108–99–6 | b-picoline. |
| 110–85–0 | Piperazine. |
| 9003–29–6, 25036–29–7[c] | Polybutenes. |
| 25322–68–3 | Polyethylene glycol. |
| 25322–69–4 | Polypropylene glycol. |
| 123–38–6 | Propionaldehyde. |
| 79–09–4 | Propionic acid. |
| 71–23–8 | n-propyl alcohol. |
| 107–10–8 | Propylamine. |
| 540–54–5 | Propyl chloride. |
| 115–07–1 | Propylene. |
| 127–00–4 | Propylene chlorohydrin. |
| 78–87–5 | Propylene dichloride. |
| 57–55–6 | Propylene glycol. |
| 75–56–9 | Propylene oxide. |
| 110–86–1 | Pyridine. |
| 106–51–4 | Quinone. |
| 108–46–3 | Resorcinol. |
| 27138–57–4 | Resorcylic acid. |
| 69–72–7 | Salicylic acid. |
| 127–09–3 | Sodium acetate. |
| 532–32–1 | Sodium benzoate. |
| 9004–32–4 | Sodium carboxymethyl cellulose. |

| CAS No.[a] | Chemical |
|---|---|
| 3926–62–3 | Sodium chloroacetate. |
| 141–53–7 | Sodium formate. |
| 139–02–6 | Sodium phenate. |
| 110–44–1 | Sorbic acid. |
| 100–42–5 | Styrene. |
| 110–15–6 | Succinic acid. |
| 110–61–2 | Succinonitrile. |
| 121–57–3 | Sulfanilic acid. |
| 126–33–0 | Sulfolane. |
| 1401–55–4 | Tannic acid. |
| 100–21–0 | Terephthalic acid. |
| 79–34–5[c] | Tetrachloroethanes. |
| 117–08–8 | Tetrachlorophthalic anhydride. |
| 78–00–2 | Tetraethyl lead. |
| 119–64–2 | Tetrahydronaphthalene. |
| 85–43–8 | Tetrahydrophthalic anhydride. |
| 75–74–1 | Tetramethyl lead. |
| 110–60–1 | Tetramethylenediamine. |
| 110–18–9 | Tetramethylethylenediamine. |
| 108–88–3 | Toluene. |
| 95–80–7 | Toluene-2,4-diamine. |
| 584–84–9 | Toluene-2,4-diisocyanate. |
| 26471–62–5 | Toluene diisocyanates (mixture). |
| 1333–07–9 | Toluenesulfonamide. |
| 104–15–4[c] | Toluenesulfonic acids. |
| 98–59–9 | Toluenesulfonyl chloride. |
| 26915–12–8 | Toluidines. |
| 87–61–6, 108–70–3, 120–82–1[c] | Trichlorobenzenes. |
| 71–55–6 | 1,1,1-trichloroethane. |
| 79–00–5 | 1,1,2-trichloroethane. |
| 79–01–6 | Trichloroethylene. |
| 75–69–4 | Trichlorofluoromethane. |
| 96–18–4 | 1,2,3-trichloropropane. |

| CAS No.[a] | Chemical |
| --- | --- |
| 76–13–1 | 1,1,2-trichloro-1,2,2-trifluoroethane. |
| 121–44–8 | Triethylamine. |
| 112–27–6 | Triethylene glycol. |
| 112–49–2 | Triethylene glycol dimethyl ether. |
| 7756–94–7 | Triisobutylene. |
| 75–50–3 | Trimethylamine. |
| 57–13–6 | Urea. |
| 108–05–4 | Vinyl acetate. |
| 75–01–4 | Vinyl chloride. |
| 75–35–4 | Vinylidene chloride. |
| 25013–15–4 | Vinyl toluene. |
| 1330–20–7 | Xylenes (mixed). |
| 95–47–6 | o-xylene. |
| 106–42–3 | p-xylene. |
| 1300–71–6 | Xylenol. |
| 1300–73–8 | Xylidine. |

[a]CAS numbers refer to the Chemical Abstracts Registry numbers assigned to specific chemicals, isomers, or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

[b]No CAS number(s) have been assigned to this chemical, its isomers, or mixtures containing these chemicals.

[c]CAS numbers for some of the isomers are listed; the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61763, Oct. 17, 2000]

This document was downloaded from the following source on August 22, 2008:

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

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

**Attachment G**

## Title 40: Protection of Environment

## PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

## Subpart EEEE—National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)

**Source:** 69 FR 5063, Feb. 3, 2004, unless otherwise noted.

### What This Subpart Covers

### § 63.2330 What is the purpose of this subpart?

This subpart establishes national emission limitations, operating limits, and work practice standards for organic hazardous air pollutants (HAP) emitted from organic liquids distribution (OLD) (non-gasoline) operations at major sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations, operating limits, and work practice standards.

### § 63.2334 Am I subject to this subpart?

(a) Except as provided for in paragraphs (b) and (c) of this section, you are subject to this subpart if you own or operate an OLD operation that is located at, or is part of, a major source of HAP emissions. An OLD operation may occupy an entire plant site or be collocated with other industrial ( *e.g.,* manufacturing) operations at the same plant site.

(b) Organic liquid distribution operations located at research and development facilities, consistent with section 112(c)(7) of the Clean Air Act (CAA), are not subject to this subpart.

(c) Organic liquid distribution operations do not include the activities and equipment, including product loading racks, used to process, store, or transfer organic liquids at facilities listed in paragraph (c) (1) and (2) of this section.

(1) Oil and natural gas production field facilities, as the term "facility" is defined in §63.761 of subpart HH.

(2) Natural gas transmission and storage facilities, as the term "facility" is defined in §63.1271 of subpart HHH.

### § 63.2338 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, or existing OLD operation affected source.

(b) Except as provided in paragraph (c) of this section, the affected source is the collection of activities and equipment used to distribute organic liquids into, out of, or within a facility that is a major source of HAP. The affected source is composed of:

(1) All storage tanks storing organic liquids.

(2) All transfer racks at which organic liquids are loaded into or unloaded out of transport vehicles and/or containers.

(3) All equipment leak components in organic liquids service that are associated with:

(i) Storage tanks storing organic liquids;

(ii) Transfer racks loading or unloading organic liquids;

(iii) Pipelines that transfer organic liquids directly between two storage tanks that are subject to this subpart;

(iv) Pipelines that transfer organic liquids directly between a storage tank subject to this subpart and a transfer rack subject to this subpart; and

(v) Pipelines that transfer organic liquids directly between two transfer racks that are subject to this subpart.

(4) All transport vehicles while they are loading or unloading organic liquids at transfer racks subject to this subpart.

(5) All containers while they are loading or unloading organic liquids at transfer racks subject to this subpart.

(c) The equipment listed in paragraphs (c)(1) through (4) of this section and used in the identified operations is excluded from the affected source.

(1) Storage tanks, transfer racks, transport vehicles, containers, and equipment leak components that are part of an affected source under another 40 CFR part 63 national emission standards for hazardous air pollutants (NESHAP).

(2) Non-permanent storage tanks, transfer racks, transport vehicles, containers, and equipment leak components when used in special situation distribution loading and unloading operations (such as maintenance or upset liquids management).

(3) Storage tanks, transfer racks, transport vehicles, containers, and equipment leak components when used to conduct maintenance activities, such as stormwater management, liquid removal from tanks for inspections and maintenance, or changeovers to a different liquid stored in a storage tank.

(d) An affected source is a new affected source if you commenced construction of the affected source after April 2, 2002, and you meet the applicability criteria in §63.2334 at the time you commenced operation.

(e) An affected source is reconstructed if you meet the criteria for reconstruction as defined in §63.2.

(f) An affected source is existing if it is not new or reconstructed.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42904, July 28, 2006]

### § 63.2342 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to the schedule identified in paragraph (a)(1), (a)(2), or (a)(3) of this section, as applicable.

(1)(i) Except as provided in paragraph (a)(1)(ii) of this section, if you startup your new affected source on or before February 3, 2004 or if you reconstruct your affected source on or before February 3, 2004, you must comply with the emission limitations, operating limits, and work practice standards for new and reconstructed sources in this subpart no later than February 3, 2004.

(ii) For any emission source listed in paragraph §63.2338(b) at an affected source that commenced construction or reconstruction after April 2, 2002, but before February 3, 2004, that is required to be controlled based on the applicability criteria in this subpart, but:

(A) Would not have been required to be controlled based on the applicability criteria as proposed for this subpart, you must comply with the emission limitations, operating limits, and work practice standards for each such emission source based on the schedule found in paragraph (b) of this section or at startup, whichever is later; or

(B) Would have been subject to a less stringent degree of control requirement as proposed for this subpart, you must comply with the emission limitations, operating limits, and work practice standards in this subpart for each such emission source based on the schedule found in paragraph (b) of this section or at startup, whichever is later, and if you start up your affected new or reconstructed source before February 5, 2007, you must comply with the emission limitations, operating limits, and work practice standards for each such emission source as proposed for this subpart, until you are required to comply with the emission limitations, operating limits, and work practice standards in this subpart for each such emission source based on the schedule found in paragraph (b) of this section.

(2) If you commence construction of or reconstruct your affected source after February 3, 2004, you must comply with the emission limitations, operating limits, and work practice standards for new and reconstructed sources in this subpart upon startup of your affected source.

(3) If, after startup of a new affected source, the total actual annual facility-level organic liquid loading volume at that source exceeds the criteria for control in Table 2 to this subpart, items 9 and 10, the owner or operator must comply with the transfer rack requirements specified in §63.2346(b) immediately; that is, be in compliance the first day of the period following the end of the 3-year period triggering the control criteria.

(b)(1) If you have an existing affected source, you must comply with the emission limitations, operating limits, and work practice standards for existing affected sources no later than February 5, 2007, except as provided in paragraphs (b)(2) and (3) of this section.

(2) Floating roof storage tanks at existing affected sources must be in compliance with the work practice standards in Table 4 to this subpart, item 1, at all times after the next degassing and cleaning activity or within 10 years after February 3, 2004, whichever occurs first. If the first degassing and cleaning activity occurs during the 3 years following February 3, 2004, the compliance date is February 5, 2007.

(3)(i) If an addition or change other than reconstruction as defined in §63.2 is made to an existing affected facility that causes the total actual annual facility-level organic liquid loading volume to exceed the criteria for control in Table 2 to this subpart, items 7 and 8, the owner or operator must comply with the transfer rack requirements specified in §63.2346(b) immediately; that is, be in compliance the first day of the period following the end of the 3-year period triggering the control criteria.

(ii) If the owner or operator believes that compliance with the transfer rack emission limits cannot be achieved immediately, as specified in paragraph (b)(3)(i) of this section, the owner or operator may submit a request for a compliance extension, as specified in paragraphs (b)(3)(ii)(A) through (I) of this section. Subject to paragraph (b)(3)(ii)(B) of this section, until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph (b)(3)(ii), the owner or operator of the transfer rack subject to the requirements of this section shall comply with all applicable requirements of this subpart. Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(A) *Submittal.* The owner or operator shall submit a request for a compliance extension to the Administrator (or a State, when the State has an approved 40 CFR part 70 permit program and the source is required to obtain a 40 CFR part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) seeking an extension allowing the source up to 1 additional year to comply with the transfer rack standard, if such additional period is necessary for the installation of controls. The owner or operator of the affected source who has requested an extension of compliance under this paragraph (b)(3)(ii)(A) and who is otherwise required to obtain a title V permit shall apply for such permit, or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph (b)(3)(ii)(A) will be incorporated into the affected source's title V permit according to the provisions of 40 CFR part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) *When to submit.* ( *1* ) Any request submitted under paragraph (b)(3)(ii)(A) of this section must be submitted in writing to the appropriate authority no later than 120 days prior to the affected source's compliance date (as specified in paragraph (b)(3)(i) of this section), except as provided for in paragraph (b)(3)(ii)(B)( *2* ) of this section. Nonfrivolous requests submitted under this paragraph (b)(3)(ii)(B)( *1* ) will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the date of denial.

( *2* ) An owner or operator may submit a compliance extension request after the date specified in paragraph (b)(3)(ii)(B)( *1* ) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (b)(3)(ii)(C) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph (b)(3)(ii)(B)( *2* ) will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(C) *Information required.* The request for a compliance extension under paragraph (b)(3)(ii)(A) of this section shall include the following information:

( *1* ) The name and address of the owner or operator and the address of the existing source if it differs from the address of the owner or operator;

( *2* ) The name, address, and telephone number of a contact person for further information;

( *3* ) An identification of the organic liquid distribution operation and of the specific equipment for which additional compliance time is required;

( *4* ) A description of the controls to be installed to comply with the standard;

( *5* ) Justification for the length of time being requested; and

( *6* ) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

( *i* ) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated;

( *ii* ) The date by which on-site construction, installation of emission control equipment, or a process change is to be completed; and

( *iii* ) The date by which final compliance is to be achieved.

(D) *Approval of request for extension of compliance.* Based on the information provided in any request made under paragraph (b)(3)(ii)(C) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with the transfer rack emission standard, as specified in paragraph (b)(3)(ii) of this section. The extension will be in writing and will—

( *1* ) Identify each affected source covered by the extension;

( *2* ) Specify the termination date of the extension;

( *3* ) Specify the dates by which steps toward compliance are to be taken, if appropriate;

( *4* ) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests);

( *5* ) Specify the contents of the progress reports to be submitted and the dates by which such reports are to be submitted, if required pursuant to paragraph (b)(3)(ii)(E) of this section.

( *6* ) Under paragraph (b)(3)(ii) of this section, specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period.

(E) *Progress reports.* The owner or operator of an existing source that has been granted an extension of compliance under paragraph (b)(3)(ii)(D) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached.

(F) *Notification of approval or intention to deny.* ( *1* ) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (b)(3)(ii) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application; that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. Failure by the Administrator to act within 30 calendar days to approve or disapprove a request submitted under paragraph (b)(3)(ii) of this section does not constitute automatic approval of the request.

( *2* ) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

( *3* ) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with:

( *i* ) Notice of the information and findings on which the intended denial is based; and

( *ii* ) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

( *4* ) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(G) *Termination of extension of compliance.* The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (b)(3)(ii)(D)( *3* ) or paragraph (b)(3)(ii)(D)( *4* ) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

( *1* ) Notice of the reason for termination; and

( *2* ) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

( *3* ) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(H) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the CAA.

(I) *Limitation on use of compliance extension.* The owner or operator may request an extension of compliance under the provisions specified in paragraph (b)(3)(ii) of this section only once for each facility.

(c) If you have an area source that does not commence reconstruction but increases its emissions or its potential to emit such that it becomes a major source of HAP emissions and an existing affected source subject to this subpart, you must be in compliance by 3 years after the area source becomes a major source.

(d) You must meet the notification requirements in §§63.2343 and 63.2382(a), as applicable, according to the schedules in §63.2382(a) and (b)(1) through (3) and in subpart A of this part. Some of these notifications must be submitted before the compliance dates for the emission limitations, operating limits, and work practice standards in this subpart.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42905, July 28, 2006]

## § 63.2343 What are my requirements for emission sources not requiring control?

This section establishes the notification, recordkeeping, and reporting requirements for emission sources identified in §63.2338 that do not require control under this subpart (i.e., under paragraphs (a) through (e) of §63.2346). Such emission sources are not subject to any other notification, recordkeeping, or reporting sections in this subpart, including §63.2350(c), except as indicated in paragraphs (a) through (d) of this section.

(a) For each storage tank subject to this subpart having a capacity of less than 18.9 cubic meters (5,000 gallons) and for each transfer rack subject to this subpart that only unloads organic liquids (i.e., no organic liquids are loaded at any of the transfer racks), you must keep documentation that verifies that each storage tank and transfer rack identified in paragraph (a) of this section is not required to be controlled. The documentation must be kept up-to-date (i.e., all such emission sources at a facility are identified in the documentation regardless of when the documentation was last compiled) and must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form in a separate location. The documentation may consist of identification of the tanks and transfer racks identified in paragraph (a) of this section on a plant site plan or process and instrumentation diagram (P&ID).

(b) For each storage tank subject to this subpart having a capacity of 18.9 cubic meters (5,000 gallons) or more that is not subject to control based on the criteria specified in Table 2 to this subpart, items 1 through 6, you must comply with the requirements specified in paragraphs (b)(1) through (3) of this section.

(1)(i) You must submit the information in §63.2386(c)(1), (2), (3), and (10)(i) in either the Notification of Compliance Status, according to the schedule specified in Table 12 to this subpart, or in your first Compliance report, according to the schedule specified in §63.2386(b), whichever occurs first.

(ii)(A) If you submit your first Compliance report before your Notification of Compliance Status, the Notification of Compliance Status must contain the information specified in §63.2386(d)(3) and (4) if any of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report. If none of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report, you do not need to report the information specified in §63.2386(c)(10)(i) when you submit your Notification of Compliance Status.

(B) If you submit your Notification of Compliance Status before your first Compliance report, your first Compliance report must contain the information specified in §63.2386(d)(3) and (4) if any of the changes specified in paragraph (d) of this section have occurred since the filing of the Notification of Compliance Status.

(iii) If you are already submitting a Notification of Compliance Status or a first Compliance report under §63.2386(c), you do not need to submit a separate Notification of Compliance Status or first Compliance report for each storage tank that meets the conditions identified in paragraph (b) of this section (i.e., a single Notification of Compliance Status or first Compliance report should be submitted).

(2)(i) You must submit a subsequent Compliance report according to the schedule in §63.2386(b) whenever any of the events in paragraph (d) of this section occur, as applicable.

(ii) Your subsequent Compliance reports must contain the information in §63.2386(c)(1), (2), (3) and, as applicable, in §63.2386(d)(3) and (4). If you are already submitting a subsequent Compliance report under §63.2386(d), you do not need to submit a separate subsequent Compliance report for each storage tank that meets the conditions identified in paragraph (b) of this section (i.e., a single subsequent Compliance report should be submitted).

(3) For each storage tank that meets the conditions identified in paragraph (b) of this section, you must keep documentation, including a record of the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid, that verifies the storage tank is not required to be controlled under this subpart. The documentation must be kept up-to-date and must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form in a separate location.

(c) For each transfer rack subject to this subpart that loads organic liquids but is not subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must comply with the requirements specified in paragraphs (c)(1) through (3) of this section.

(1)(i) You must submit the information in §63.2386(c)(1), (2), (3), and (10)(i) in either the Notification of Compliance Status, according to the schedule specified in Table 12 to this subpart, or a first Compliance report, according to the schedule specified in §63.2386(b), whichever occurs first.

(ii)(A) If you submit your first Compliance report before your Notification of Compliance Status, the Notification of Compliance Status must contain the information specified in §63.2386(d)(3) and (4) if any of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report. If none of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report, you do not need to report the information specified in §63.2386(c)(10)(i) when you submit your Notification of Compliance Status.

(B) If you submit your Notification of Compliance Status before your first Compliance report, your first Compliance report must contain the information specified in §63.2386(d)(3) and (4) if any of the changes specified in paragraph (d) of this section have occurred since the filing of the Notification of Compliance Status.

(iii) If you are already submitting a Notification of Compliance Status or a first Compliance report under §63.2386(c), you do not need to submit a separate Notification of Compliance Status or first Compliance report for each transfer rack that meets the conditions identified in paragraph (b) of this section (i.e., a single Notification of Compliance Status or first Compliance report should be submitted).

(2)(i) You must submit a subsequent Compliance report according to the schedule in §63.2386(b) whenever any of the events in paragraph (d) of this section occur, as applicable.

(ii) Your subsequent Compliance reports must contain the information in §63.2386(c)(1), (2), (3) and, as applicable, in §63.2386(d)(3) and (4). If you are already submitting a subsequent Compliance report under §63.2386(d), you do not need to submit a separate subsequent Compliance report for each transfer rack that meets the conditions identified in paragraph (c) of this section (i.e., a single subsequent Compliance report should be submitted).

(3) For each transfer rack that meets the conditions identified in paragraph (c) of this section, you must keep documentation, including the records specified in §63.2390(d), that verifies the transfer rack is not required to be controlled under this subpart. The documentation must be kept up-to-date and must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form in a separate location.

(d) If one or more of the events identified in paragraphs (d)(1) through (4) of this section occur since the filing of the Notification of Compliance Status or the last Compliance report, you must submit a subsequent Compliance report as specified in paragraphs (b)(2) and (c)(2) of this section.

(1) Any storage tank or transfer rack became subject to control under this subpart EEEE; or

(2) Any storage tank equal to or greater than 18.9 cubic meters (5,000 gallons) became part of the affected source but is not subject to any of the emission limitations, operating limits, or work practice standards of this subpart; or

(3) Any transfer rack (except those racks at which only unloading of organic liquids occurs) became part of the affected source; or

(4) Any of the information required in §63.2386(c)(1), §63.2386(c)(2), or §63.2386(c)(3) has changed.

[71 FR 42906, July 28, 2006, as amended at 73 FR 21830, Apr. 23, 2008]

## Emission Limitations, Operating Limits, and Work Practice Standards

### § 63.2346 What emission limitations, operating limits, and work practice standards must I meet?

(a) *Storage tanks.* For each storage tank storing organic liquids that meets the tank capacity and liquid vapor pressure criteria for control in Table 2 to this subpart, items 1 through 5, you must comply with paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section. For each storage tank storing organic liquids that meets the tank capacity and liquid vapor pressure criteria for control in Table 2 to this subpart, item 6, you must comply with paragraph (a)(1), (a)(2), or (a)(4) of this section.

(1) Meet the emission limits specified in Table 2 to this subpart and comply with the applicable requirements specified in 40 CFR part 63, subpart SS, for meeting emission limits, except substitute the term “storage tank” at each occurrence of the term “storage vessel” in subpart SS.

(2) Route emissions to fuel gas systems or back into a process as specified in 40 CFR part 63, subpart SS.

(3) Comply with 40 CFR part 63, subpart WW (control level 2).

(4) Use a vapor balancing system that complies with the requirements specified in paragraphs (a)(4)(i) through (vii) of this section and with the recordkeeping requirements specified in §63.2390(e).

(i) The vapor balancing system must be designed and operated to route organic HAP vapors displaced from loading of the storage tank to the transport vehicle from which the storage tank is filled.

(ii) Transport vehicles must have a current certification in accordance with the United States Department of Transportation (U.S. DOT) pressure test requirements of 49 CFR part 180 for cargo tanks and 49 CFR 173.31 for tank cars.

(iii) Organic liquids must only be unloaded from cargo tanks or tank cars when vapor collection systems are connected to the storage tank's vapor collection system.

(iv) No pressure relief device on the storage tank, or on the cargo tank or tank car, shall open during loading or as a result of diurnal temperature changes (breathing losses).

(v) Pressure relief devices must be set to no less than 2.5 pounds per square inch guage (psig) at all times to prevent breathing losses. Pressure relief devices may be set at values less than 2.5 psig if the owner or operator provides rationale in the notification of compliance status report explaining why the alternative value is sufficient to prevent breathing losses at all times. The owner or operator shall comply with paragraphs (a)(4)(v)(A) through (C) of this section for each pressure relief valve.

(A) The pressure relief valve shall be monitored quarterly using the method described in §63.180(b).

(B) An instrument reading of 500 parts per million by volume (ppmv) or greater defines a leak.

(C) When a leak is detected, it shall be repaired as soon as practicable, but no later than 5 days after it is detected, and the owner or operator shall comply with the recordkeeping requirements of §63.181(d)(1) through (4).

(vi) Cargo tanks and tank cars that deliver organic liquids to a storage tank must be reloaded or cleaned at a facility that utilizes the control techniques specified in paragraph (a)(4)(vi)(A) or (a)(4)(vi)(B) of this section.

(A) The cargo tank or tank car must be connected to a closed-vent system with a control device that reduces inlet emissions of total organic HAP by 95 percent by weight or greater or to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air.

(B) A vapor balancing system designed and operated to collect organic HAP vapor displaced from the cargo tank or tank car during reloading must be used to route the collected vapor to the storage tank from which the liquid being transferred originated or to another storage tank connected to a common header.

(vii) The owner or operator of the facility where the cargo tank or tank car is reloaded or cleaned must comply with paragraphs (a)(4)(vii)(A) through (D) of this section.

(A) Submit to the owner or operator of the storage tank and to the Administrator a written certification that the reloading or cleaning facility will meet the requirements of paragraph (a)(4)(vii)(A) through (C) of this section. The certifying entity may revoke the written certification by sending a written statement to the owner or operator of the storage tank giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the requirements of this paragraph (a)(4)(vii) of this section.

(B) If complying with paragraph (a)(4)(vi)(A) of this section, comply with the requirements for a closed vent system and control device as specified in this subpart EEEE. The notification requirements in §63.2382 and the reporting requirements in §63.2386 do not apply to the owner or operator of the offsite cleaning or reloading facility.

(C) If complying with paragraph (a)(4)(vi)(B) of this section, keep the records specified in §63.2390(e)(3) or equivalent recordkeeping approved by the Administrator.

(D) After the compliance dates specified in §63.2342, at an offsite reloading or cleaning facility subject to §63.2346(a)(4), compliance with the monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 that has monitoring, recordkeeping, and reporting provisions constitutes compliance with the monitoring, recordkeeping and reporting provisions of §63.2346(a)(4)(vii)(B) or §63.2346(a)(4)(vii)(C). You must identify in your notification of compliance status report required by §63.2382(d) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(b) *Transfer racks.* For each transfer rack that is part of the collection of transfer racks that meets the total actual annual facility-level organic liquid loading volume criterion for control in Table 2 to this subpart, items 7 through 10, you must comply with paragraph (b)(1), (b)(2), or (b)(3) of this section for each arm in the transfer rack loading an organic liquid whose organic HAP content meets the organic HAP criterion for control in Table 2 to this subpart, items 7 through 10. For existing affected sources, you must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) of this section during the loading of organic liquids into transport vehicles. For new affected sources, you must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) and (ii) of this section during the loading of organic liquids into transport vehicles and containers. If the total actual annual facility-level organic liquid loading volume at any affected source is equal to or greater than the loading volume criteria for control in Table 2 to this subpart, but at a later date is less than the loading volume criteria for control, compliance with paragraph (b)(1), (b)(2), or (b)(3) of this section is no longer required. For new sources and reconstructed sources, as defined in §63.2338(d) and (e), if at a later date, the total actual annual facility-level organic liquid loading volume again becomes equal to or greater than the loading volume criteria for control in Table 2 to this subpart, the owner or operator must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) and (ii) of this section immediately, as specified in §63.2342(a)(3). For existing sources, as defined in §63.2338(f), if at a later date, the total actual annual facility-level organic liquid loading volume again becomes equal to or greater than the loading volume criteria for control in Table 2 to this subpart, the owner or operator must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) of this section immediately, as specified in §63.2342(b)(3)(i), unless an alternative compliance schedule has been approved under §63.2342(b)(3)(ii) and subject to the use limitation specified in §63.2342(b)(3)(ii)(I).

(1) Meet the emission limits specified in Table 2 to this subpart and comply with the applicable requirements for transfer racks specified in 40 CFR part 63, subpart SS, for meeting emission limits.

(2) Route emissions to fuel gas systems or back into a process as specified in 40 CFR part 63, subpart SS.

(3)(i) Use a vapor balancing system that routes organic HAP vapors displaced from the loading of organic liquids into transport vehicles to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header.

(ii) Use a vapor balancing system that routes the organic HAP vapors displaced from the loading of organic liquids into containers directly (e.g., no intervening tank or containment area such as a room) to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header.

(c) *Equipment leak components.* For each pump, valve, and sampling connection that operates in organic liquids service for at least 300 hours per year, you must comply with the applicable requirements under 40 CFR part 63, subpart TT (control level 1), subpart UU (control level 2), or subpart H. Pumps, valves, and sampling connectors that are insulated to provide protection against persistent sub-freezing temperatures are subject to the “difficult to monitor” provisions in the applicable subpart selected by the owner or operator. This paragraph only applies if the affected source has at least one storage tank or transfer rack that meets the applicability criteria for control in Table 2 to this subpart.

(d) *Transport vehicles.* For each transport vehicle equipped with vapor collection equipment that is loaded at a transfer rack that is subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must comply with paragraph (d)(1) of this section. For each transport vehicle without vapor collection equipment that is loaded at a transfer rack that is subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must comply with paragraph (d)(2) of this section.

(1) Follow the steps in 40 CFR 60.502(e) to ensure that organic liquids are loaded only into vapor-tight transport vehicles and comply with the provisions in 40 CFR 60.502(f) through (i), except substitute the term “transport vehicle” at each occurrence of the term “tank truck” or “gasoline tank truck” in those paragraphs.

(2) Ensure that organic liquids are loaded only into transport vehicles that have a current certification in accordance with the U.S. Department of Transportation (DOT) pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

(e) *Operating limits.* For each high throughput transfer rack, you must meet each operating limit in Table 3 to this subpart for each control device used to comply with the provisions of this subpart whenever emissions from the loading of organic liquids are routed to the control device. For each storage tank and low throughput transfer rack, you must comply with the requirements for monitored parameters as specified in subpart SS of this part for storage vessels and, during the loading of organic liquids, for low throughput transfer racks, respectively. Alternatively, you may comply with the operating limits in Table 3 to this subpart.

(f) For noncombustion devices, if you elect to demonstrate compliance with a percent reduction requirement in Table 2 to this subpart using total organic compounds (TOC) rather than organic HAP, you must first demonstrate, subject to the approval of the Administrator, that TOC is an appropriate surrogate for organic HAP in your case; that is, for your storage tank(s) and/or transfer rack(s), the percent destruction of organic HAP is equal to or higher than the percent destruction of TOC. This demonstration must be conducted prior to or during the initial compliance test.

(g) As provided in §63.6(g), you may request approval from the Administrator to use an alternative to the emission limitations, operating limits, and work practice standards in this section. You must follow the procedures in §63.177(b) through (e) in applying for permission to use such an alternative. If you apply for permission to use an alternative to the emission limitations, operating limits, and work practice standards in this section, you must submit the information described in §63.6(g)(2).

(h) [Reserved]

(i) Opening of a safety device is allowed at any time that it is required to avoid unsafe operating conditions.

(j) If you elect to comply with this subpart by combining emissions from different emission sources subject to this subpart in a single control device, then you must comply with the provisions specified in §63.982(f).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42908, July 28, 2006; 73 FR 40981, July 17, 2008; 73 FR 21830, Apr. 23, 2008]

## General Compliance Requirements

### § 63.2350 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limits, and work practice standards in this subpart at all times when the equipment identified in §63.2338(b)(1) through (4) is in OLD operation.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(c) Except for emission sources not required to be controlled as specified in §63.2343, you must develop a written startup, shutdown, and malfunction (SSM) plan according to the provisions in §63.6(e)(3).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42909, July 28, 2006]

## Testing and Initial Compliance Requirements

### § 63.2354 What performance tests, design evaluations, and performance evaluations must I conduct?

(a)(1) For each performance test that you conduct, you must use the procedures specified in subpart SS of this part and the provisions specified in paragraph (b) of this section.

(2) For each design evaluation you conduct, you must use the procedures specified in subpart SS of this part.

(3) For each performance evaluation of a continuous emission monitoring system (CEMS) you conduct, you must follow the requirements in §63.8(e).

(b)(1) For nonflare control devices, you must conduct each performance test according to the requirements in §63.7(e)(1), and either §63.988(b), §63.990(b), or §63.995(b), using the procedures specified in §63.997(e).

(2) You must conduct three separate test runs for each performance test on a nonflare control device as specified in §§63.7(e)(3) and 63.997(e)(1)(v). Each test run must last at least 1 hour, except as provided in §63.997(e)(1)(v)(A) and (B).

(3)(i) In addition to EPA Method 25 or 25A of 40 CFR part 60, appendix A, to determine compliance with the organic HAP or TOC emission limit, you may use EPA Method 18 of 40 CFR part 60, appendix A, as specified in paragraph (b)(3)(i) of this section. As an alternative to EPA Method 18, you may use ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), under the conditions specified in paragraph (b)(3)(ii) of this section.

(A) If you use EPA Method 18 to measure compliance with the percentage efficiency limit, you must first determine which organic HAP are present in the inlet gas stream (i.e., uncontrolled emissions) using knowledge of the organic liquids or the screening procedure described in EPA Method 18. In conducting the performance test, you must analyze samples collected as specified in EPA Method 18, simultaneously at the inlet and outlet of the control device. Quantify the emissions for the same organic HAP identified as present in the inlet gas stream for both the inlet and outlet gas streams of the control device.

(B) If you use EPA Method 18 of 40 CFR part 60, appendix A, to measure compliance with the emission concentration limit, you must first determine which organic HAP are present in the inlet gas stream using knowledge of the organic liquids or the screening procedure described in EPA Method 18. In conducting the performance test, analyze samples collected as specified in EPA Method 18 at the outlet of the control device. Quantify the control device outlet emission concentration for the same organic HAP identified as present in the inlet or uncontrolled gas stream.

(ii) You may use ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), as an alternative to EPA Method 18 if the target concentration is between 150 parts per billion by volume and 100 ppmv and either of the conditions specified in paragraph (b)(2)(ii)(A) or (B) of this section exists. For target compounds not listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004) and not amenable to detection by mass spectrometry, you may not use ASTM D6420–99 (Reapproved 2004).

(A) The target compounds are those listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14),; or

(B) For target compounds not listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), but potentially detected by mass spectrometry, the additional system continuing calibration check after each run, as detailed in ASTM D6420–99 (Reapproved 2004), Section 10.5.3, must be followed, met, documented, and submitted with the data report, even if there is no moisture condenser used or the compound is not considered water-soluble.

(4) If a principal component of the uncontrolled or inlet gas stream to the control device is formaldehyde, you may use EPA Method 316 of appendix A of this part instead of EPA Method 18 of 40 CFR part 60, appendix A, for measuring the formaldehyde. If formaldehyde is the predominant organic HAP in the inlet gas stream, you may use EPA Method 316 alone to measure formaldehyde either at the inlet and outlet of the control device using the formaldehyde control efficiency as a surrogate for total organic HAP or TOC efficiency, or at the outlet of a combustion device for determining compliance with the emission concentration limit.

(5) You may not conduct performance tests during periods of SSM, as specified in §63.7(e)(1).

(c) To determine the HAP content of the organic liquid, you may use EPA Method 311 of 40 CFR part 63, appendix A, or other method approved by the Administrator. In addition, you may use other means, such as voluntary consensus standards, material safety data sheets (MSDS), or certified product data sheets, to determine the HAP content of the organic liquid. If the method you select to determine the HAP content provides HAP content ranges, you must use the upper end of each HAP content range in determining the total HAP content of the organic liquid. The EPA may require you to test the HAP content of an organic liquid using EPA Method 311 or other method approved by the Administrator. If the results of the EPA Method 311 (or any other approved method) are different from the HAP content determined by another means, the EPA Method 311 (or approved method) results will govern.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42909, July 28, 2006]

## § 63.2358 By what date must I conduct performance tests and other initial compliance demonstrations?

(a) You must conduct initial performance tests and design evaluations according to the schedule in §63.7(a)(2), or by the compliance date specified in any applicable State or Federal new source review construction permit to which the affected source is already subject, whichever is earlier.

(b)(1) For storage tanks and transfer racks at existing affected sources complying with the emission limitations listed in Table 2 to this subpart, you must demonstrate initial compliance with the emission limitations within 180 days after February 5, 2007.

(2) For storage tanks and transfer racks at reconstructed or new affected sources complying with the emission limitations listed in Table 2 to this subpart, you must conduct your initial compliance demonstration with the emission limitations within 180 days after the initial startup date for the affected source or February 3, 2004, whichever is later.

(c)(1) For storage tanks at existing affected sources complying with the work practice standard in Table 4 to this subpart, you must conduct your initial compliance demonstration the next time the storage tank is emptied and degassed, but not later than 10 years after February 3, 2004.

(2) For transfer racks and equipment leak components at existing affected sources complying with the work practice standards in Table 4 to this subpart, you must conduct your initial compliance demonstration within 180 days after February 5, 2007.

(d) For storage tanks, transfer racks, and equipment leak components at reconstructed or new affected sources complying with the work practice standards in Table 4 to this subpart, you must conduct your initial compliance demonstration within 180 days after the initial startup date for the affected source.

### § 63.2362 When must I conduct subsequent performance tests?

(a) For nonflare control devices, you must conduct subsequent performance testing required in Table 5 to this subpart, item 1, at any time the EPA requests you to in accordance with section 114 of the CAA.

(b)(1) For each transport vehicle that you own that is equipped with vapor collection equipment and that is loaded with organic liquids at a transfer rack that is subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must perform the vapor tightness testing required in Table 5 to this subpart, item 2, on that transport vehicle at least once per year.

(2) For transport vehicles that you own that do not have vapor collection equipment, you must maintain current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

### § 63.2366 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain a CMS on each control device required in order to comply with this subpart. If you use a continuous parameter monitoring system (CPMS) (as defined in §63.981), you must comply with the applicable requirements for CPMS in subpart SS of this part for the control device being used. If you use a continuous emissions monitoring system (CEMS), you must comply with the requirements in §63.8.

(b) For nonflare control devices controlling storage tanks and low throughput transfer racks, you must submit a monitoring plan according to the requirements in subpart SS of this part for monitoring plans.

### § 63.2370 How do I demonstrate initial compliance with the emission limitations, operating limits, and work practice standards?

(a) You must demonstrate initial compliance with each emission limitation and work practice standard that applies to you as specified in Tables 6 and 7 to this subpart.

(b) You demonstrate initial compliance with the operating limits requirements specified in §63.2346(e) by establishing the operating limits during the initial performance test or design evaluation.

(c) You must submit the results of the initial compliance determination in the Notification of Compliance Status according to the requirements in §63.2382(d).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

## Continuous Compliance Requirements

### § 63.2374 When do I monitor and collect data to demonstrate continuous compliance and how do I use the collected data?

(a) You must monitor and collect data according to subpart SS of this part and paragraphs (b) and (c) of this section.

(b) When using a control device to comply with this subpart, you must monitor continuously or collect data at all required intervals at all times that the emission source and control device are in OLD operation, except for CMS malfunctions (including any malfunction preventing the CMS from operating properly), associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments).

(c) Do not use data recorded during CMS malfunctions, associated repairs, required quality assurance or control activities, or periods when emissions from organic liquids are not routed to the control device in data averages and calculations used to report emission or operating levels. Do not use such data in fulfilling a minimum data availability requirement, if applicable. You must use all of the data collected during all other periods, including periods of SSM, in assessing the operation of the control device.

### § 63.2378 How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?

(a) You must demonstrate continuous compliance with each emission limitation, operating limit, and work practice standard in Tables 2 through 4 to this subpart that applies to you according to the methods specified in subpart SS of this part and in Tables 8 through 10 to this subpart, as applicable.

(b) You must follow the requirements in §63.6(e)(1) and (3) during periods of startup, shutdown, malfunction, or nonoperation of the affected source or any part thereof. In addition, the provisions of paragraphs (b)(1) through (3) of this section apply.

(1) The emission limitations in this subpart apply at all times except during periods of nonoperation of the affected source (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. The emission limitations of this subpart apply during periods of SSM, except as provided in paragraphs (b)(2) and (3) of this section. However, if a SSM, or period of nonoperation of one portion of the affected source does not affect the ability of a particular emission source to comply with the emission limitations to which it is subject, then that emission source is still required to comply with the applicable emission limitations of this subpart during the startup, shutdown, malfunction, or period of nonoperation.

(2) The owner or operator must not shut down control devices or monitoring systems that are required or utilized for achieving compliance with this subpart during periods of SSM while emissions are being routed to such items of equipment if the shutdown would contravene requirements of this subpart applicable to such items of equipment. This paragraph (b)(2) does not apply if the item of equipment is malfunctioning. This paragraph (b)(2) also does not apply if the owner or operator shuts down the compliance equipment (other than monitoring systems) to avoid damage due to a contemporaneous SSM of the affected source or portion thereof. If the owner or operator has reason to believe that monitoring equipment would be damaged due to a contemporaneous SSM of the affected source of portion thereof, the owner or operator must provide documentation supporting such a claim in the next Compliance report required in Table 11 to this subpart, item 1. Once approved by the Administrator, the provision for ceasing to collect, during a SSM, monitoring data that would otherwise be required by the provisions of this subpart must be incorporated into the SSM plan.

(3) During SSM, you must implement, to the extent reasonably available, measures to prevent or minimize excess emissions. For purposes of this paragraph (b)(3), the term “excess emissions” means emissions greater than those allowed by the emission limits that apply during normal operational periods. The measures to be taken must be identified in the SSM plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the affected source. Back-up control devices are not required, but may be used if available.

(c) Periods of planned routine maintenance of a control device used to control storage tanks or transfer racks, during which the control device does not meet the emission limits in Table 2 to this subpart, must not exceed 240 hours per year.

(d) If you elect to route emissions from storage tanks or transfer racks to a fuel gas system or to a process, as allowed by §63.982(d), to comply with the emission limits in Table 2 to this subpart, the total aggregate amount of time during which the emissions bypass the fuel gas system or process during the calendar year without being routed to a control device, for all reasons (except SSM or product changeovers of flexible operation units and periods when a storage tank has been emptied and degassed), must not exceed 240 hours.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 20463, Apr. 20, 2006]

## Notifications, Reports, and Records

### § 63.2382 What notifications must I submit and when and what information should be submitted?

(a) You must submit each notification in subpart SS of this part, Table 12 to this subpart, and paragraphs (b) through (d) of this section that applies to you. You must submit these notifications according to the schedule in Table 12 to this subpart and as specified in paragraphs (b) through (d) of this section.

(b)(1) *Initial Notification.* If you startup your affected source before February 3, 2004, you must submit the Initial Notification no later than 120 calendar days after February 3, 2004.

(2) If you startup your new or reconstructed affected source on or after February 3, 2004, you must submit the Initial Notification no later than 120 days after initial startup.

(c) If you are required to conduct a performance test, you must submit the Notification of Intent to conduct the test at least 60 calendar days before it is initially scheduled to begin as required in §63.7(b)(1).

(d)(1) *Notification of Compliance Status.* If you are required to conduct a performance test, design evaluation, or other initial compliance demonstration as specified in Table 5, 6, or 7 to this subpart, you must submit a Notification of Compliance Status.

(2) The Notification of Compliance Status must include the information required in §63.999(b) and in paragraphs (d)(2)(i) through (viii) of this section.

(i) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify organic HAP emissions from the affected source.

(ii) The results of emissions profiles, performance tests, engineering analyses, design evaluations, flare compliance assessments, inspections and repairs, and calculations used to demonstrate initial compliance according to Tables 6 and 7 to this subpart. For performance tests, results must include descriptions of sampling and analysis procedures and quality assurance procedures.

(iii) Descriptions of monitoring devices, monitoring frequencies, and the operating limits established during the initial compliance demonstrations, including data and calculations to support the levels you establish.

(iv) Descriptions of worst-case operating and/or testing conditions for the control device(s).

(v) Identification of emission sources subject to overlapping requirements described in §63.2396 and the authority under which you will comply.

(vi) The applicable information specified in §63.1039(a)(1) through (3) for all pumps and valves subject to the work practice standards for equipment leak components in Table 4 to this subpart, item 4.

(vii) If you are complying with the vapor balancing work practice standard for transfer racks according to Table 4 to this subpart, item 3.a, include a statement to that effect and a statement that the pressure vent settings on the affected storage tanks are greater than or equal to 2.5 psig.

(viii) The information specified in §63.2386(c)(10)(i), unless the information has already been submitted with the first Compliance report. If the information specified in §63.2386(c)(10)(i) has already been submitted with the first Compliance report, the information specified in §63.2386(d)(3) and (4), as applicable, shall be submitted instead.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

### § 63.2386 What reports must I submit and when and what information is to be submitted in each?

(a) You must submit each report in subpart SS of this part, Table 11 to this subpart, Table 12 to this subpart, and in paragraphs (c) through (e) of this section that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report according to Table 11 to this subpart and by the dates shown in paragraphs (b)(1) through (3) of this section, by the dates shown in subpart SS of this part, and by the dates shown in Table 12 to this subpart, whichever are applicable.

(1)(i) The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.2342 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your affected source in §63.2342.

(ii) The first Compliance report must be postmarked no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.2342.

(2)(i) Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(ii) Each subsequent Compliance report must be postmarked no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(3) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) and (2) of this section.

(c) *First Compliance report.* The first Compliance report must contain the information specified in paragraphs (c)(1) through (10) of this section.

(1) Company name and address.

(2) Statement by a responsible official, including the official's name, title, and signature, certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

(3) Date of report and beginning and ending dates of the reporting period.

(4) Any changes to the information listed in §63.2382(d)(2) that have occurred since the submittal of the Notification of Compliance Status.

(5) If you had a SSM during the reporting period and you took actions consistent with your SSM plan, the Compliance report must include the information described in §63.10(d)(5)(i).

(6) If there are no deviations from any emission limitation or operating limit that applies to you and there are no deviations from the requirements for work practice standards, a statement that there were no deviations from the emission limitations, operating limits, or work practice standards during the reporting period.

(7) If there were no periods during which the CMS was out of control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out of control during the reporting period.

(8) For closed vent systems and control devices used to control emissions, the information specified in paragraphs (c)(8)(i) and (ii) of this section for those planned routine maintenance activities that would require the control device to not meet the applicable emission limit.

(i) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description must include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(ii) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description must include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the applicable emission limit due to planned routine maintenance.

(9) A listing of all transport vehicles into which organic liquids were loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, during the previous 6 months for which vapor tightness documentation as required in §63.2390(c) was not on file at the facility.

(10)(i) A listing of all transfer racks (except those racks at which only unloading of organic liquids occurs) and of tanks greater than or equal to 18.9 cubic meters (5,000 gallons) that are part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart.

(ii) If the information specified in paragraph (c)(10)(i) of this section has already been submitted with the Notification of Compliance Status, the information specified in paragraphs (d)(3) and (4) of this section, as applicable, shall be submitted instead.

(d) *Subsequent Compliance reports* . Subsequent Compliance reports must contain the information in paragraphs (c)(1) through (9) of this section and, where applicable, the information in paragraphs (d)(1) through (4) of this section.

(1) For each deviation from an emission limitation occurring at an affected source where you are using a CMS to comply with an emission limitation in this subpart, you must include in the Compliance report the applicable information in paragraphs (d)(1)(i) through (xii) of this section. This includes periods of SSM.

(i) The date and time that each malfunction started and stopped.

(ii) The dates and times that each CMS was inoperative, except for zero (low-level) and high-level checks.

(iii) For each CMS that was out of control, the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of SSM, or during another period.

(v) A summary of the total duration of the deviations during the reporting period, and the total duration as a percentage of the total emission source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percentage of the total emission source operating time during that reporting period.

(viii) An identification of each organic HAP that was potentially emitted during each deviation based on the known organic HAP contained in the liquid(s).

(ix) A brief description of the emission source(s) at which the CMS deviation(s) occurred.

(x) A brief description of each CMS that was out of control during the period.

(xi) The date of the latest certification or audit for each CMS.

(xii) A brief description of any changes in CMS, processes, or controls since the last reporting period.

(2) Include in the Compliance report the information in paragraphs (d)(2)(i) through (iii) of this section, as applicable.

(i) For each storage tank and transfer rack subject to control requirements, include periods of planned routine maintenance during which the control device did not comply with the applicable emission limits in table 2 to this subpart.

(ii) For each storage tank controlled with a floating roof, include a copy of the inspection record (required in §63.1065(b)) when inspection failures occur.

(iii) If you elect to use an extension for a floating roof inspection in accordance with §63.1063(c)(2)(iv)(B) or (e)(2), include the documentation required by those paragraphs.

(3)(i) A listing of any storage tank that became subject to controls based on the criteria for control specified in table 2 to this subpart, items 1 through 6, since the filing of the last Compliance report.

(ii) A listing of any transfer rack that became subject to controls based on the criteria for control specified in table 2 to this subpart, items 7 through 10, since the filing of the last Compliance report.

(4)(i) A listing of tanks greater than or equal to 18.9 cubic meters (5,000 gallons) that became part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart, since the last Compliance report.

(ii) A listing of all transfer racks (except those racks at which only the unloading of organic liquids occurs) that became part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart, since the last Compliance report.

(e) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to table 11 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission limitation in this subpart, we will consider submission of the Compliance report as satisfying any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report will not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the applicable title V permitting authority.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

### § 63.2390 What records must I keep?

(a) For each emission source identified in §63.2338 that does not require control under this subpart, you must keep all records identified in §63.2343.

(b) For each emission source identified in §63.2338 that does require control under this subpart:

(1) You must keep all records identified in subpart SS of this part and in table 12 to this subpart that are applicable, including records related to notifications and reports, SSM, performance tests, CMS, and performance evaluation plans; and

(2) You must keep the records required to show continuous compliance, as required in subpart SS of this part and in tables 8 through 10 to this subpart, with each emission limitation, operating limit, and work practice standard that applies to you.

(c) For each transport vehicle into which organic liquids are loaded at a transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, you must keep the applicable records in paragraphs (c)(1) and (2) of this section or alternatively the verification records in paragraph (c)(3) of this section.

(1) For transport vehicles equipped with vapor collection equipment, the documentation described in 40 CFR 60.505(b), except that the test title is: Transport Vehicle Pressure Test-EPA Reference Method 27.

(2) For transport vehicles without vapor collection equipment, current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

(3) In lieu of keeping the records specified in paragraph (c)(1) or (2) of this section, as applicable, the owner or operator shall record that the verification of U.S. DOT tank certification or Method 27 of appendix A to 40 CFR part 60 testing, required in table 5 to this subpart, item 2, has been performed. Various methods for the record of verification can be used, such as: A check-off on a log sheet, a list of U.S. DOT serial numbers or Method 27 data, or a position description for gate security showing that the security guard will not allow any trucks on site that do not have the appropriate documentation.

(d) You must keep records of the total actual annual facility-level organic liquid loading volume as defined in §63.2406 through transfer racks to document the applicability, or lack thereof, of the emission limitations in table 2 to this subpart, items 7 through 10.

(e) An owner or operator who elects to comply with §63.2346(a)(4) shall keep the records specified in paragraphs (e)(1) through (3) of this section.

(1) A record of the U.S. DOT certification required by §63.2346(a)(4)(ii).

(2) A record of the pressure relief vent setting specified in §63.2346(a)(4)(v).

(3) If complying with §63.2346(a)(4)(vi)(B), keep the records specified in paragraphs (e)(3)(i) and (ii) of this section.

(i) A record of the equipment to be used and the procedures to be followed when reloading the cargo tank or tank car and displacing vapors to the storage tank from which the liquid originates.

(ii) A record of each time the vapor balancing system is used to comply with §63.2346(a)(4)(vi)(B).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006; 73 FR 40982, July 17, 2008]

## § 63.2394 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form at a separate location.

(b) As specified in §63.10(b)(1), you must keep your files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You may keep the records off site for the remaining 3 years.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

## Other Requirements and Information

### § 63.2396 What compliance options do I have if part of my plant is subject to both this subpart and another subpart?

(a) *Compliance with other regulations for storage tanks* . (1) After the compliance dates specified in §63.2342, you are in compliance with the provisions of this subpart for any storage tank that is assigned to the OLD affected source and that is both controlled with a floating roof and is in compliance with the provisions of either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, except that records shall be kept for 5 years rather than 2 years for storage tanks that are assigned to the OLD affected source.

(2) After the compliance dates specified in §63.2342, you are in compliance with the provisions of this subpart for any storage tank with a fixed roof that is assigned to the OLD affected source and that is both controlled with a closed vent system and control device and is in compliance with either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, except that you must comply with the monitoring, recordkeeping, and reporting requirements in this subpart.

(3) As an alternative to paragraphs (a)(1) and (2) of this section, if a storage tank assigned to the OLD affected source is subject to control under 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, you may elect to comply only with the requirements of this subpart for storage tanks meeting the applicability criteria for control in table 2 to this subpart.

(b) *Compliance with other regulations for transfer racks* . After the compliance dates specified in §63.2342, if you have a transfer rack that is subject to 40 CFR part 61, subpart BB, and that transfer rack is in OLD operation, you must meet all of the requirements of this subpart for that transfer rack when the transfer rack is in OLD operation during the loading of organic liquids.

(c) *Compliance with other regulations for equipment leak components.* (1) After the compliance dates specified in §63.2342, if you have pumps, valves, or sampling connections that are subject to a 40 CFR part 60 subpart, and those pumps, valves, and sampling connections are in OLD operation and in organic liquids service, as defined in this subpart, you must comply with the provisions of each subpart for those equipment leak components.

(2) After the compliance dates specified in §63.2342, if you have pumps, valves, or sampling connections subject to 40 CFR part 63, subpart GGG, and those pumps, valves, and sampling connections are in OLD operation and in organic liquids service, as defined in this subpart, you may elect to comply with the provisions of this subpart for all such equipment leak components. You must identify in the Notification of Compliance Status required by §63.2382(b) the provisions with which you will comply.

(d) [Reserved]

(e) *Overlap with other regulations for monitoring, recordkeeping, and reporting* —(1) *Control devices* . After the compliance dates specified in §63.2342, if any control device subject to this subpart is also subject to monitoring, recordkeeping, and reporting requirements of another 40 CFR part 63 subpart, the owner or operator must be in compliance with the monitoring, recordkeeping, and reporting requirements of this subpart EEEE. If complying with the monitoring, recordkeeping, and reporting requirements of the other subpart satisfies the monitoring, recordkeeping, and reporting requirements of this subpart, the owner or operator may elect to continue to comply with the monitoring, recordkeeping, and reporting requirements of the other subpart. In such instances, the owner or operator will be deemed to be in compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. The owner or operator must identify the other subpart being complied with in the Notification of Compliance Status required by §63.2382(b).

(2) *Equipment leak components* . After the compliance dates specified in §63.2342, if you are applying the applicable recordkeeping and reporting requirements of another 40 CFR part 63 subpart to the valves, pumps, and sampling connection systems associated with a transfer rack subject to this subpart that only unloads organic liquids directly to or via pipeline to a non-tank process unit component or to a storage tank subject to the other 40 CFR part 63 subpart, the owner or operator must be in compliance with the recordkeeping and reporting requirements of this subpart EEEE. If complying with the recordkeeping and reporting requirements of the other subpart satisfies the recordkeeping and reporting requirements of this subpart, the owner or operator may elect to continue to comply with

the recordkeeping and reporting requirements of the other subpart. In such instances, the owner or operator will be deemed to be in compliance with the recordkeeping and reporting requirements of this subpart. The owner or operator must identify the other subpart being complied with in the Notification of Compliance Status required by §63.2382(b).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

### § 63.2398 What parts of the General Provisions apply to me?

Table 12 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

### § 63.2402 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (U.S. EPA) or a delegated authority such as your State, local, or eligible tribal agency. If the EPA Administrator has delegated authority to your State, local, or eligible tribal agency, then that agency, as well as the EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office (see list in §63.13) to find out if this subpart is delegated to your State, local, or eligible tribal agency.

(b) In delegating implementation and enforcement authority for this subpart to a State, local, or eligible tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (4) of this section are retained by the EPA Administrator and are not delegated to the State, local, or eligible tribal agency.

(1) Approval of alternatives to the nonopacity emission limitations, operating limits, and work practice standards in §63.2346(a) through (c) under §63.6(g).

(2) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

### § 63.2406 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in §63.2, 40 CFR part 63, subparts H, PP, SS, TT, UU, and WW, and in this section. If the same term is defined in another subpart and in this section, it will have the meaning given in this section for purposes of this subpart. Notwithstanding the introductory language in §63.921, the terms “container” and “safety device” shall have the meaning found in this subpart and not in §63.921.

*Actual annual average temperature,* for organic liquids, means the temperature determined using the following methods:

(1) For heated or cooled storage tanks, use the calculated annual average temperature of the stored organic liquid as determined from a design analysis of the storage tank.

(2) For ambient temperature storage tanks:

(i) Use the annual average of the local (nearest) normal daily mean temperatures reported by the National Climatic Data Center; or

(ii) Use any other method that the EPA approves.

*Annual average true vapor pressure* means the equilibrium partial pressure exerted by the total table 1 organic HAP in the stored or transferred organic liquid. For the purpose of determining if a liquid meets the definition of an organic liquid, the vapor pressure is determined using standard conditions of 77 degrees F and 29.92 inches of mercury. For the purpose of determining whether an organic liquid meets the applicability criteria in table 2, items 1 through 6, to this subpart, use the actual annual average temperature as defined in this subpart. The vapor pressure value in either of these cases is determined:

(1) In accordance with methods described in American Petroleum Institute Publication 2517, Evaporative Loss from External Floating-Roof Tanks (incorporated by reference, see §63.14);

(2) Using standard reference texts;

(3) By the American Society for Testing and Materials Method D2879–83, 96 (incorporated by reference, see §63.14); or

(4) Using any other method that the EPA approves.

*Bottoms receiver* means a tank that collects distillation bottoms before the stream is sent for storage or for further processing downstream.

*Cargo tank* means a liquid-carrying tank permanently attached and forming an integral part of a motor vehicle or truck trailer. This term also refers to the entire cargo tank motor vehicle or trailer. For the purpose of this subpart, vacuum trucks used exclusively for maintenance or spill response are not considered cargo tanks.

*Closed vent system* means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapors from an emission point to a control device. This system does not include the vapor collection system that is part of some transport vehicles or the loading arm or hose that is used for vapor return. For transfer racks, the closed vent system begins at, and includes, the first block valve on the downstream side of the loading arm or hose used to convey displaced vapors.

*Combustion device* means an individual unit of equipment, such as a flare, oxidizer, catalytic oxidizer, process heater, or boiler, used for the combustion of organic emissions.

*Container* means a portable unit in which a material can be stored, transported, treated, disposed of, or otherwise handled. Examples of containers include, but are not limited to, drums and portable cargo containers known as “portable tanks” or “totes.”

*Control device* means any combustion device, recovery device, recapture device, or any combination of these devices used to comply with this subpart. Such equipment or devices include, but are not limited to, absorbers, adsorbers, condensers, and combustion devices. Primary condensers, steam strippers, and fuel gas systems are not considered control devices.

*Crude oil* means any of the naturally occurring liquids commonly referred to as crude oil, regardless of specific physical properties. Only those crude oils downstream of the first point of custody transfer after the production field are considered crude oils in this subpart.

*Custody transfer* means the transfer of hydrocarbon liquids after processing and/or treatment in the producing operations, or from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

*Design evaluation* means a procedure for evaluating control devices that complies with the requirements in §63.985(b)(1)(i).

*Deviation* means any instance in which an affected source subject to this subpart, or portion thereof, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart, and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during SSM.

*Emission limitation* means an emission limit, opacity limit, operating limit, or visible emission limit.

*Equipment leak component* means each pump, valve, and sampling connection system used in organic liquids service at an OLD operation. Valve types include control, globe, gate, plug, and ball. Relief and check valves are excluded.

*Gasoline* means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals (4.0 pounds per square inch absolute (psia)) or greater which is used as a fuel for internal combustion engines. Aviation gasoline is included in this definition.

*High throughput transfer rack* means those transfer racks that transfer into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) a total of 11.8 million liters per year or greater of organic liquids.

*In organic liquids service* means that an equipment leak component contains or contacts organic liquids having 5 percent by weight or greater of the organic HAP listed in Table 1 to this subpart.

*Low throughput transfer rack* means those transfer racks that transfer into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) less than 11.8 million liters per year of organic liquids.

*On-site* or *on site* means, with respect to records required to be maintained by this subpart or required by another subpart referenced by this subpart, that records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the affected source to which the records pertain, storage in central files elsewhere at the major source, or electronically available at the site.

*Organic liquid* means:

(1) Any non-crude oil liquid or liquid mixture that contains 5 percent by weight or greater of the organic HAP listed in Table 1 to this subpart, as determined using the procedures specified in §63.2354(c).

(2) Any crude oils downstream of the first point of custody transfer.

(3) Organic liquids for purposes of this subpart do not include the following liquids:

(i) Gasoline (including aviation gasoline), kerosene (No. 1 distillate oil), diesel (No. 2 distillate oil), asphalt, and heavier distillate oils and fuel oils;

(ii) Any fuel consumed or dispensed on the plant site directly to users (such as fuels for fleet refueling or for refueling marine vessels that support the operation of the plant);

(iii) Hazardous waste;

(iv) Wastewater;

(v) Ballast water: or

(vi) Any non-crude oil liquid with an annual average true vapor pressure less than 0.7 kilopascals (0.1 psia).

*Organic liquids distribution (OLD) operation* means the combination of activities and equipment used to store or transfer organic liquids into, out of, or within a plant site regardless of the specific activity being performed. Activities include, but are not limited to, storage, transfer, blending, compounding, and packaging.

*Permitting authority* means one of the following:

(1) The State Air Pollution Control Agency, local agency, or other agency authorized by the EPA Administrator to carry out a permit program under 40 CFR part 70; or

(2) The EPA Administrator, in the case of EPA-implemented permit programs under title V of the CAA (42 U.S.C. 7661) and 40 CFR part 71.

*Plant site* means all contiguous or adjoining surface property that is under common control, including surface properties that are separated only by a road or other public right-of-way. Common control includes surface properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination.

*Research and development facility* means laboratory and pilot plant operations whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which are not engaged in the manufacture of products for commercial sale, except in a *de minimis* manner.

*Responsible official* means responsible official as defined in 40 CFR 70.2 and 40 CFR 71.2, as applicable.

*Safety device* means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device that functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event.

*Shutdown* means the cessation of operation of an OLD affected source, or portion thereof (other than as part of normal operation of a batch-type operation), including equipment required or used to comply with this subpart, or the emptying and degassing of a storage tank. Shutdown as defined here includes, but is not limited to, events that result from periodic maintenance, replacement of equipment, or repair.

*Startup* means the setting in operation of an OLD affected source, or portion thereof (other than as part of normal operation of a batch-type operation), for any purpose. Startup also includes the placing in operation of any individual piece of equipment required or used to comply with this subpart including, but not limited to, control devices and monitors.

*Storage tank* means a stationary unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, or reinforced plastic) that provide structural support and is designed to hold a bulk quantity of liquid. Storage tanks do not include:

(1) Units permanently attached to conveyances such as trucks, trailers, rail cars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(3) Bottoms receivers;

(4) Surge control vessels;

(5) Vessels storing wastewater; or

(6) Reactor vessels associated with a manufacturing process unit.

*Surge control vessel* means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within chemical manufacturing processes when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

*Tank car* means a car designed to carry liquid freight by rail, and including a permanently attached tank.

*Total actual annual facility-level organic liquid loading volume* means the total facility-level actual volume of organic liquid loaded for transport within or out of the facility through transfer racks that are part of the affected source into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) based on a 3-year rolling average, calculated annually.

(1) For existing affected sources, each 3-year rolling average is based on actual facility-level loading volume during each calendar year (January 1 through December 31) in the 3-year period. For calendar year 2004 only (the first year of the initial 3-year rolling average), if an owner or operator of an affected source does not have actual loading volume data for the time period from January 1, 2004, through February 2, 2004 (the time period prior to the effective date of the OLD NESHAP), the owner or operator shall compute a facility-level loading volume for this time period as follows: At the end of the 2004 calendar year, the owner or operator shall calculate a daily average facility-level loading volume (based on the actual loading volume for February 3, 2004, through December 31, 2004) and use that daily average to estimate the facility-level loading volume for the period of time from January 1, 2004, through February 2, 2004. The owner or operator shall then sum the estimated facility-level loading volume from January 1, 2004, through February 2, 2004, and the actual facility-level loading volume from February 3, 2004, through December 31, 2004, to calculate the annual facility-level loading volume for calendar year 2004.

(2)(i) For new affected sources, the 3-year rolling average is calculated as an average of three 12-month periods. An owner or operator must select as the beginning calculation date with which to start the calculations as either the initial startup date of the new affected source or the first day of the calendar month following the month in which startup occurs. Once selected, the date with which the calculations begin cannot be changed.

(ii) The initial 3-year rolling average is based on the projected maximum facility-level annual loading volume for each of the 3 years following the selected beginning calculation date. The second 3-year rolling average is based on actual facility-level loading volume for the first year of operation plus a new projected maximum facility-level annual loading volume for second and third years following the selected beginning calculation date. The third 3-year rolling average is based on actual facility-level loading volume for the first 2 years of operation plus a new projected maximum annual facility-level loading volume for the third year following the beginning calculation date. Subsequent 3-year rolling averages are based on actual facility-level loading volume for each year in the 3-year rolling average.

*Transfer rack* means a single system used to load organic liquids into, or unload organic liquids out of, transport vehicles or containers. It includes all loading and unloading arms, pumps, meters, shutoff valves, relief valves, and other piping and equipment necessary for the transfer operation. Transfer equipment and operations that are physically separate (i.e., do not share common piping, valves, and other equipment) are considered to be separate transfer racks.

*Transport vehicle* means a cargo tank or tank car.

*Vapor balancing system* means:

(1) A piping system that collects organic HAP vapors displaced from transport vehicles or containers during loading and routes the collected vapors to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header. For containers, the piping system must route the displaced vapors directly to the appropriate storage tank or to another storage tank connected to a common header in order to qualify as a vapor balancing system; or

(2) A piping system that collects organic HAP vapors displaced from the loading of a storage tank and routes the collected vapors to the transport vehicle from which the storage tank is filled.

*Vapor collection system* means any equipment located at the source (i.e., at the OLD operation) that is not open to the atmosphere; that is composed of piping, connections, and, if necessary, flow-inducing devices; and that is used for:

(1) Containing and conveying vapors displaced during the loading of transport vehicles to a control device;

(2) Containing and directly conveying vapors displaced during the loading of containers; or

(3) Vapor balancing. This does not include any of the vapor collection equipment that is installed on the transport vehicle.

*Vapor-tight transport vehicle* means a transport vehicle that has been demonstrated to be vapor-tight. To be considered vapor-tight, a transport vehicle equipped with vapor collection equipment must undergo a pressure change of no more than 250 pascals (1 inch of water) within 5 minutes after it is pressurized to 4,500 pascals (18 inches of water). This capability must be demonstrated annually using the procedures specified in EPA Method 27 of 40 CFR part 60, appendix A. For all other transport vehicles, vapor tightness is demonstrated by performing the U.S. DOT pressure test procedures for tank cars and cargo tanks.

*Work practice standard* means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

### Table 1 to Subpart EEEE of Part 63—Organic Hazardous Air Pollutants

You must use the organic HAP information listed in the following table to determine which of the liquids handled at your facility meet the HAP content criteria in the definition of Organic Liquid in §63.2406.

| Compound name | CAS No.[1] |
|---|---:|
| 2,4-D salts and esters | 94–75–7 |
| Acetaldehyde | 75–07–0 |
| Acetonitrile | 75–05–8 |
| Acetophenone | 98–86–2 |
| Acrolein | 107–02–8 |
| Acrylamide | 79–06–1 |
| Acrylic acid | 79–10–7 |
| Acrylonitrile | 107–13–1 |
| Allyl chloride | 107–05–1 |
| Aniline | 62–53–3 |
| Benzene | 71–43–2 |
| Biphenyl | 92–52–4 |
| Butadiene (1,3-) | 106–99–0 |
| Carbon tetrachloride | 56–23–5 |
| Chloroacetic acid | 79–11–8 |
| Chlorobenzene | 108–90–7 |
| 2-Chloro-1,3-butadiene (Chloroprene) | 126–99–8 |
| Chloroform | 67–66–3 |

| Compound name | CAS No.[1] |
|---|---|
| m-Cresol | 108–39–4 |
| o-Cresol | 95–48–7 |
| p-Cresol | 106–44–5 |
| Cresols/cresylic acid | 1319–77–3 |
| Cumene | 98–82–8 |
| Dibenzofurans | 132–64–9 |
| Dibutylphthalate | 84–74–2 |
| Dichloroethane (1,2-) (Ethylene dichloride) (EDC) | 107–06–2 |
| Dichloropropene (1,3-) | 542–75–6 |
| Diethanolamine | 111–42–2 |
| Diethyl aniline (N,N-) | 121–69–7 |
| Diethylene glycol monobutyl ether | 112–34–5 |
| Diethylene glycol monomethyl ether | 111–77–3 |
| Diethyl sulfate | 64–67–5 |
| Dimethyl formamide | 68–12–2 |
| Dimethylhydrazine (1,1-) | 57–14–7 |
| Dioxane (1,4-) (1,4-Diethyleneoxide) | 123–91–1 |
| Epichlorohydrin (1-Chloro-2,3-epoxypropane) | 106–89–8 |
| Epoxybutane (1,2-) | 106–88–7 |
| Ethyl acrylate | 140–88–5 |
| Ethylbenzene | 100–41–4 |
| Ethyl chloride (Chloroethane) | 75–00–3 |
| Ethylene dibromide (Dibromomethane) | 106–93–4 |
| Ethylene glycol | 107–21–1 |
| Ethylene glycol dimethyl ether | 110–71–4 |
| Ethylene glycol monomethyl ether | 109–86–4 |
| Ethylene glycol monomethyl ether acetate | 110–49–6 |
| Ethylene glycol monophenyl ether | 122–99–6 |
| Ethylene oxide | 75–21–8 |
| Ethylidene dichloride (1,1-Dichloroethane) | 75–34–3 |
| Formaldehyde | 50–00–0 |
| Hexachloroethane | 67–72–1 |

| Compound name | CAS No.[1] |
|---|---|
| Hexane | 110–54–3 |
| Hydroquinone | 123–31–9 |
| Isophorone | 78–59–1 |
| Maleic anhydride | 108–31–6 |
| Methanol | 67–56–1 |
| Methyl chloride (Chloromethane) | 74–87–3 |
| Methylene chloride (Dichloromethane) | 75–09–2 |
| Methylenedianiline (4,4′-) | 101–77–9 |
| Methylene diphenyl diisocyanate | 101–68–8 |
| Methyl hydrazine | 60–34–4 |
| Methyl isobutyl ketone (Hexone) (MIBK) | 108–10–1 |
| Methyl methacrylate | 80–62–6 |
| Methyl tert-butyl ether (MTBE) | 1634–04–4 |
| Naphthalene | 91–20–3 |
| Nitrobenzene | 98–95–3 |
| Phenol | 108–9–52 |
| Phthalic anhydride | 85–44–9 |
| Polycyclic organic matter | 50–32–8 |
| Propionaldehyde | 123–38–6 |
| Propylene dichloride (1,2-Dichloropropane) | 78–87–5 |
| Propylene oxide | 75–56–9 |
| Quinoline | 91–22–5 |
| Styrene | 100–42–5 |
| Styrene oxide | 96–09–3 |
| Tetrachloroethane (1,1,2,2-) | 79–34–5 |
| Tetrachloroethylene (Perchloroethylene) | 127–18–4 |
| Toluene | 108–88–3 |
| Toluene diisocyanate (2,4-) | 584–84–9 |
| o-Toluidine | 95–53–4 |
| Trichlorobenzene (1,2,4-) | 120–82–1 |
| Trichloroethane (1,1,1-) (Methyl chloroform) | 71–55–6 |
| Trichloroethane (1,1,2-) (Vinyl trichloride) | 79–00–5 |

| Compound name | CAS No.[1] |
|---|---|
| Trichloroethylene | 79–01–6 |
| Triethylamine | 121–44–8 |
| Trimethylpentane (2,2,4-) | 540–84–1 |
| Vinyl acetate | 108–05–4 |
| Vinyl chloride (Chloroethylene) | 75–01–4 |
| Vinylidene chloride (1,1-Dichloroethylene) | 75–35–4 |
| Xylene (m-) | 108–38–3 |
| Xylene (o-) | 95–47–6 |
| Xylene (p-) | 106–42–3 |
| Xylenes (isomers and mixtures) | 1330–20–7 |

[1]CAS numbers refer to the Chemical Abstracts Services registry number assigned to specific compounds, isomers, or mixtures of compounds.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42913, July 28, 2006]

**Table 2 to Subpart EEEE of Part 63—Emission Limits**

As stated in §63.2346, you must comply with the emission limits for the organic liquids distribution emission sources as follows:

| If you own or operate . . . | And if . . . | Then you must . . . |
|---|---|---|
| 1. A storage tank at an existing affected source with a capacity ≥18.9 cubic meters (5,000 gallons) and <189.3 cubic meters (50,000 gallons). | a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥27.6 kilopascals (4.0 psia) and <76.6 kilopascals (11.1 psia). | i. Reduce emissions of total organic HAP (or, upon approval, TOC) by at least 95 weight-percent or, as an option, to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air, by venting emissions through a closed vent system to any combination of control devices meeting the applicable requirements of 40 CFR part 63, subpart SS; OR |
| | | ii. Comply with the work practice standards specified in table 4 to this subpart, items 1.a, 1.b, or 1.c for tanks storing liquids described in that table. |
| | b. The stored organic liquid is crude oil. | i. See the requirement in item 1.a.i or 1.a.ii of this table. |

| If you own or operate . . . | And if . . . | Then you must . . . |
|---|---|---|
| 2. A storage tank at an existing affected source with a capacity ≥189.3 cubic meters (50,000 gallons). | a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is <76.6 kilopascals (11.1 psia). | i. See the requirement in item 1.a.i or 1.a.ii of this table. |
| | b. The stored organic liquid is crude oil. | i. See the requirement in item 1.a.i or 1.a.ii of this table. |
| 3. A storage tank at a reconstructed or new affected source with a capacity ≥18.9 cubic meters (5,000 gallons) and <37.9 cubic meters (10,000 gallons). | a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥27.6 kilopascals (4.0 psia) and <76.6 kilopascals (11.1 psia). | i. See the requirement in item 1.a.i or 1.a.ii of this table. |
| | b. The stored organic liquid is crude oil. | i. See the requirement in item 1.a.i or 1.a.ii of this table. |
| 4. A storage tank at a reconstructed or new affected source with a capacity ≥37.9 cubic meters (10,000 gallons) and <189.3 cubic meters (50,000 gallons). | a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥0.7 kilopascals (0.1 psia) and <76.6 kilopascals (11.1 psia). | i. See the requirement in item 1.a.i or 1.a.ii of this table. |
| | b. The stored organic liquid is crude oil. | i. See the requirement in item 1.a.i or 1.a.ii of this table. |
| 5. A storage tank at a reconstructed or new affected source with a capacity ≥189.3 cubic meters (50,000 gallons). | a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is <76.6 kilopascals (11.1 psia). | i. See the requirement in item 1.a.i or 1.a.ii of this table. |
| | b. The stored organic liquid is crude oil. | i. See the requirement in item 1.a.i or 1.a.ii of this table. |

| If you own or operate . . . | And if . . . | Then you must . . . |
|---|---|---|
| 6. A storage tank at an existing, reconstructed, or new affected source meeting the capacity criteria specified in table 2 of this subpart, items 1 through 5. | a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥76.6 kilopascals (11.1 psia). | i. Reduce emissions of total organic HAP (or, upon approval, TOC) by at least 95 weight-percent or, as an option, to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air, by venting emissions through a closed vent system to any combination of control devices meeting the applicable requirements of 40 CFR part 63, subpart SS; OR |
| | | ii. Comply with the work practice standards specified in table 4 to this subpart, item 2.a, for tanks storing the liquids described in that table. |
| 7. A transfer rack at an existing facility where the total actual annual facility-level organic liquid loading volume through transfer racks is equal to or greater than 800,000 gallons and less than 10 million gallons. | a. The total table 1 organic HAP content of the organic liquid being loaded through one or more of the transfer rack's arms is at least 98 percent by weight and is being loaded into a transport vehicle. | i. For all such loading arms at the rack, reduce emissions of total organic HAP (or, upon approval, TOC) from the loading of organic liquids either by venting the emissions that occur during loading through a closed vent system to any combination of control devices meeting the applicable requirements of 40 CFR part 63, subpart SS, achieving at least 98 weight-percent HAP reduction, OR, as an option, to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air; OR |
| | | ii. During the loading of organic liquids, comply with the work practice standards specified in item 3 of table 4 to this subpart. |
| 8. A transfer rack at an existing facility where the total actual annual facility-level organic liquid loading volume through transfer racks is ≥10 million gallons. | a. One or more of the transfer rack's arms is loading an organic liquid into a transport vehicle. | i. See the requirements in items 7.a.i and 7.a.ii of this table. |
| 9. A transfer rack at a new facility where the total actual annual facility-level organic liquid loading volume through transfer racks is less than 800,000 gallons | a. The total Table 1 organic HAP content of the organic liquid being loaded through one or more of the transfer rack's arms is at least 25 percent by weight and is being loaded into a transport vehicle | i. See the requirements in items 7.a.i and 7.a.ii of this table. |

| If you own or operate . . . | And if . . . | Then you must . . . |
|---|---|---|
| | b. One or more of the transfer rack's arms is filling a container with a capacity equal to or greater than 55 gallons | i. For all such loading arms at the rack during the loading of organic liquids, comply with the provisions of §§63.924 through 63.927 of 40 CFR part 63, Subpart PP—National Emission Standards for Containers, Container Level 3 controls; OR ii. During the loading of organic liquids, comply with the work practice standards specified in item 3.a of Table 4 to this subpart. |
| 10. A transfer rack at a new facility where the total actual annual facility-level organic liquid loading volume through transfer racks is equal to or greater than 800,000 gallons. | a. One or more of the transfer rack's arms is loading an organic liquid into a transport vehicle. | i. See the requirements in items 7.a.i and 7.a.ii of this table. |
| | b. One or more of the transfer rack's arms is filling a container with a capacity equal to or greater than 55 gallons. | i. For all such loading arms at the rack during the loading of organic liquids, comply with the provisions of §§63.924 through 63.927 of 40 CFR part 63, Subpart PP—National Emission Standards for Containers, Container Level 3 controls; OR |
| | | ii. During the loading of organic liquids, comply with the work practice standards specified in item 3.a of table 4 to this subpart. |

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42913, July 28, 2006; 73 FR 21830, Apr. 23, 2008]

**Table 3 to Subpart EEEE of Part 63—Operating Limits—High Throughput Transfer Racks**

As stated in §63.2346(e), you must comply with the operating limits for existing, reconstructed, or new affected sources as follows:

| For each existing, each reconstructed, and each new affected source using . . . | You must . . . |
|---|---|
| 1. A thermal oxidizer to comply with an emission limit in table 2 to this subpart | Maintain the daily average fire box or combustion zone temperature greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit. |
| 2. A catalytic oxidizer to comply with an emission limit in table 2 to this subpart | a. Replace the existing catalyst bed before the age of the bed exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND |

| For each existing, each reconstructed, and each new affected source using . . . | You must . . . |
|---|---|
| | b. Maintain the daily average temperature at the inlet of the catalyst bed greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND |
| | c. Maintain the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the design evaluation or performance test that demonstrated compliance with the emission limit. |
| 3. An absorber to comply with an emission limit in table 2 to this subpart | a. Maintain the daily average concentration level of organic compounds in the absorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR |
| | b. Maintain the daily average scrubbing liquid temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND |
| | Maintain the difference between the specific gravities of the saturated and fresh scrubbing fluids greater than or equal to the difference established during the design evaluation or performance test that demonstrated compliance with the emission limit. |
| 4. A condenser to comply with an emission limit in table 2 to this subpart | a. Maintain the daily average concentration level of organic compounds at the condenser exit less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR |
| | b. Maintain the daily average condenser exit temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit. |
| 5. An adsorption system with adsorbent regeneration to comply with an emission limit in table 2 to this subpart | a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR |
| | b. Maintain the total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the reference stream mass flow established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND |
| | Before the adsorption cycle commences, achieve and maintain the temperature of the adsorption bed after regeneration less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND |

| For each existing, each reconstructed, and each new affected source using . . . | You must . . . |
|---|---|
| | Achieve a pressure reduction during each adsorption bed regeneration cycle greater than or equal to the pressure reduction established during the design evaluation or performance test that demonstrated compliance with the emission limit. |
| 6. An adsorption system without adsorbent regeneration to comply with an emission limit in table 2 to this subpart | a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR |
| | b. Replace the existing adsorbent in each segment of the bed with an adsorbent that meets the replacement specifications established during the design evaluation or performance test before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND |
| | Maintain the temperature of the adsorption bed less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit. |
| 7. A flare to comply with an emission limit in table 2 to this subpart | a. Comply with the equipment and operating requirements in §63.987(a); AND<br>b. Conduct an initial flare compliance assessment in accordance with §63.987(b); AND |
| | c. Install and operate monitoring equipment as specified in §63.987(c). |
| 8. Another type of control device to comply with an emission limit in table 2 to this subpart | Submit a monitoring plan as specified in §§63.995(c) and 63.2366(b), and monitor the control device in accordance with that plan. |

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42914, July 28, 2006]

### Table 4 to Subpart EEEE of Part 63—Work Practice Standards

As stated in §63.2346, you may elect to comply with one of the work practice standards for existing, reconstructed, or new affected sources in the following table. If you elect to do so, . . .

| For each . . . | You must . . . |
|---|---|
| 1. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and organic HAP vapor pressure criteria specified in table 2 to this subpart, items 1 through 5 | a. Comply with the requirements of 40 CFR part 63, subpart WW (control level 2), if you elect to meet 40 CFR part 63, subpart WW (control level 2) requirements as an alternative to the emission limit in table 2 to this subpart, items 1 through 5; OR |
| | b. Comply with the requirements of §63.984 for routing emissions to a fuel gas system or back to a process; OR |

| For each . . . | You must . . . |
|---|---|
| | c. Comply with the requirements of §63.2346(a)(4) for vapor balancing emissions to the transport vehicle from which the storage tank is filled. |
| 2. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and organic HAP vapor pressure criteria specified in table 2 to this subpart, item 6 | a. Comply with the requirements of §63.984 for routing emissions to a fuel gas system or back to a process; OR<br>b. Comply with the requirements of §63.2346(a)(4) for vapor balancing emissions to the transport vehicle from which the storage tank is filled. |
| 3. Transfer rack subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source | a. If the option of a vapor balancing system is selected, install and, during the loading of organic liquids, operate a system that meets the requirements in table 7 to this subpart, item 3.b.i and item 3.b.ii, as applicable; OR |
| | b. Comply with the requirements of §63.984 during the loading of organic liquids, for routing emissions to a fuel gas system or back to a process. |
| 4. Pump, valve, and sampling connection that operates in organic liquids service at least 300 hours per year at an existing, reconstructed, or new affected source | Comply with the requirements for pumps, valves, and sampling connections in 40 CFR part 63, subpart TT (control level 1), subpart UU (control level 2), or subpart H. |
| 5. Transport vehicles equipped with vapor collection equipment that are loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10 | Follow the steps in 40 CFR 60.502(e) to ensure that organic liquids are loaded only into vapor-tight transport vehicles, and comply with the provisions in 40 CFR 60.502(f), (g), (h), and (i), except substitute the term transport vehicle at each occurrence of tank truck or gasoline tank truck in those paragraphs. |
| 6. Transport vehicles equipped without vapor collection equipment that are loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10 | Ensure that organic liquids are loaded only into transport vehicles that have a current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR 180 (cargo tanks) or 49 CFR 173.31 (tank cars). |

[71 FR 42915, July 28, 2006]

### Table 5 to Subpart EEEE of Part 63—Requirements for Performance Tests and Design Evaluations

As stated in §§63.2354(a) and 63.2362, you must comply with the requirements for performance tests and design evaluations for existing, reconstructed, or new affected sources as follows:

| For . . . | You must conduct . . . | According to . . . | Using . . . | To determine . . . | According to the following requirements . . . |
|---|---|---|---|---|---|
| 1. Each existing, each reconstructed, and each new affected source using a nonflare control device to comply with an emission limit in Table 2 to this subpart, items 1 through 10 | a. A performance test to determine the organic HAP (or, upon approval, TOC) control efficiency of each nonflare control device, OR the exhaust concentration of each combustion device; OR | i. §63.985(b)(1)(ii), §63.988(b), §63.990(b), or §63.995(b) | (1) EPA Method 1 or 1A in appendix A–1 of 40 CFR part 60, as appropriate | (A) Sampling port locations and the required number of traverse points | (i) Sampling sites must be located at the inlet and outlet of each control device if complying with the control efficiency requirement or at the outlet of the control device if complying with the exhaust concentration requirement; AND (ii) the outlet sampling site must be located at each control device prior to any releases to the atmosphere. |
| | | | (2) EPA Method 2, 2A, 2C, 2D, or 2F in appendix A–1 of 40 CFR part 60, or EPA Method 2G in appendix A–2 of 40 CFR part 60, as appropriate | (A) Stack gas velocity and volumetric flow rate | See the requirements in items 1.a.i.(1)(A)(i) and (ii) of this table. |
| | | | (3) EPA Method 3 or 3B in appendix A–2 of 40 CFR part 60, as appropriate | (A) Concentration of CO2 and O2 and dry molecular weight of the stack gas | See the requirements in items 1.a.i.(1)(A)(i) and (ii) of this table. |
| | | | (4) EPA Method 4 in appendix A–3 of 40 CFR part 60 | (A) Moisture content of the stack gas | See the requirements in items 1.a.i.(1)(A)(i) and (ii) of this table. |

| For . . . | You must conduct . . . | According to . . . | Using . . . | To determine . . . | According to the following requirements . . . |
|---|---|---|---|---|---|
| | | | (5) EPA Method 18 in appendix A–6 of 40 CFR part 60, or EPA Method 25 or 25A in appendix A–7 of 40 CFR part 60, as appropriate, or EPA Method 316 in appendix A of 40 CFR part 63 for measuring form-aldehyde | (A) Total organic HAP (or, upon approval, TOC), or formaldehyde emissions | (i) The organic HAP used for the calibration gas for EPA Method 25A in appendix A–7 of 40 CFR part 60 must be the single organic HAP representing the largest percent by volume of emissions; AND<br>(ii) During the performance test, you must establish the operating parameter limits within which total organic HAP (or, upon approval, TOC) emissions are reduced by the required weight-percent or, as an option for nonflare combustion devices, to 20 ppmv exhaust concentration. |
| | b. A design evaluation (for nonflare control devices) to determine the organic HAP (or, upon approval, TOC) control efficiency of each nonflare control device, or the exhaust concentration of each combustion control device | §63.985(b)(1)(i) | | | During a design evaluation, you must establish the operating parameter limits within which total organic HAP, (or, upon approval, TOC) emissions are reduced by at least 95 weight-percent for storage tanks or 98 weight-percent for transfer racks, or, as an option for nonflare combustion devices, to 20 ppmv exhaust concentration |

| For . . . | You must conduct . . . | According to . . . | Using . . . | To determine . . . | According to the following requirements . . . |
|---|---|---|---|---|---|
| 2. Each transport vehicle that you own that is equipped with vapor collection equipment and is loaded with organic liquids at a transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source | A performance test to determine the vapor tightness of the tank and then repair as needed until it passes the test. | | EPA Method 27 in appendix A of 40 CFR part 60 | Vapor tightness | The pressure change in the tank must be no more than 250 pascals (1 inch of water) in 5 minutes after it is pressurized to 4,500 pascals (18 inches of water). |

[71 FR 42916, July 28, 2006, as amended at 73 FR 21831, Apr. 23, 2008]

**Table 6 to Subpart EEEE of Part 63—Initial Compliance With Emission Limits**

As stated in §§63.2370(a) and 63.2382(b), you must show initial compliance with the emission limits for existing, reconstructed, or new affected sources as follows:

| For each . . . | For the following emission limit . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 1. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and liquid organic HAP vapor pressure criteria specified in Table 2 to this subpart, items 1 through 6 | Reduce total organic HAP (or, upon approval, TOC) emissions by at least 95 weight-percent, or as an option for nonflare combustion devices to an exhaust concentration of ≤20 ppmv | Total organic HAP (or, upon approval, TOC) emissions, based on the results of the performance testing or design evaluation specified in Table 5 to this subpart, item 1.a or 1.b, respectively, are reduced by at least 95 weight-percent or as an option for nonflare combustion devices to an exhaust concentration ≤20 ppmv. |
| 2. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source | Reduce total organic HAP (or, upon approval, TOC) emissions from the loading of organic liquids by at least 98 weight-percent, or as an option for nonflare combustion devices to an exhaust concentration of ≤20 ppmv | Total organic HAP (or, upon approval, TOC) emissions from the loading of organic liquids, based on the results of the performance testing or design evaluation specified in table 5 to this subpart, item 1.a or 1.b, respectively, are reduced by at least 98 weight-percent or as an option for nonflare combustion devices to an exhaust concentration of ≤20 ppmv. |

[71 FR 42918, July 28, 2006, as amended at 73 FR 21832, Apr. 23, 2008]

**Table 7 to Subpart EEEE of Part 63—Initial Compliance With Work Practice Standards**

| For each . . . | If you . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 1. Storage tank at an existing affected source meeting either set of tank capacity and liquid organic HAP vapor pressure criteria specified in Table 2 to this subpart, items 1 or 2 | a. Install a floating roof or equivalent control that meets the requirements in Table 4 to this subpart, item 1.a | i. After emptying and degassing, you visually inspect each internal floating roof before the refilling of the storage tank and perform seal gap inspections of the primary and secondary rim seals of each external floating roof within 90 days after the refilling of the storage tank. |
| | b. Route emissions to a fuel gas system or back to a process | i. You meet the requirements in §63.984(b) and submit the statement of connection required by §63.984(c). |
| | c. Install and, during the filling of the storage tank with organic liquids, operate a vapor balancing system | i. You meet the requirements in §63.2346(a)(4). |
| 2. Storage tank at a reconstructed or new affected source meeting any set of tank capacity and liquid organic HAP vapor pressure criteria specified in Table 2 to this subpart, items 3 through 5 | a. Install a floating roof or equivalent control that meets the requirements in Table 4 to this subpart, item 1.a | i. You visually inspect each internal floating roof before the initial filling of the storage tank, and perform seal gap inspections of the primary and secondary rim seals of each external floating roof within 90 days after the initial filling of the storage tank. |
| | b. Route emissions to a fuel gas system or back to a process | i. See item 1.b.i of this table. |
| | c. Install and, during the filling of the storage tank with organic liquids, operate a vapor balancing system | i. See item 1.c.i of this table. |
| 3. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source | a. Load organic liquids only into transport vehicles having current vapor tightness certification as described in table 4 to this subpart, item 5 and item 6 | i. You comply with the provisions specified in table 4 to this subpart, item 5 or item 6, as applicable. |
| | b. Install and, during the loading of organic liquids, operate a vapor balancing system | i. You design and operate the vapor balancing system to route organic HAP vapors displaced from loading of organic liquids into transport vehicles to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header.<br>ii. You design and operate the vapor balancing |

| | | |
|---|---|---|
| | | system to route organic HAP vapors displaced from loading of organic liquids into containers directly (e.g., no intervening tank or containment area such as a room) to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header. |
| | c. Route emissions to a fuel gas system or back to a process | i. See item 1.b.i of this table. |
| 4. Equipment leak component, as defined in §63.2406, that operates in organic liquids service ≥300 hours per year at an existing, reconstructed, or new affected source | a. Carry out a leak detection and repair program or equivalent control according to one of the subparts listed in table 4 to this subpart, item 4.a | i. You specify which one of the control programs listed in table 4 to this subpart you have selected, OR<br>ii. Provide written specifications for your equivalent control approach. |

[71 FR 42918, July 28, 2006, as amended at 73 FR 21833, Apr. 23, 2008]

**Table 8 to Subpart EEEE of Part 63—Continuous Compliance With Emission Limits**

As stated in §§63.2378(a) and (b) and 63.2390(b), you must show continuous compliance with the emission limits for existing, reconstructed, or new affected sources according to the following table:

| For each . . . | For the following emission limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 1. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and liquid organic HAP vapor pressure criteria specified in table 2 to this subpart, items 1 through 6 | a. Reduce total organic HAP (or, upon approval, TOC) emissions from the closed vent system and control device by 95 weight-percent or greater, or as an option to 20 ppmv or less of total organic HAP (or, upon approval, TOC) in the exhaust of combustion devices | i. Performing CMS monitoring and collecting data according to §§63.2366, 63.2374, and 63.2378; AND<br>ii. Maintaining the operating limits established during the design evaluation or performance test that demonstrated compliance with the emission limit. |
| 2. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source | a. Reduce total organic HAP (or, upon approval, TOC) emissions during the loading of organic liquids from the closed vent system and control device by 98 weight-percent or greater, or as an option to 20 ppmv or less of total organic HAP (or, upon approval, TOC) in the exhaust of combustion devices | i. Performing CMS monitoring and collecting data according to §§63.2366, 63.2374, and 63.2378 during the loading of organic liquids; AND<br>ii. Maintaining the operating limits established during the design evaluation or performance test that demonstrated compliance with the emission limit during the loading of organic liquids. |

[71 FR 42919, July 28, 2006]

**Table 9 to Subpart EEEE of Part 63—Continuous Compliance With Operating Limits—High Throughput Transfer Racks**

As stated in §§63.2378(a) and (b) and 63.2390(b), you must show continuous compliance with the operating limits for existing, reconstructed, or new affected sources according to the following table:

| For each existing, reconstructed, and each new affected source using . . . | For the following operating limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 1. A thermal oxidizer to comply with an emission limit in table 2 to this subpart. | a. Maintain the daily average fire box or combustion zone, as applicable, temperature greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit. | i. Continuously monitoring and recording fire box or combustion zone, as applicable, temperature every 15 minutes and maintaining the daily average fire box temperature greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Keeping the applicable records required in §63.998. |
| 2. A catalytic oxidizer to comply with an emission limit in table 2 to this subpart. | a. Replace the existing catalyst bed before the age of the bed exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND | i. Replacing the existing catalyst bed before the age of the bed exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Keeping the applicable records required in §63.998. |
| | b. Maintain the daily average temperature at the inlet of the catalyst bed greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND | i. Continuously monitoring and recording the temperature at the inlet of the catalyst bed at least every 15 minutes and maintaining the daily average temperature at the inlet of the catalyst bed greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Keeping the applicable records required in §63.998. |

| For each existing, reconstructed, and each new affected source using . . . | For the following operating limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| | c. Maintain the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the design evaluation or performance test that demonstrated compliance with the emission limit. | i. Continuously monitoring and recording the temperature at the outlet of the catalyst bed every 15 minutes and maintaining the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Keeping the applicable records required in §63.998. |
| 3. An absorber to comply with an emission limit in table 2 to this subpart. | a. Maintain the daily average concentration level of organic compounds in the absorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR | i. Continuously monitoring the organic concentration in the absorber exhaust and maintaining the daily average concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Keeping the applicable records required in §63.998. |
| | b. Maintain the daily average scrubbing liquid temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>Maintain the difference between the specific gravities of the saturated and fresh scrubbing fluids greater than or equal to the difference established during the design evaluation or performance test that demonstrated compliance with the emission limit. | i. Continuously monitoring the scrubbing liquid temperature and maintaining the daily average temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Maintaining the difference between the specific gravities greater than or equal to the difference established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>iii. Keeping the applicable records required in §63.998. |
| 4. A condenser to comply with an emission limit in table 2 to this subpart. | a. Maintain the daily average concentration level of organic compounds at the exit of the condenser less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR | i. Continuously monitoring the organic concentration at the condenser exit and maintaining the daily average concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Keeping the applicable records required in §63.998. |

| For each existing, reconstructed, and each new affected source using . . . | For the following operating limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| | b. Maintain the daily average condenser exit temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit. | i. Continuously monitoring and recording the temperature at the exit of the condenser at least every 15 minutes and maintaining the daily average temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Keeping the applicable records required in §63.998. |
| 5. An adsorption system with adsorbent regeneration to comply with an emission limit in table 2 to this subpart. | a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR | i. Continuously monitoring the daily average organic concentration in the adsorber exhaust and maintaining the concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Keeping the applicable records required in §63.998. |
| | b. Maintain the total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the reference stream mass flow established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>Before the adsorption cycle commences, achieve and maintain the temperature of the adsorption bed after regeneration less than or equal to the reference temperature established during the design evaluation or performance test; AND<br>Achieve greater than or equal to the pressure reduction during the adsorption bed regeneration cycle established during the design evaluation or performance test that demonstrated compliance with the emission limit. | i. Maintaining the total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the reference stream mass flow established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Maintaining the temperature of the adsorption bed after regeneration less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>iii. Achieving greater than or equal to the pressure reduction during the regeneration cycle established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>iv. Keeping the applicable records required in §63.998. |

| For each existing, reconstructed, and each new affected source using . . . | For the following operating limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 6. An adsorption system without adsorbent regeneration to comply with an emission limit in table 2 to this subpart. | a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR | i. Continuously monitoring the organic concentration in the adsorber exhaust and maintaining the concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Keeping the applicable records required in §63.998. |
| | b. Replace the existing adsorbent in each segment of the bed before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>Maintain the temperature of the adsorption bed less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit. | i. Replacing the existing adsorbent in each segment of the bed with an adsorbent that meets the replacement specifications established during the design evaluation or performance test before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>ii. Maintaining the temperature of the adsorption bed less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND<br>iii. Keeping the applicable records required in §63.998. |
| 7. A flare to comply with an emission limit in table 2 to this subpart. | a. Maintain a pilot flame in the flare at all times that vapors may be vented to the flare (§63.11(b)(5)); AND | i. Continuously operating a device that detects the presence of the pilot flame; AND<br>ii. Keeping the applicable records required in §63.998. |
| | b. Maintain a flare flame at all times that vapors are being vented to the flare (§63.11(b)(5)); AND | i. Maintaining a flare flame at all times that vapors are being vented to the flare; AND<br>ii. Keeping the applicable records required in §63.998. |
| | c. Operate the flare with no visible emissions, except for up to 5 minutes in any 2 consecutive hours (§63.11(b)(4)); AND EITHER | i. Operating the flare with no visible emissions exceeding the amount allowed; AND<br>ii. Keeping the applicable records required in §63.998. |

| For each existing, reconstructed, and each new affected source using . . . | For the following operating limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| | d.1. Operate the flare with an exit velocity that is within the applicable limits in §63.11(b)(7) and (8) and with a net heating value of the gas being combusted greater than the applicable minimum value in §63.11(b)(6)(ii); OR | i. Operating the flare within the applicable exit velocity limits; AND<br>ii. Operating the flare with the gas heating value greater than the applicable minimum value; AND<br>iii. Keeping the applicable records required in §63.998. |
| | d.2. Adhere to the requirements in §63.11(b)(6)(i). | i. Operating the flare within the applicable limits in 63.11(b)(6)(i); AND<br>ii. Keeping the applicable records required in §63.998. |
| 8. Another type of control device to comply with an emission limit in table 2 to this subpart. | Submit a monitoring plan as specified in §§63.995(c) and 63.2366(c), and monitor the control device in accordance with that plan. | Submitting a monitoring plan and monitoring the control device according to that plan. |

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42919, July 28, 2006]

### Table 10 to Subpart EEEE of Part 63—Continuous Compliance With Work Practice Standards

As stated in §§63.2378(a) and (b) and 63.2386(c)(6), you must show continuous compliance with the work practice standards for existing, reconstructed, or new affected sources according to the following table:

| For each . . . | For the following standard . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 1. Internal floating roof (IFR) storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity, and vapor pressure criteria specified in table 2 to this subpart, items 1 through 5. | a. Install a floating roof designed and operated according to the applicable specifications in §63.1063(a) and (b). | i. Visually inspecting the floating roof deck, deck fittings, and rim seals of each IFR once per year (§63.1063(d)(2)); AND<br>ii. Visually inspecting the floating roof deck, deck fittings, and rim seals of each IFR either each time the storage tank is completely emptied and degassed or every 10 years, whichever occurs first (§63.1063(c)(1), (d)(1), and (e)); AND<br>iii. Keeping the tank records required in §63.1065. |

| For each . . . | For the following standard . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 2. External floating roof (EFR) storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and vapor pressure criteria specified in table 2 to this subpart, items 1 through 5. | a. Install a floating roof designed and operated according to the applicable specifications in §63.1063(a) and (b). | i. Visually inspecting the floating roof deck, deck fittings, and rim seals of each EFR either each time the storage tank is completely emptied and degassed or every 10 years, whichever occurs first (§63.1063(c)(2), (d), and (e)); AND<br>ii. Performing seal gap measurements on the secondary seal of each EFR at least once every year, and on the primary seal of each EFR at least every 5 years (§63.1063(c)(2), (d), and (e)); AND<br>iii. Keeping the tank records required in §63.1065. |
| 3. IFR or EFR tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and vapor pressure criteria specified in table 2 to this subpart, items 1 through 5. | a. Repair the conditions causing storage tank inspection failures (§63.1063(e)). | i. Repairing conditions causing inspection failures: before refilling the storage tank with organic liquid, or within 45 days (or up to 105 days with extensions) for a tank containing organic liquid; AND<br>ii. Keeping the tank records required in §63.1065(b). |
| 4. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source. | a. Ensure that organic liquids are loaded into transport vehicles in accordance with the requirements in table 4 to this subpart, items 5 or 6, as applicable. | i. Ensuring that organic liquids are loaded into transport vehicles in accordance with the requirements in table 4 to this subpart, items 5 or 6, as applicable. |
| | b. Install and, during the loading of organic liquids, operate a vapor balancing system. | i. Monitoring each potential source of vapor leakage in the system quarterly during the loading of a transport vehicle or the filling of a container using the methods and procedures described in the rule requirements selected for the work practice standard for equipment leak components as specified in table 4 to this subpart, item 4. An instrument reading of 500 ppmv defines a leak. Repair of leaks is performed according to the repair requirements specified in your selected equipment leak standards. |
| | c. Route emissions to a fuel gas system or back to a process. | i. Continuing to meet the requirements specified in §63.984(b). |
| 5. Equipment leak component, as defined in §63.2406, that operates in organic liquids service at least 300 hours per year. | a. Comply with the requirements of 40 CFR part 63, subpart TT, UU, or H. | i. Carrying out a leak detection and repair program in accordance with the subpart selected from the list in item 5.a of this table. |

| For each . . . | For the following standard . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 6. Storage tank at an existing, reconstructed, or new affected source meeting any of the tank capacity and vapor pressure criteria specified in table 2 to this subpart, items 1 through 6. | a. Route emissions to a fuel gas system or back to the process. | i. Continuing to meet the requirements specified in §63.984(b). |
| | b. Install and, during the filling of the storage tank with organic liquids, operate a vapor balancing system. | i. Monitoring each potential source of vapor leakage in the system quarterly during the loading of a transport vehicle or the filling of a container using the methods and procedures described in the rule requirements selected for the work practice standard for equipment leak components as specified in table 4 to this subpart, item 4. An instrument reading of 500 ppmv defines a leak. Repair of leaks is performed according to the repair requirements specified in your selected equipment leak standards. |

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42922, July 28, 2006]

**Table 11 to Subpart EEEE of Part 63—Requirements for Reports**

As stated in §63.2386(a), (b), and (f), you must submit compliance reports and startup, shutdown, and malfunction reports according to the following table:

| You must submit a(n) . . . | The report must contain . . . | You must submit the report . . . |
|---|---|---|
| 1. Compliance report or Periodic Report | a. The information specified in §63.2386(c), (d), (e). If you had a SSM during the reporting period and you took actions consistent with your SSM plan, the report must also include the information in §63.10(d)(5)(i); AND | Semiannually, and it must be postmarked by January 31 or July 31, in accordance with §63.2386(b). |
| | b. The information required by 40 CFR part 63, subpart TT, UU, or H, as applicable, for pumps, valves, and sampling connections; AND | See the submission requirement in item 1.a of this table. |
| | c. The information required by §63.999(c); AND | See the submission requirement in item 1.a of this table. |
| | d. The information specified in §63.1066(b) including: Notification of inspection, inspection results, requests for alternate devices, and requests for extensions, as applicable. | See the submission requirement in item 1.a. of this table. |

| You must submit a(n) . . . | The report must contain . . . | You must submit the report . . . |
|---|---|---|
| 2. Immediate SSM report if you had a SSM that resulted in an applicable emission standard in the relevant standard being exceeded, and you took an action that was not consistent with your SSM plan | a. The information required in §63.10(d)(5)(ii) | i. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority (§63.10(d)(5)(ii)). |

[71 FR 42923, July 28, 2006]

### Table 12 to Subpart EEEE of Part 63—Applicability of General Provisions to Subpart EEEE

As stated in §§63.2382 and 63.2398, you must comply with the applicable General Provisions requirements as follows:

| Citation | Subject | Brief description | Applies to subpart EEEE |
|---|---|---|---|
| §63.1 | Applicability | Initial applicability determination; Applicability after standard established; Permit requirements; Extensions, Notifications | Yes. |
| §63.2 | Definitions | Definitions for part 63 standards | Yes. |
| §63.3 | Units and Abbreviations | Units and abbreviations for part 63 standards | Yes. |
| §63.4 | Prohibited Activities and Circumvention | Prohibited activities; Circumvention, Severability | Yes. |
| §63.5 | Construction/Reconstruction | Applicability; Applications; Approvals | Yes. |
| §63.6(a) | Compliance with Standards/O&M Applicability | GP apply unless compliance extension; GP apply to area sources that become major | Yes. |
| §63.6(b)(1)–(4) | Compliance Dates for New and Reconstructed Sources | Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f) | Yes. |
| §63.6(b)(5) | Notification | Must notify if commenced construction or reconstruction after proposal | Yes. |
| §63.6(b)(6) | [Reserved]. | | |

| Citation | Subject | Brief description | Applies to subpart EEEE |
|---|---|---|---|
| §63.6(b)(7) | Compliance Dates for New and Reconstructed Area Sources That Become Major | Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source | Yes. |
| §63.6(c)(1)–(2) | Compliance Dates for Existing Sources | Comply according to date in this subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension | Yes. |
| §63.6(c)(3)–(4) | [Reserved]. | | |
| §63.6(c)(5) | Compliance Dates for Existing Area Sources That Become Major | Area sources that become major must comply with major source standards by date indicated in this subpart or by equivalent time period ( *e.g* ., 3 years) | Yes. |
| §63.6(d) | [Reserved]. | | |
| §63.6(e)(1) | Operation & Maintenance | Operate to minimize emissions at all times; correct malfunctions as soon as practicable; and operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met | Yes. |
| §63.6(e)(2) | [Reserved]. | | |
| §63.6(e)(3) | SSM Plan | Requirement for SSM plan; content of SSM plan; actions during SSM | Yes; however, (1) the 2-day reporting requirement in paragraph §63.6(e)(3)(iv) does not apply and (2) §63.6(e)(3) does not apply to emissions sources not requiring control. |
| §63.6(f)(1) | Compliance Except During SSM | You must comply with emission standards at all times except during SSM | Yes. |

| Citation | Subject | Brief description | Applies to subpart EEEE |
|---|---|---|---|
| §63.6(f)(2)–(3) | Methods for Determining Compliance | Compliance based on performance test, operation and maintenance plans, records, inspection | Yes. |
| §63.6(g)(1)–(3) | Alternative Standard | Procedures for getting an alternative standard | Yes. |
| §63.6(h) | Opacity/Visible Emission Standards | Requirements for compliance with opacity and visible emission standards | No; except as it applies to flares for which Method 22 observations are required as part of a flare compliance assessment. |
| §63.6(i)(1)–(14) | Compliance Extension | Procedures and criteria for Administrator to grant compliance extension | Yes. |
| §63.6(j) | Presidential Compliance Exemption | President may exempt any source from requirement to comply with this subpart | Yes. |
| §63.7(a)(2) | Performance Test Dates | Dates for conducting initial performance testing; must conduct 180 days after compliance date | Yes. |
| §63.7(a)(3) | Section 114 Authority | Adminsitrator may require a performance test under CAA section 114 at any time | Yes. |
| §63.7(b)(1) | Notification of Performance Test | Must notify Administrator 60 days before the test | Yes. |
| §63.7(b)(2) | Notification of Rescheduling | If you have to reschedule performance test, must notify Administrator of rescheduled date as soon as practicable and without delay | Yes. |
| §63.7(c) | Quality Assurance (QA)/Test Plan | Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing | Yes. |
| §63.7(d) | Testing Facilities | Requirements for testing facilities | Yes. |

| Citation | Subject | Brief description | Applies to subpart EEEE |
|---|---|---|---|
| §63.7(e)(1) | Conditions for Conducting Performance Tests | Performance tests must be conducted under representative conditions; cannot conduct performance tests during SSM | Yes. |
| §63.7(e)(2) | Conditions for Conducting Performance Tests | Must conduct according to this subpart and EPA test methods unless Administrator approves alternative | Yes. |
| §63.7(e)(3) | Test Run Duration | Must have three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used | Yes; however, for transfer racks per §§63.987(b)(3)(i)(A)–(B) and 63.997(e)(1)(v)(A)–(B) provide exceptions to the requirement for test runs to be at least 1 hour each. |
| §63.7(f) | Alternative Test Method | Procedures by which Administrator can grant approval to use an intermediate or major change, or alternative to a test method | Yes. |
| §63.7(g) | Performance Test Data Analysis | Must include raw data in performance test report; must submit performance test data 60 days after end of test with the Notification of Compliance Status; keep data for 5 years | Yes; however, performance test data is to be submitted with the Notification of Compliance Status according to the schedule specified in §63.9(h)(1)–(6) below. |
| §63.7(h) | Waiver of Tests | Procedures for Administrator to waive performance test | Yes. |
| §63.8(a)(1) | Applicability of Monitoring Requirements | Subject to all monitoring requirements in standard | Yes. |
| §63.8(a)(2) | Performance Specifications | Performance Specifications in appendix B of 40 CFR part 60 apply | Yes. |
| §63.8(a)(3) | [Reserved]. | | |
| §63.8(a)(4) | Monitoring of Flares | Monitoring requirements for flares in §63.11 | Yes; however, monitoring requirements in §63.987(c) also apply. |
| §63.8(b)(1) | Monitoring | Must conduct monitoring according to standard unless Administrator approves alternative | Yes. |

| Citation | Subject | Brief description | Applies to subpart EEEE |
|---|---|---|---|
| §63.8(b)(2)–(3) | Multiple Effluents and Multiple Monitoring Systems | Specific requirements for installing monitoring systems; must install on each affected source or after combined with another affected source before it is released to the atmosphere provided the monitoring is sufficient to demonstrate compliance with the standard; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup | Yes. |
| §63.8(c)(1) | Monitoring System Operation and Maintenance | Maintain monitoring system in a manner consistent with good air pollution control practices | Yes. |
| §63.8(c)(1)(i)—(iii) | Routine and Predictable SSM | Keep parts for routine repairs readily available; reporting requirements for SSM when action is described in SSM plan. | Yes. |
| §63.8(c)(2)–(3) | Monitoring System Installation | Must install to get representative emission or parameter measurements; must verify operational status before or at performance test | Yes. |
| §63.8(c)(4) | CMS Requirements | CMS must be operating except during breakdown, out-of control, repair, maintenance, and high-level calibration drifts; COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period; CEMS must have a minimum of one cycle of operation for each successive 15-minute period | Yes; however, COMS are not applicable. |
| §63.8(c)(5) | COMS Minimum Procedures | COMS minimum procedures | No. |
| §63.8(c)(6)–(8) | CMS Requirements | Zero and high level calibration check requirements. Out-of-control periods | Yes, but only applies for CEMS. 40 CFR part 63, subpart SS provides requirements for CPMS. |

| Citation | Subject | Brief description | Applies to subpart EEEE |
|---|---|---|---|
| §63.8(d) | CMS Quality Control | Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years; keep old versions for 5 years after revisions | Yes, but only applies for CEMS. 40 CFR part 63, subpart SS provides requirements for CPMS. |
| §63.8(e) | CMS Performance Evaluation | Notification, performance evaluation test plan, reports | Yes, but only applies for CEMS. |
| §63.8(f)(1)–(5) | Alternative Monitoring Method | Procedures for Administrator to approve alternative monitoring | Yes, but 40 CFR part 63, subpart SS also provides procedures for approval of CPMS. |
| §63.8(f)(6) | Alternative to Relative Accuracy Test | Procedures for Administrator to approve alternative relative accuracy tests for CEMS | Yes. |
| §63.8(g) | Data Reduction | COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that cannot be used in average | Yes; however, COMS are not applicable. |
| §63.9(a) | Notification Requirements | Applicability and State delegation | Yes. |
| §63.9(b)(1)–(2), (4)–(5) | Initial Notifications | Submit notification within 120 days after effective date; notification of intent to construct/reconstruct, notification of commencement of construction/reconstruction, notification of startup; contents of each | Yes. |
| §63.9(c) | Request for Compliance Extension | Can request if cannot comply by date or if installed best available control technology or lowest achievable emission rate (BACT/LAER) | Yes. |
| §63.9(d) | Notification of Special Compliance Requirements for New Sources | For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date | Yes. |
| §63.9(e) | Notification of Performance Test | Notify Administrator 60 days prior | Yes. |

| Citation | Subject | Brief description | Applies to subpart EEEE |
|---|---|---|---|
| §63.9(f) | Notification of VE/Opacity Test | Notify Administrator 30 days prior | No. |
| §63.9(g) | Additional Notifications When Using CMS | Notification of performance evaluation; notification about use of COMS data; notification that exceeded criterion for relative accuracy alternative | Yes; however, there are no opacity standards. |
| §63.9(h)(1)–(6) | Notification of Compliance Status | Contents due 60 days after end of performance test or other compliance demonstration, except for opacity/visible emissions, which are due 30 days after; when to submit to Federal vs. State authority | Yes; however, (1) there are no opacity standards and (2) all initial Notification of Compliance Status, including all performance test data, are to be submitted at the same time, either within 240 days after the compliance date or within 60 days after the last performance test demonstrating compliance has been completed, whichever occurs first. |
| §63.9(i) | Adjustment of Submittal Deadlines | Procedures for Administrator to approve change in when notifications must be submitted | Yes. |
| §63.9(j) | Change in Previous Information | Must submit within 15 days after the change | No. These changes will be reported in the first and subsequent compliance reports. |
| §63.10(a) | Recordkeeping/Reporting | Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source | Yes. |
| §63.10(b)(1) | Recordkeeping/Reporting | General requirements; keep all records readily available; keep for 5 years | Yes. |

| Citation | Subject | Brief description | Applies to subpart EEEE |
|---|---|---|---|
| §63.10(b)(2)(i)–(iv) | Records Related to Startup, Shutdown, and Malfunction | Occurrence of each for operations (process equipment); occurrence of each malfunction of air pollution control equipment; maintenance on air pollution control equipment; actions during SSM | Yes. |
| §63.10(b)(2)(vi)–(xi) | CMS Records | Malfunctions, inoperative, out-of-control periods | Yes. |
| §63.10(b)(2)(xii) | Records | Records when under waiver | Yes. |
| §63.10(b)(2)(xiii) | Records | Records when using alternative to relative accuracy test | Yes. |
| §63.10(b)(2)(xiv) | Records | All documentation supporting initial notification and notification of compliance status | Yes. |
| §63.10(b)(3) | Records | Applicability determinations | Yes. |
| §63.10(c) | Records | Additional records for CMS | Yes. |
| §63.10(d)(1) | General Reporting Requirements | Requirement to report | Yes. |
| §63.10(d)(2) | Report of Performance Test Results | When to submit to Federal or State authority | Yes. |
| §63.10(d)(3) | Reporting Opacity or VE Observations | What to report and when | Yes. |
| §63.10(d)(4) | Progress Reports | Must submit progress reports on schedule if under compliance extension | Yes. |
| §63.10(d)(5) | SSM Reports | Contents and submission | Yes. |
| §63.10(e)(1)–(2) | Additional CMS Reports | Must report results for each CEMS on a unit; written copy of CMS performance evaluation; 2–3 copies of COMS performance evaluation | Yes; however, COMS are not applicable. |
| §63.10(e)(3)(i)–(iii) | Reports | Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations) | Yes; however, note that the title of the report is the compliance report; deviations include excess emissions and parameter exceedances. |

| Citation | Subject | Brief description | Applies to subpart EEEE |
|---|---|---|---|
| §63.10(e)(3)(iv)–(v) | Excess Emissions Reports | Requirement to revert to quarterly submission if there is an excess emissions or parameter monitoring exceedance (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§63.8(c)(7)–(8) and 63.10(c)(5)–(13) | Yes. |
| §63.10(e)(3)(vi)–(viii) | Excess Emissions Report and Summary Report | Requirements for reporting excess emissions for CMS (now called deviations); requires all of the information in §§63.10(c)(5)–(13) and 63.8(c)(7)–(8) | Yes. |
| §63.10(e)(4) | Reporting COMS Data | Must submit COMS data with performance test data | No. |
| §63.10(f) | Waiver for Recordkeeping/Reporting | Procedures for Administrator to waive | Yes. |
| §63.11(b) | Flares | Requirements for flares | Yes; §63.987 requirements apply, and the section references §63.11(b). |
| §63.12 | Delegation | State authority to enforce standards | Yes. |
| §63.13 | Addresses | Addresses where reports, notifications, and requests are sent | Yes. |
| §63.14 | Incorporation by Reference | Test methods incorporated by reference | Yes. |
| §63.15 | Availability of Information | Public and confidential information | Yes. |

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 20463, Apr. 20, 2006; 71 FR 42924, July 28, 2006]

This document was downloaded from the following source on August 26, 2008:

Subpart EEEE--NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: ORGANIC LIQUIDS DISTRIBUTION (NON-GASOLINE)

# Indiana Department of Environmental Management
# Office of Air Quality

Addendum to the
Technical Support Document for a
Prevention of Significant Deterioration (PSD) and Significant Source Modification, and
Significant Permit Modification to a Part 70 Operating Permit

| | |
|---|---|
| Source Name: | Grain Processing Corporation |
| Source Location: | 1443 South 300 West, Washington, IN 47501 |
| County: | Daviess |
| SIC Code: | 2046, 2048, 2085, 2099 |
| Operation Permit No.: | T027-14200-00046 |
| Operation Permit Issuance Date: | October 19, 2007 |
| PSD/Significant Source Modification No.: | 027-24380-00046 |
| Significant Permit Modification No.: | 027-24979-00046 |
| Permit Reviewer: | Jenny Acker |

**Public Notice Information**

On September 11, 2008, the Office of Air Quality (OAQ) had a notice published in the Washington Times Herald, Washington, Indiana, stating that Grain Processing Corporation had applied for a significant modification to its Part 70 Operating Permit No. T027-14200-00046. The notice also stated that OAQ proposed to issue permits for this modification and provided information on how the public could review the proposed permits 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 these permits should be issued as proposed.

**Comments from Grain Processing Corporation (GPC)**

On October 9, 2008, Mick Durham, Director, Environmental Services, Grain Processing Corporation (GPC), submitted comments on the proposed significant modification to the Part 70 permit. The summary of the comments and revisions to the permit (**bolded** language has been added, the ~~strikethrough~~ language has been deleted) is as follows:

Comment:

GPC is proposing that testing requirements for particulate matter less than ten micrometers (PM10) be revised to remove the requirement to test for PM10 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 8, 2008. GPC is proposing that PM10 testing occur on the same schedule proposed in the permits for particulate matter (PM).

IDEM Response:

IDEM has complied with the above request. However, the Permittee should be aware that testing prior to promulgation of the new or revised condensable PM test method(s) may not be considered a valid compliance demonstration.

Conditions D.1.4, D.3.5, D.4.8, D.5.4, D.6.6, D.8.7, D.9.6 have been revised as follows:

D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) During the period within sixty (60) days of achieving the maximum production rate but no later than one hundred eighty (180) days after start-up of Silo F, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM **and PM10** testing on the stack exhaust from baghouse FPC05 when the corn cleaning process, and the storage and conveyance system is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(b) In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM10 testing on the stack exhaust from baghouse FPC05 when the corn cleaning process, and the storage and conveyance system is in operation. Testing shall be performed within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after startup of Silo F, 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 test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

~~(c)~~**(b)** Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM **and PM10** testing on the stack exhaust from baghouse CPC01 when the unloading and storage process is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(d) In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM10 testing on the stack exhaust from baghouse CPC01 when the unloading and storage process is in operation. Testing shall be performed 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. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing . PM10 includes filterable and condensable PM.~~

D.3.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the new gluten tank and new filter press at the milling area, in order to demonstrate compliance with Conditions D.3.1 and D.3.2(a), the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency), and PM **and PM10** testing for caustic wet scrubber FPC07 when the mill area processes are in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(b) In order to demonstrate compliance with Condition D.3.1, the Permittee shall perform PM10 testing for caustic wet scrubber FPC07 when the mill area processes are in operation. Testing shall be performed within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the new gluten tank and new filter press at the milling area, 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 test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

~~(c)~~**(b)** Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the two (2) new gluten filter presses and starch tank at the feed area, in order to demonstrate compliance with Conditions D.3.1 and D.3.2(b), the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency), and PM **and PM10** testing for caustic wet scrubber FPC27 when the feed area processes are in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(d) In order to demonstrate compliance with Condition D.3.1, the Permittee shall perform PM10 testing for caustic wet scrubber FPC27 when the feed area processes are in operation. PM10 testing shall be performed within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the two (2) new gluten filter presses and starch tank at the feed area, 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. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

D.4.8 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, in order to demonstrate compliance with the limits of Conditions D.4.1 and D.4.2, the Permittee shall perform **PM, PM10, and** VOC testing for thermal oxidizers FPC34a and FPC34b utilizing methods approved by the Commissioner. Each thermal oxidizer shall be tested individually while the corn gluten feed dryer, one (1) gluten dryer, and the germ dryer are operating at maximum capacity. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. **PM10 includes filterable and condensable PM.**

~~(b) In order to demonstrate compliance with Condition D.4.1, the Permittee shall perform PM10 testing for thermal oxidizers FPC34a and FPC34b. Each thermal oxidizer shall be tested individually while the corn gluten feed dryer, one (1) gluten dryer, and the germ dryer are operating at maximum capacity. Testing shall be performed within sixty (60)~~

~~days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, 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. These test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

~~(c)~~**(b)** Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, in order to demonstrate compliance with Condition D.4.4, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for scrubbers FPC12 and FPC13, and condensing tower FPC17. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

~~(d)~~**(c)** Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.4.1, the Permittee shall perform PM **and PM10** testing for baghouses FPC10, FPC18, FPC19, FPC14 and FPC20 utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(e) In order to demonstrate compliance with Condition D.4.1, the Permittee shall perform PM10 testing for baghouses FPC10, FPC18, FPC19, FPC14 and FPC20, 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. These test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

~~(f)~~**(d)** Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.4.5, the Permittee shall perform NOx testing for thermal oxidizers FPC34a and FPC34b. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

~~(g)~~**(e)** Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, in order to demonstrate compliance with Condition D.4.3, the Permittee shall perform NOx testing for germ drying system, the gluten dryers, and the CGF dryer. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

D.5.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

~~(a)~~ Within one hundred eighty (180) days after issuance of Part 70 permit T027-14200-00046, in order to demonstrate compliance with Condition D.5.1, the Permittee shall perform PM **and PM10** testing on the stack exhaust from cyclone FPC24 when the pellet cooler is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(b) In order to demonstrate compliance with Condition D.5.1, the Permittee shall perform PM10 testing on the stack exhaust from cyclone FPC24 when the pellet cooler is in operation. Testing shall be performed 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. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

D.6.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM **and PM10** testing for baghouse FPC26 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(b) In order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM10 testing on the stack exhaust from baghouse FPC26 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. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

~~(c)~~**(b)** Within sixty (60) days of reaching maximum capacity, but not more than one hundred eighty (180) days after startup of the feed loadout vacuum system, in order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM **and PM10** testing on the stack exhaust from baghouse FPC33 when the feed loadout vacuum system is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(d) In order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM10 testing on the stack exhaust from baghouse FPC33 when the feed loadout vacuum system is in operation. Testing shall be performed within sixty (60) days of reaching maximum capacity, but not more than one hundred eighty (180) days after startup of the feed loadout vacuum system, 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 test~~

~~shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

D.8.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Within sixty (60) days after achieving maximum capacity, but not more than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area, in order to demonstrate compliance with Conditions D.8.1 and D.8.2, the Permittee shall perform PM**, PM10,** and NOx testing for the starch dryer scrubber (SPC49). These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods as approved by the Commissioner and in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(b) In order to demonstrate compliance with Condition D.8.1, the Permittee shall perform PM10 testing for the starch dryer scrubber. Testing shall be performed within sixty (60) days of reaching maximum capacity, but not more than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area, 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 test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

~~(c)~~**(b)** Within sixty (60) days after achieving maximum capacity, but not more than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area, in order to demonstrate compliance with Conditions D.8.3(b) and D.8.4, the Permittee shall perform VOC and SO2 testing for the starch dryer scrubber (SPC49). Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

D.9.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.9.1, the Permittee shall perform PM **and PM10** testing on the stack exhaust from scrubber MPC39, baghouse MPC42, and dust collectors MCP41 and 43 while the respective processes are in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. **PM10 includes filterable and condensable PM.**

~~(b) In order to demonstrate compliance with Condition D.9.1, the Permittee shall perform PM10 testing on the stack exhaust from scrubber MPC39, baghouse MPC42, and dust collectors MCP41 and 43 while the respective processes are in operation. Testing shall be performed 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. These tests shall be repeated at least once every five (5) years after~~

~~completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.~~

~~(c)~~**(b)** Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.9.3, the Permittee shall perform NOx testing on the maltrodextrin dryer while the dryer is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

## Prior Public Notice Period (April 26, 2008)

On April 26, 2008, the Office of Air Quality (OAQ) had a notice published in the Washington Times Herald, Washington, Indiana, stating that Grain Processing Corporation had applied for a significant modification to its Part 70 Operating Permit No. T027-14200-00046. The notice also stated that OAQ proposed to issue permits for this modification and provided information on how the public could review the proposed permits 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 these permits should be issued as proposed.

Corrections to the permits, due to an inadvertent oversight related to the BACT analysis, were made subsequent to the April 26, 2008, notice of a 30-day period for public comment. These proposed changes required that IDEM, OAQ provided an additional public notice period, which commenced September 11, 2008. The following is a summary of the comments received in response to the April 26, 2008, notice of a 30-day period for public comment, and IDEM's responses.

## I. IDEM, OAQ Changes

Upon further review, and based on the following, the OAQ decided to revise the BACT for VOC for the pre-fermentation and fermentation systems.

PSD/CP 027-7239-00046
Grain Processing Corporation (GPC) was issued PSD/CP 027-7239-00046 on June 10, 1997 for the construction and operation of a wet milling ethanol plant. The following emission units were included in PSD/CP 027-7239-00046:

- Alcohol fermenters and associated tankage, controlled by the alcohol fermenters vent scrubber (AP29).
- One (1) alcohol fermentation scrubber (AP29).

The construction of the ethanol plant was major under PSD for VOC and BACT was established for the alcohol fermentation facility as the use of the wet scrubber (APC29) and an outlet limit of 1.8 lbs VOC/hour.

The PSD/CP permit does not specifically list pre-fermentation as a process, nor does it specifically require pre-fermentation be controlled by the alcohol fermentation scrubber (AP29). However, the Scrubber Operating Condition requires "that the scrubber shall be operated at all times when the associated facilities are in operation as identified below:" and lists the "pre-fermenter, fermenter, and beer well" as the facilities associated with the "$CO_2$ scrubber" (AP29). Therefore, it is expressly implied that the pre-fermentation process and the beer well were considered to be "associated tankage" to the alcohol fermenters.

PSD/Part 70 Operating Permit T027-14200-00046

An application for a PSD/Part 70 Operating Permit (No. T027-14200-00046) was received by IDEM, OAQ on March 15, 2001.

As part of the application, GPC requested the BACT for VOC for the fermentation process be re-evaluated. GPC underestimated the concentration of ethanol that would be produced during the fermentation process and could not comply with the existing VOC BACT for the fermentation process. Additionally, IDEM identified a wet scrubber (AP28), constructed for the purpose of controlling VOC emissions from the pre-fermentation tanks, which was not permitted in PSD/CP 027-7239-00046. The pre-fermentation process would need to be evaluated for BACT for VOC as part of the Part 70 permitting process.

During the processing of the PSD/Part 70 Operating Permit No. T027-14200-00046, U.S. EPA Region V began investigations into ethanol plant VOC emissions. The following is a summary of the EPA investigation and the resulting agreements affecting the alcohol production process:

> Ethanol Plant Clean Air Act Enforcement Initiative:
>
> The EPA began investigating twelve (12) Minnesota ethanol plants in May 2002 after emissions data collected earlier in the year suggested some plants may be polluting the air.
>
> EPA Regional Administrator Tom Skinner met with representatives from the ethanol industry on June 3, 2002, to discuss recent emission test results, recommended test methods and the proposed pollution control technology. Skinner heads the Chicago EPA office that oversees environmental compliance in Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin and 35 North American tribes.
>
> Announcement, October 2, 2002, required twelve (12) plants (all located in Minnesota) to install the Best Available Control Technology (BACT) and obtain proper permits from the state of Minnesota.
>
> A review of each consent decree, showed that BACT for the fermentation process at all twelve (12) plants was determined to be 95% reduction and 20 ppm for plants using a wet scrubber to achieve compliance and 10 ppm for plants using a thermal oxidizer to achieve compliance.
>
> On April 30, 2003, EPA announced that an agreement had been reached with Archer Daniel Midland (ADM). The agreement encompassed 52 plants in 16 states. ADM was required to control VOC emissions from the fermentation and "yeast propagation" processes at 95% at all plants.

The agreements reached under the Ethanol Plant Clean Air Act Enforcement Initiative set the standard for BACT for VOC for the associated processes for numerous agreements between local/state agencies and similar plants, and formed the basis for the BACT for VOC for the pre-fermentation and fermentation systems at GPC.

On November 17, 2003, the Office of Air Quality (OAQ) had a notice published in the Washington Times Herald, Washington, Indiana, stating that Grain Processing Corporation had applied for a PSD/Part 70 Operating permit for a stationary corn wet milling plant. Included in the documents available for public comment was BACT for VOC for pre-fermentation and fermentation systems. For the pre-fermentation system, BACT was the use of a scrubber (APC28), 95% control, and less than 9.75 lbs VOC/hour. For the fermentation system, BACT was the use of a scrubber (APC29), 95% control, and less than 16.83 lbs VOC/hour.

Prior to the October 17, 2007, issuance of PSD/Part 70 Operating Permit No. 027-14200-00046, GPC submitted an application for a significant modification (PSD/SSM 027-24380-00046) requesting to increase the grind capacity of the plant, construct new emissions units, and re-evaluate BACT for many existing units. The requested modification also addressed many of the VOC violations related to the Ethanol Plant Clean Air Act Enforcement Initiative. Therefore, for units which would be affected by the grind expansion project, BACT for VOC was not included in the issued PSD/Part 70 Operating Permit No. 027-14200-00046. This decision was based on the fact that BACT for the units affected by the grind expansion project would be promptly re-evaluated as part of the PSD/SSM No. 027-24380-00046 permitting action.

The pre-fermentation and fermentation systems are not affected units under the grind expansion project, since they will not be physically modified or experience an increase in emissions beyond the BACT limitations, as public noticed on November 17, 2003. Therefore, BACT for these systems would not require re-evaluation of part of the PSD/SSM No. 027-24380-00046 permitting action. However, the PSD/Part 70 Operating Permit No. 027-14200-00046 failed to establish BACT for these systems.

Based on the above information, Condition D.7.1 (formerly D.7.2) was revised to incorporate the revised BACT requirements for the pre-fermentation and fermentation systems. See the "Proposed Changes Subsequent to the Initial Public Notice (April 26, 2008)" Section of the TSD for further details.

## II. Comments from Grain Processing Corporation (GPC)

On May 29, 2008, Krista Booth, Staff Engineer, August Mack Environmental, on behalf of Grain Processing Corporation (GPC), submitted comments on the proposed significant modification to the Part 70 permit. The summary of the comments and IDEM's responses is as follows:

Comment 1:

GPC is proposing that the NOx testing requirements in Conditions D.4.8(d) and (e) be removed from the permit. NOx emissions are a by-product of combustion. The high heat necessary for proper destruction of VOCs in the RTO will generate NOx that cannot be reduced without compromising this destruction efficiency.

IDEM Response 1:

Testing Condition D.4.8(d) is necessary to demonstrate compliance with a PSD minor limit to avoid the requirements of PSD BACT for NOx for the installation of the RTOs (FPC34a and FPC34b). Testing Condition D.4.8(e) is necessary to demonstrate compliance with BACT emission limits.

No changes were made to the permits as a result of this comment.

Comment 2:

GPC proposed the following modification to Conditions D.2.4, D.3.5, D.4.8, D.7.5, and D.8.7:

Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial ~~startup of the germ dryer, rotary bed germ cooler, and the corn gluten feed (CGF) dryer~~ **startup of the grind expansion project...**

The germ dryer, rotary germ cooler, and gluten dryer are all existing units at the facility and operating under the Title V permit. The second gluten dryer is a new unit to be constructed under the PSD modification (027-24380-00046).

IDEM Response 2:

IDEM, OAQ agrees that the testing requirements do not clearly convey the timeframe when testing is required; however, the phrase "grind expansion project" does not necessarily convey a better sense of when testing should occur. The grind expansion project will increase the nominal grinding operations from 26,280,000 bushels per year to 49,275,000 bushels per year, which will facilitate an increase in nominal production from downstream operations. GPC has proposed several modifications related to the grind expansion project as follows:

- addition of two (2) steep tanks to the corn steeping process, requiring an increase in SO2 input to the system, which will increase SO2 emissions from the corn steeping, milling and germ separation, and starch and gluten separation areas
- addition of a new gluten tank and filter press at the milling and germ separation area
- addition of two (2) new gluten filters and a new starch tank at starch and gluten separation area
- the addition of a second gluten dryer
- the addition of a flue gas recirculation system for NOx control at the CGF dryer

Based on the above information, Conditions D.2.4, D.3.5, D.4.8, D.7.5, and D.8.7 were revised to more accurately depict the installation and/or modification of emission units that comprise the completion of the modifications and the testing timeframe required by such completions. See the "Proposed Changes Subsequent to the Initial Public Notice (April 26, 2008)" Section of the TSD for further details.

Comment 3:

GPC is proposing that Condition D.7.2(b) be removed from the permit. GPC does not agree that BACT has been previously established for the flash vent condenser system. The BACT analysis lists Tate and Lyle's caustic wet scrubber for the wet mill aspiration system as the basis for BACT; however, this is not a comparable process. The wet mill aspiration system is related to the wet milling operation whereas the flash cooler vent condenser system is part of the alcohol production process and controls emissions from cooling fermentable sugars received from the starch cooker, steep waste from the steep system, and stillage from the distillation bases. Therefore, GPC proposes that BACT be 0.53 lb/hr of SO2 for this operation and a control efficiency not be specified.

IDEM Response 3:

IDEM, OAQ agrees that BACT has not been established specifically for the starch flash cooling system. Absent an established BACT, a technically feasible BACT was established for the starch flash cooling system, based on an examination of the physical and chemical characteristics of the gas emission stream. 90% control of SO2 is routinely achieved and set as BACT for a variety of similar processes. Additionally, this level of control is consistent with source supplied emission estimations. However, IDEM, OAQ recognizes that anticipated level of control may not be achievable under all manufacturing situations. If the control efficiency established as BACT proves to be unattainable in practice, GPC can apply to request a re-evaluation of this BACT determination.

No changes were made to the permits as a result of this comment.

Comment 4:

GPC is proposing that the NOx testing requirements in Condition D.9.6(b) be removed from the permit. NOx emissions from the maltrin dryer are generated from natural gas combustion and no controls are required. Testing should not be required for natural gas combustion emissions only.

IDEM Response 4:

The generation of NOx is a result of the combustion technology employed at the dryer. Therefore, testing is required to determine compliance. Upon receipt from IDEM, OAQ of successful demonstration of compliance with applicable limits, the Permittee may request revisions to the testing requirement, including a change to the frequency of the testing or removal of the testing requirement in its entirety. IDEM, OAQ will consider this request at the time of application.

No changes were made to the permits as a result of this comment.

Comment 5:

GPC believes that Condition D.10.4 needs to be modified based on the fact that emission limits in the RBLC for Homeland Energy Solutions have not been demonstrated to be achievable. Condition D.10.4 should be changed to 94% due to the most stringent BACT being 94% reduction of VOCs at United Wisconsin Grain Producers. GPC will still propose 0.07 lb NOx/MMBtu as BACT in Condition D.10.5; however, the BACT analysis should be modified to indicate that Homeland Energy Solutions has not verified its BACT limit and the proposed value needs to be added to the table for GPC.

IDEM Response 5:

Flares routinely demonstrate 98% control efficiency for VOC; and therefore, it is anticipated that the 98% control will be demonstrated by Homeland Energy Solutions. Therefore, 98% VOC control remains. Should Homeland Energy Solutions fail to demonstrate compliance with 98% control, GPC can apply for a revision to the BACT.

The BACT analysis has been changed to reflect that BACT for NOx for Homeland Energy Solutions, which is limit of 0.07 lb NOx/MMBtu, is a proposed value.

No changes were made to the permits as a result of this comment.

Comment 6:

Section D.10.11 is confusing in the way that it is written. In addition, GPC does not yet know the pH and recirculation rate that will be required for the biogas scrubber. The following modifications are proposed:

D.10.11 Monitoring for Scrubber

(a) * * *

(b) A continuous monitoring system shall be operated at all times scrubber UPC55 is in operation. The monitoring system shall continuously measure and record the scrubber recirculation rate from scrubber UPC55 controlling ~~emissions~~ biogas emissions. **The output of this system shall be recorded as a 1-hr average.**

**(c)** If the pH reading is outside of the normal range, or the 1-hr average ~~flow~~ **recirculation** rate is below the minimum ~~flow~~ **recirculation** rate for any one reading, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances.

(1) ~~The normal pH range for Scrubber UPC55 is 9 to 11.5 or the range established during the latest stack test. The minimum 1-hr average flow rate for Scrubber UPC55 is 70 gpm or a minimum flow rate established during the latest stack test.~~

**From the date of initial operation until the results from the approved stack tests are available, the Permittee shall operate at or above the minimum pH and the 1-hr average recirculation rate recommended by the manufacturer.**

~~(c)~~**(d)** A pH reading ~~that is outside of the normal range~~, or 1-hr average ~~flow~~ **recirculation** rate that is ~~below the minimum flow rate~~ **outside of the ranges recommended by the manufacturer or established during the latest stack test** for any one reading 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)~~**(e)** The instruments used for determining the ~~flow~~ **recirculation** rate and pH shall comply with Section C - Instrument Specifications of this permit, and shall be calibrated at least once every six (6) months. The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.

<u>IDEM Response 6:</u>

Condition D.10.11 was revised. See the "Proposed Changes Subsequent to the Initial Public Notice (April 26, 2008)" Section of the TSD for further details.

<u>Comment 7:</u>

No reporting requirements are provided for Section D.11; however, there are reporting requirements outlined in 326 IAC 3-5. GPC would like these reporting requirements outlined in its permit for clarification.

<u>IDEM Response 7:</u>

Condition D.11.9 was revised. See the "Proposed Changes Subsequent to the Initial Public Notice (April 26, 2008)" Section of the TSD for further details.

<u>Comment 8:</u>

The steep area scrubber (FPC06) is controlling emissions from the ventilation system for the steep area. During a scrubber malfunction, the scrubber may need to be shutdown for a limited time period for repair; however, the steep tanks may still contain material during this time period, and therefore, still be in "operation". During scrubber shutdown, the ventilation system for this area will also be shutdown and no pollutants will be emitted from the building. GPC will comply with all other applicable permit conditions during these time periods. GPC proposes the following modification to Condition D.2.3:

D.2.3 SO2 Control

In order to comply with Condition D.2.1, scrubber FPC06, used to control SO2 emissions, shall be in operation at all times the corn steeping process is in operation and venting to scrubber FPC06**, except as otherwise specified, provided or accepted by this permit.**

The mill area scrubber (FPC07) and the feed area scrubber (FPC27), are controlling emissions from the ventilation system for the designated areas. During a scrubber malfunction, the scrubber may need to be shutdown for a limited time period for repair; however, the steep tanks may still contain material during this time period, and therefore, still be in "operation". During scrubber shutdown, the ventilation system for this area will also be shutdown and no pollutants will be emitted from the building. GPC will comply with all other applicable permit conditions during these time periods. GPC proposed the following modification to Condition D.3.4:

D.3.4 SO2 and Particulate Control

(a) In order to comply with Conditions D.3.1 and D.3.2, scrubber FPC07, used to control SO2 and PM/PM10 emissions, shall be in operation at all times the primary milling, germ separation, and secondary milling processes are in operation and venting to scrubber FPC07, **except as otherwise specified, provided or accepted by this permit.**

(b) In order to comply with Conditions D.3.1 and D.3.2, scrubber FPC27, used to control SO2 and PM/PM10 emissions, shall be in operation at all times the fiber separation, and starch and gluten separation processes are in operation and venting to scrubber FPC27, **except as otherwise specified, provided or accepted by this permit.**

IDEM Response 8:

Various permit conditions deal with how the Permittee should proceed during periods of maintenance or emergency. Specifically, the Permittee is required to prepare, maintain and implement a Preventative Maintenance Plan (PMP) for the scrubbers; see Conditions B.11 and D.2.2 and D.3.3. Likewise, provisions regarding emergencies are provided in Condition B.12.

No changes were made to the permits as a result of this comment.

Comment 9:

Conditions D.4.16(i), D.5.6(b), D.8.12(e), D.9.11(d), and D.10.14(b) are required to keep on file vendor guarantees of the grain loading for the bin vent filters. This is a new requirement for the PSD modification and GPC does not believe that it is necessary due to the very low airflow through these units, low particulate emissions, and intermittent operation (venting). In addition, GPC is required to perform daily visible emission notations on these units.

IDEM Response 9:

IDEM, OAQ recognizes that obtaining vendor guarantees for existing equipment is not always possible. Since the referenced units were previously subject to the requirements of 326 IAC 2-2-3 (Prevention of Significant Deterioration - Control Technology Review) and were not required to maintain vendor guarantees, the requirements to maintain vendor guarantees on file were removed from the permit.

Daily visible emissions are necessary because the bin vent filters must operate properly to ensure compliance 326 IAC 2-2-3 (Prevention of Significant Deterioration - Control Technology Review Requirements).

With regards to record keeping requirements for a daily visible emissions notations log, the intent is that the Permittee makes a record of some sort every day. If a notation is taken, a "normal" or "abnormal" notation is made. If no inspection is made, a notation is required as to why it wasn't, such as the unit was not operating. For extended periods of time when daily parametric monitoring is not required (e.g., the units are not receiving material), IDEM, OAQ Compliance Branch has determined that it is sufficient to document the reason daily parametric monitoring will not be required on the first day of the period and document when the daily parametric monitoring requirement will resume.

No changes were made to the requirement to perform daily visible emissions notations.

Conditions D.4.16, D.5.6, D.8.12, D.9.11, and D.10.14 were revised and the requirement to maintain vendor guarantees on file were removed. See the "Proposed Changes Subsequent to the Initial Public Notice (April 26, 2008)" Section of the TSD for further details.

Comment 10:

Upon installation of the RTO System (FPC34), in August of 2007, GPC reduced VOC emissions from the dryers by 98% and should no longer be considered a major source of hazardous air pollutants. Therefore, Section E.3 should no longer be applicable.

IDEM Response 10:

Based on a May 16, 1995 letter by the U.S. EPA, a major source under Section 112 of the Clean Air Act cannot switch to area source status once the "first compliance date" of the applicable NESHAP has passed. The source was required to comply with 40 CFR 63, Subpart EEEE on and after February 2, 2007. Therefore, GPC would still be required to comply with the applicable requirements of 40 CFR, Subpart EEEE, after an area source determination is made.

If it is GPC's intent to be considered an area source under Section 112 of the Clean Air Act (CAA), GPC will need to submit a modification application for review.

No changes were made to the permits as a result of this comment.

Comments to the TSD:

The following inconsistencies were observed in the testing requirement tables:

- Maltrodextrin Dryer - A NOx lb/hr limit is given in the table; however, this is not a permit requirement. Please remove this limit.
- Maltrodextrin Transfer System - The limits should be 0.005 gr/dscf and 0.34 lb/hr. Please correct these limits.
- Gluten Dryers - The SO2 limit for the gluten dryers is 13.07 lb/hr, not 7.52 lb/hr as provided in D.4.4(i).
- CGF Dryer - The SO2 limit for the gluten dryers is 7.52 lb/hr not 13.07 lb/hr as provided in D.4.4(f).
- Alcohol Distillation System - The VOC limit is 0.7 lb/hr, not 7.5 lb/hr as provided in D.7.1.

IDEM Response to TSD Comments:

Prior to the September 11, 2008, notice of a thirty (30) day public comment period, the requested changes were made to the Technical Support Document (TSD).

Comments to the BACT Analysis:

The Mill Area scrubber (FPC07) and the Feed Area scrubber (FPC27) are not utilized for particulate control. The BACT analysis lists several dry milling facilities (hammermills) which are a very different operation from the wet milling at GPC. The Millhouse and Feedhouse Equipment Scrubbers listed for MN Corn Processors (ADM) are similar processes. Conversations with ADM indicated that these scrubbers were installed for SO2 control and went through BACT for SO2. GPC does not believe that these scrubbers should be examined for BACT for particulate. This BACT limit should also be removed from Condition D.3.1 of the permit.

IDEM Response to BACT Analysis Comments:

Although the Mill Area scrubber (FPC07) and the Feed Area Scrubber (FPC27) were not installed for particulate control, the PM and PM10 emissions from the emission units venting to the scrubbers will experience an increase as part of the grind expansion project. The emission units venting to the Mill Area Scrubber and the Feed Area Scrubber are subject to BACT for PM and PM10 as part of the Grind Expansion Project.

Pursuant to Part 70 Operating Permit No. 08300038-007, issued by the State of Minnesota on May 25, 2006, the Millhouse and the Feedhouse Scrubbers at MN Corn Processors (ADM) are subject to the requirements of BACT for PM and $PM_{10}$. Since these are similar processes to the GPC Mill Area and Feed Area processes, it is appropriate to compare the MN Corn Processors BACT for PM/PM10 for the Mill Area and Feed Area to the GPC Mill Area and Feed Area processes.

No changes were made to the permits as a result of this comment.

## III. Comments from General Public

On May 28, 2008, Mr. Tim C. Bateman, submitted comments on the proposed significant modification to the Part 70 permit. The summary of the comments and IDEM's responses is as follows:

Comment 1:

Mr. Bateman included in his comments an attachment consisting of a printout of the Detailed Facility Report for Grain Processing Corporation obtained from the U.S. EPA, Enforcement and Compliance History Online (ECHO) web site.

Based on the information contained on the ECHO website, he questioned if GPC is still considered a High Priority Violator (HPV) and if it is still listed as being in Significant Non-Compliance (SNC). Mr. Bateman also commented on the monetary penalties levied against GPC, requesting to know if they have been paid in full. If so, where does the $428,500 go and how is it distributed and to whom?

IDEM Response 1:

According to the U.S. EPA, Enforcement & Compliance History Online (ECHO) website, as of July 19, 2008, GPC is still considered a High Priority Violator (HPV) under the Clean Air Act (CAA) with the State of Indiana taking the lead with a formal enforcement action, but the violations have not yet been resolved. However, the compliance status of facilities, as listed in ECHO, can be misleading. One frequent discrepancy is that U.S. EPA and the states have different definitions of what constitutes a formal enforcement action, and of when such cases are resolved. For example, if a facility has ever been subject to an enforcement action, ECHO continues to show that facility as out of compliance until the enforcement case has been formally resolved by U.S. EPA's standards, and regardless of the presence or absence of current violations. This permitting action resolves violations addressed in IDEM enforcement case 2000-10115-A and reflects VOC emissions addressed in IDEM enforcement case 2003-12656-A. The U.S. EPA, Enforcement & Compliance History Online (ECHO) can be located on the Internet at: http://www.epa-echo.gov/echo/

Significant Non-Compliance is a term used in the Clean Water Act (CWA) and Resource Conservation and Recovery Act (RCRA) programs; and therefore, the status is not effected by this permitting action.

Monetary penalties were levied against GPC as part of IDEM enforcement cases 2000-10115-A and 2003-12656-A. IDEM enforcement case 2000-10115-A was paid in full in October of 2007, and IDEM enforcement case 2003-12656-A was paid in full in March of 2007. Funds collected are deposited into the Environmental Management Special Fund. The Environmental Management Special Fund, including the distribution of funds, is regulated by IC 13-14-12 - Environmental Management Special Fund.

Comment 2:

How can it be called "enforcement action" when GPC is still in violation of existing permits?

IDEM Response 2:

GPC was recently issued Part 70 Operating Permit No. 027-14200-00046, on October 19, 2007. The Part 70 Operating permit superceeds all prior issued permits, and is being modified as part of this permitting action. At this time, IDEM is not aware of any violations of the terms and conditions of Part 70 Operating Permit No. 027-14200-00046.

Comment 3:

Mr. Bateman requests an explanation of any and all rules and laws that GPC has violated, if any, under Indiana Code Law 326 IAC 2 by Section, Paragraph, Number and/or Letter, and requests that the explanation include a review of all pages of 326 IAC 2. Additionally, he questions how many days GPC has been in complete compliance with all existing permits issued by IDEM.

IDEM Response 3:

A complete history of enforcement actions levied against GPC, including the dates of the violations, can be found on the Indiana Department of Environmental Management Office of Enforcement Monthly Actions and Orders website located on the Internet at: http://www.in.gov/apps/idem/oe/idem/oe/order. The Notice of Violation (NOV) document lists the environmental statute(s), rule(s), and/or permit(s), that the company has violated.

Permits require sources to comply with all air pollution emission standards and work practice standards established by the U.S. EPA and the Indiana Air Pollution Control Board. A review of 326 IAC 2 is conducted as part of every permitting action and the applicable requirements are incorporated into the respective permit. It is not necessary to review 326 IAC 2-2 in response to the received comment, since this has been completed and documented as part of this permitting action. Applicable rules are listed and discussed in the Technical Support Document (TSD).

Comment 4:

Why have I never been notified by the IDEM of any fines being levied against GPC?

IDEM Response 4:

The Permits Branch of the Office of Air Quality maintains a mailing list of people who have asked to be notified of permit activity. You can request to be notified of permit actions related to either a specific source, or for all permit activity in a certain county. This list is specific to permitting issues, and therefore, notification is not sent as a result of enforcement activities.

The Office of Enforcement can be contacted at (317) 233-5529 with specific questions regarding notifications related to Enforcement Actions.

Comment 5:

Mr. Bateman requests that IDEM consider his comments to be adverse comments concerning the air pollution impact of the draft permits and requests a public hearing.

IDEM Response 5:

IDEM has carefully considered this request and associated comments. A letter, addressed to Mr. Bateman, indicating IDEM's decision not to hold a public hearing for the air permit for GPC was issued on June 5, 2008.

# Indiana Department of Environmental Management
# Office of Air Quality

## Technical Support Document (TSD) for a Part 70 PSD/Significant Source Modification and a Part 70 Significant Permit Modification

### Source Description and Location

| | |
|---|---|
| Source Name: | Grain Processing Corporation |
| Source Location: | 1443 South 300 West, Washington, IN 47501 |
| County: | Daviess |
| SIC Code: | 2046, 2048, 2085, 2099 |
| Operation Permit No.: | T027-14200-00046 |
| Operation Permit Issuance Date: | October 19, 2007 |
| PSD/Significant Source Modification No.: | 027-24380-00046 |
| Significant Permit Modification No.: | 027-24979-00046 |
| Permit Reviewer: | Jenny Acker |

### Existing Approvals

The source was issued Part 70 Operating Permit No. 027-14200-00046 on October 19, 2007.

### County Attainment Status

The source is located in Daviess County.

| Pollutant | Designation |
|---|---|
| SO2 | Better than national standards. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| O3 | Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.1 |
| PM10 | Unclassifiable effective November 15, 1990. |
| NO2 | Cannot be classified or better than national standards. |
| Pb | Not designated. |
| 1Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. | |

(a) 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. Daviess 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.

(b) Daviess 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) Daviess County has been classified as attainment or unclassifiable for $PM_{10}$, $SO_2$, $NO_2$, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(d) Fugitive Emissions
This source consists of an ethanol production plant and includes two (2) fossil fuel-fired steam boilers with a combined capacity of more than two hundred fifty million (250,000,000) British thermal units per hour of heat input, which support the ethanol production.

(1) EPA published a final rule in Federal Register on May 1, 2007, that excluded ethanol production facilities, that produced ethanol through natural fermentation, from the major source category "Chemical Process Plants". Therefore, their fugitive emissions, are no longer counted towards determination of PSD applicability.

(2) The boilers with a total heat input rating of greater than 250 MMBtu/hr are considered one of the twenty-eight (28) source categories, based on the EPA guidance for "nested activities". Therefore, any fugitive emissions from these boilers are towards PSD applicability.

(e) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

## Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

| **Pollutant** | **Emissions** (ton/yr) |
|---|---|
| PM | Less than 250 |
| $PM_{10}$ | Less than 250 |
| $PM_{2.5}$ | Less than 250 |
| $SO_2$ | Less than 250 |
| VOC | * |
| CO | Less than 250 |
| $NO_X$ | Less than 250 |

* IDEM, OAQ has information that indicates that the actual VOC emissions have exceeded 250 tons per year.

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant, volatile organic compounds (VOC), has been emitted at a rate of 250 tons per year or more.

(b) These emissions are based upon Part 70 Operating Permit T 027-14200-00046, and Agreed Orders 2000-10115-A and 2003-12656-A.

The table below summarizes the potential to emit HAPs for the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

| **HAPs** | **Potential To Emit** (ton/yr) |
|---|---|
| Acetaldehyde | Greater than 10 |
| Formaldehyde | Greater than 10 |
| Acrolein | Less than 10 |
| Methanol | Less than 10 |
| Other HAPs | Less than 10 |
| **Total** | Greater than 25 |

Note: Following installation and operation of RTOs FPC34a and FPC34b, the source is expected to be a minor source for HAPs . However, the source will remain a major source of HAPs until a permit modification incorporating federally enforceable limits is issued.

(a) This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

(b) These emissions are based upon the Technical Support Document (TSD) to Part 70 Operating Permit T 027-14200-00046.

## Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a Prevention of Significant Deterioration application, submitted by Grain Processing Corporation on February 28, 2007, relating to the following proposed changes:

GPC has proposed to increase the nominal capacity of the grinding operations from 26,280,00 bushels per year to 49,275,000 bushels per year. GPC has proposed several modifications related to the grind expansion project as follows:

- addition of two (2) steep tanks to the corn steeping process, requiring an increase in SO2 input to the system, which will increase SO2 emissions from the corn steeping, milling and germ separation, and starch and gluten separation areas
- addition of a new gluten tank and filter press at the milling and germ separation area
- addition of two (2) new gluten filters and a new starch tank at starch and gluten separation area
- the addition of a second gluten dryer
- the addition of a feed loadout vacuum system, with emissions controlled by a new baghouse FPC33
- addition of a caustic wet scrubber to control SO2 emissions from the combustion of biogas at the germ dryer, the gluten dryers, the starch dryer, thermal oxidizers FPC34a and FPC34b, the biogas flare, and/or the biogas emergency flare

- allowing the combustion of biogas in addition to natural gas at the germ dryer, the gluten dryers, thermal oxidizers FPC34a and FPC34b, and the starch dryer, which requires the addition of a wet scrubber and emergency biogas flare
- revising the existing BACT for numerous emission units
- re-evaulating the BACT for numerous units that are out of compliance with existing BACT limitations.
- Evaulate the BACT for several units that are out of compliance with minor limitations issued pursuant to 326 IAC 2-2.

GPC has also proposed to restart the Maltrodextrin line as part of the grind expansion project. The Maltrodextrin line was previously permitted under PSD CP 027-7239-00046, issued June 10th, 1997, but has not been in operation since April 2000. The filter aid storage bin associated with the Maltrodextrin line remained in use as a lime storage bin for the WWT system. The existing storage bin will revert to its original designation as a filter aid storage bin for the Maltodextin line and a new storage bin will be constructed as a lime storage bin for the WWT system.

## Enforcement Issues

This permit resolves violations addressed in IDEM enforcement case 2000-10115-A and reflects VOC emissions addressed in IDEM enforcement case 2003-12656-A.

## Stack Summary

| Stack ID | Operation | Height (ft) | Diameter (ft) | Flow Rate (acfm) | Temperature ($^0$F) |
|---|---|---|---|---|---|
| UP52 | Lime Bin Vent | 40 | 0.67 | 1,200 | 70 |
| MP39 | Maltrodextrin Spray Dryer Scrubber | 207 | 10.75 | 158,000 | 120 |
| MP41 | Maltrodextrin Packaging Dust Collector | 142 | 2.33 | 8,000 | 80 |
| MP42 | Maltrodextrin Product Receiver Baghouse | 217 | 2.5 | 8,000 | 80 |
| MP43 | Maltrodextrin Central Vaccum Cleaner | 138 | 0.29 | 500 | 80 |
| MP44 | Maltrodextrin Product Storage Bins | 164 | 0.5 | 100 | 80 |
| MP60 | Maltrodextrin Filter Aid Baghouse | 91.5 | 1.38 | 600 | 80 |
| MP61 | Maltrodextrin Carbon Silo Baghouse | 91.5 | 1.38 | 600 | 80 |

## Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

## Permit Level Determination – Part 70

This source modification is subject to 326 IAC 2-7-10.5(f)(1) for any modification that would be subject to 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)). Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d)(1), because this modification requires significant changes in existing Part 70 permit terms or conditions.

## Permit Level Determination – PSD or Emission Offset

**Grind Expansion Project**

The table below summarizes the potential to emit, reflecting all limits, of the source. Any control equipment is considered federally enforceable only after issuance of this PSD (Prevention of Significant Deterioration ) and Part 70 Source Modification No. 027-24380-00046, and Part 70 Permit Modification No. 027-24979-00046, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

| | **Potential to Emit** (ton/yr) | | | | | |
|---|---|---|---|---|---|---|
| **Process / Emission Unit** | **PM** | **$PM_{10}$** | **$SO_2$** | **VOC** | **CO** | **$NO_X$** |
| Limited PTE Prior to Modification | 216.44 | 122.60 | < 40 | 119.38 | n/a | 136.72 |
| Baseline Actual Emissions | n/a | n/a | n/a | n/a | 138.36 | n/a |
| Limited PTE After Modification | 266.61 | 255.54 | 180.87 | 248.63 | 235.14 | 212.50 |
| Emissions Increase of Project | 38.71 | 121.38 | 140.87 | 129.25 | 95.78 | 75.78 |
| Significant Level | 25 | 15 | 40 | 40 | 100 | 40 |

Baseline Actual Emissions for CO are based on natural gas consumption during the period of May, 2004 to April, 2006.

In lieu of using actual baseline emissions, the source has elected to use the limited PTE prior to the modification based on applicable limits in CP 027-24979-00046 and Part 70 Operating Permit T027-14200-00046 for all criteria pollutants except CO. Since the Permittee has exceeded emissions limitations established in CP 027-24979-00046 and T027-14200-00046, actual baseline emissions exceeding the permitted allowable emissions would be discounted. Therefore, the baseline emissions can not exceed the permitted allowable emissions and using the permitted allowable emissions in lieu of the actual baseline emissions provides the most conservative method to determining the baseline emissions.

In lieu of using the projected actual emissions, the source elected to use the potential to emit in calculating the project's emissions increases under 326 IAC 2-2-1(rr)(B).

This modification to an existing major stationary source is major for PSD review, because at least one criteria pollutant is emitted at or above the PSD significant level. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do apply.

The Permittee has provided information as part of the application for this approval that based on Actual to Projected Actual test in 326 IAC 2-2-2 that the emissions increase of CO is not significant. IDEM, OAQ has not reviewed this information and will not be making any determination in this regard as part of this approval. The applicant will be required to keep records and report in accordance with Source obligation in 326 IAC 2-2-8.

**Thermal Oxidizer Replacement Project**

Pursuant to Agreed Order No. 2003-12656-A, Grain Processing Corporation was required to install two (2) thermal oxidizers on the Corn Gluten Feed, Germ, and Gluten Dryers ("Dryers") by June 29, 2007. These thermal oxidizers replaced an existing thermal oxidizer that provided odor control only for the CGF dryer. The two (2) required thermal oxidizers, identified as FPC34a and FPC34b, were permitted in Part 70 Operating Permit No. 027-14200-00046, issued on October 19, 2007. Limitations were included that rendered the requirements of Prevention of Significant Deterioration (PSD) for NOx and SO2 not applicable to the thermal oxidizer replacement project.

The thermal oxidizers (FPC34a and FPC34b) were permitted to combust biogas and natural gas, as fuel. Biogas contains a high H2S content, which converts to SO2 during combustion, and if the combustion of biogas was not limited, the PTE of SO2 would exceed forty (40) tons per year. As part of the grind expansion project, the biogas will be scrubbed prior to combustion in the thermal oxidizers. The PTE of SO2 from combustion of natural gas and/or biogas by the thermal oxidizers FPC34a and FPC34b, after the grind expansion project, will be less than fifteen (15) tons per year if the thermal oxidizers were to combust only biogas and less than one (1) ton per year if the thermal oxidizers were to combust only natural gas. Therefore, limitations to render PSD not applicable to thermal oxidizers FPC34a and FPC34b for SO2 have been revised as follows:

(a) Sulfur Dioxide (SO2)

(1) Until the biogas scrubber (UPC55) is online and reducing $H_2S$ emissions from the biogas, the following conditions shall apply:

(A) During biogas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 600 pounds per MMCF.

(B) During natural gas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 0.6 pounds per MMCF.

(C) The total SO2 emissions from combustion of biogas and/or natural gas by thermal oxidizers FPC34a and FPC34b shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month. The following equation shall be used to determine compliance:

SO2 Emissions = (X1*600 + X2*0.6)/2000

Where:

X1 = the biogas (MMCF) usage at FPC34a and FPC34b

X2 = the gas natural gas (MMCF) usage at FPC34a and FPC34b

(2) On and after the date the biogas scrubber (UPC55) is online and controlling $H_2S$ emissions from the biogas, Condition D.4.5(b)(1) shall expire and the following condition shall apply:

(A) During biogas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 91.63 pound per MMCF.

(B) During natural gas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 0.6 pounds per MMCF.

(C) The total SO2 emissions from combustion of biogas and/or natural gas by thermal oxidizers FPC34a and FPC34b shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month. The following equation shall be used to determine compliance:

SO2 Emissions = (Y1*91.63 + Y2*0.6)/2000

Where:

Y1 = the biogas (MMCF) usage at FPC34a and FPC34b

Y2 = the gas natural gas (MMCF) usage at FPC34a and FPC34b

Compliance with these limits shall ensure that the SO2 emissions from the thermal oxidizer replacement project is less than forty (40) tons per year, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to RTOs FPC34a and FPC34b.

Limitations intended to render the requirements of 326 IAC 2-2 (PSD) not applicable to thermal oxidizers FPC34a and FPC34b for NOx, have been revised. The supporting calculations for the thermal oxidizer project (Appendix A of the TSD of Part 70 Operating Permit T027-14200-00046) included a netting analysis showing that the thermal oxidizers could emit forty-three (43) tons per year of NOx and still remain below the forty (40) tons of NOx per year significant emissions increase threshold. However, the NOx emissions were limited to forty (40) tons per year in the Part 70 Operating Permit No. 027-14200-00046. The revised limits reflect an allowable NOx emission limitation of forty-three (43) tons per year as follows:

(b) Nitrogen Oxides (NOx)

(1) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of natural gas used as fuel.

(2) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of biogas used as fuel.

(3) The total amount of gas (biogas and natural gas) combusted by FPC34a and FPC34b shall not exceed 186 million cubic feet (MMCF) per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits shall limit the NOx emissions from the thermal oxidizers FPC34a and FPC34b to less than forty-three (43) tons per year, and shall limit the emissions increase of the thermal oxidizer replacement project to less than forty (40) tons per year.

## Federal Rule Applicability Determination

**NSPS:**

(a) The group of all equipment (defined in 40 CFR 60.481a) with a process unit for which modification commenced after November 7, 2006 and is considered a synthetic organic chemicals manufacturing facility 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).

Nonapplicable portions of the NSPS will not be included in the permit. 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

**NESHAP:**

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed modification.

**CAM:**

(c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each new or modified pollutant-specific emission unit that meets the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

| Emission Unit | Control Device Used | Emission Limitation (Y/N) | Uncontrolled PTE (tons/year) | Controlled PTE (tons/year) | Major Source Threshold (tons/year) | CAM Applicable (Y/N) | Large Unit (Y/N) |
|---|---|---|---|---|---|---|---|
| **PM/PM10** | | | | | | | |
| gluten dryer (new unit) | RTO & scrubber | Y | > 100 | < 100 | 100 | Y | N |
| germ cooler (new unit) | RTO & scrubber | Y | > 100 | < 100 | 100 | Y | N |
| feed loadout vacuum | baghouse | Y | < 100 | N/A | 100 | N | N/A |

| Emission Unit | Control Device Used | Emission Limitation (Y/N) | Uncontrolled PTE (tons/year) | Controlled PTE (tons/year) | Major Source Threshold (tons/year) | CAM Applicable (Y/N) | Large Unit (Y/N) |
|---|---|---|---|---|---|---|---|
| lime storage bin | bin vent filter | Y | < 100 | N/A | 100 | N | N/A |
| mill area | scrubber | Y | > 100 | < 100 | 100 | Y | N |
| feed area | scrubber | Y | > 100 | < 100 | 100 | Y | N |
| malto packaging system | dust collector | Y | > 100 | < 100 | 100 | Y | N |
| maltro transfer conveyor | baghouse | Y | > 100 | < 100 | 100 | Y | N |
| maltro central vacuum | dust collector | Y | < 100 | N/A | 100 | N | N/A |
| maltro storage system | bin vent filter | Y | < 100 | N/A | 100 | N | N/A |
| dry carbon storage bin | bin vent filter | Y | < 100 | N/A | 100 | N | N/A |
| maltro spray dryer | scrubber | Y | > 100 | < 100 | 100 | Y | N |
| **SO2** | | | | | | | |
| gluten dryer (new unit) | scrubber | Y | > 100 | < 100 | 100 | Y | N |
| germ cooler (new unit) | scrubber | Y | > 100 | < 100 | 100 | Y | N |
| anaerobic digestor | scrubber | Y | > 100 | < 100 | 100 | Y | N |
| **VOC** | | | | | | | |
| gluten dryer (new unit) | RTO | Y | > 100 | < 100 | 100 | Y | N |
| germ cooler (new unit) | RTO | Y | > 100 | < 100 | 100 | Y | N |
| **NOx** | | | | | | | |
| gluten dryer (new unit) | water quench system | Y | < 100 | N/A | 100 | N | N/A |
| germ cooler (new unit) | water quench system | Y | < 100 | N/A | 100 | N | N N/A |
| maltro spray dryer | N | N/A | N/A | N/A | N/A | N/A | N/A |

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the following emission units, for the associated pollutants, upon issuance of the Title V Renewal. A CAM plan must be submitted as part of the Renewal application.

PM/PM10

- Gluten dryer
- Germ cooler
- Mill area
- Feed area
- Maltro packaging system
- Maltro transfer conveyor

- Maltro spray dryer

SO2
- Gluten dryer
- Germ cooler
- Anaerobic digestor

VOC
- Gluten Dryer
- Germ Cooler

NOx
- Maltro spray dryer

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the following units, for the associated pollutants, as part of this modification:

PM/PM10
- Feed loadout vacuum
- Lime storage bin
- Maltro central vacuum
- Maltro storage system
- Dry carbon storage system

NOx
- Gluten dryer
- Germ cooler

## State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-1.1-5 (Nonattainment New Source Review)
Nonattainment New Source Review applicability is discussed under the Permit Level Determination – PSD and Emission Offset section.

**326 IAC 2-2 (Prevention of Significant Deterioration)**
Grain Processing Corporation began operation in 2000 with a nominal grain throughput of 26,280,000 bushels of corn per year, and this modification (grind increase project) will result in a nominal grain throughput of 49,275,000 bushels of corn per year. This modification to a major PSD source is major for PSD for PM, PM10, VOC, NOx, and SO2 since a significant emissions increase of will result for each of these pollutants. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do apply to the modification.

**326 IAC 2-2-3 (PSD Rule: Control Technology Review Requirements)**
Pursuant to 326 IAC 2-2-3(3), a major modification shall apply Best Available Control Technology (BACT) for each regulated NSR pollutant for which the modification would result in a significant net emissions increase at the source. This requirement applies to each proposed emission unit, existing units for which existing BACT limitations require revision, and to existing units that have been unable to comply with their existing BACT limitations.

Grain Processing Corporation will be subject to 326 IAC 2-2-3(3) for volatile organic compounds (VOC), PM, PM10, NOx, and SO2, since each of these pollutants is emitted at or above the significant levels. See Appendix B for the detailed BACT Analysis.

**326 IAC 2-2-4 (Air Quality Analysis Requirements)**
Section (4)(a) of this rule, requires that the PSD application shall contain an analysis of ambient air quality in the area that the major stationary source would affect for pollutants that are emitted at major levels or significant amount. Grain Processing Corporation has submitted an air quality analysis, which has been evaluated by IDEM's Technical Support and Modeling Section. See details in Appendix C.

**326 IAC 2-2-5 (Air Quality Impact Requirements)**
326 IAC 2-2-5(e)(1) of this rule, requires that the air quality impact analysis required by this section shall be conducted in accordance with the following provisions:

(1) Any estimates of ambient air concentrations used in the demonstration processes required by this section shall be based upon the applicable air quality models, data bases, and other requirements specified in 40 CFR Part 51, Appendix W (Requirements for Preparation, Adoption, and Submittal of Implementation Plans, Guideline on Air Quality Models)*.

(2) Where an air quality impact model specified in the guidelines cited in subdivision (1) is inappropriate, a model may be modified or another model substituted provided that all applicable guidelines are satisfied.

(3) Modifications or substitution of any model may only be done in accordance with guideline documents and with written approval from U.S. EPA and shall be subject to public comment procedures set forth in 326 IAC 2-1.1-6.

**326 IAC 2-2-6 (Increment Consumption Requirements)**
326 IAC 2-2-6(a) requires that any demonstration under section 5 of this rule shall demonstrate that increased emissions caused by the proposed major modification will not exceed eighty percent (80%) of the available maximum allowable increases (MAI) over the baseline concentration of sulfur dioxide, particulate matter, and nitrogen dioxide indicated in subsection (b)(1) of this rule.

**326 IAC 2-2-7 (Additional Analysis, Requirements)**
326 IAC 2-2-7(a) requires an analysis of the impairment to visibility, soils and vegetation. An analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the source. See detailed air quality analysis in Appendix C.

**326 IAC 2-2-8 (Source Obligation)**
(1) Pursuant to 2-2-8(1), approval to construct, shall become invalid if construction is not commenced within eighteen (18) months after receipt of the approval, if construction is discontinued for a period of eighteen (18) months or more, or if construction is not completed within a reasonable time.

(2) Approval for construction shall not relieve the Permittee of the responsibility to comply fully with applicable provisions of the state implementation plan and any other requirements under local, state, or federal law.

**326 IAC 2-2-10 (Source Information)**
The Permittee has submitted all information necessary to perform an analysis or make the determination required under this rule.

**326 IAC 2-2-12 (Permit Rescission)**
The permit issued under this rule shall remain in effect unless and until it is rescinded, modified, revoked, or it expires in accordance with 326 IAC 2-1.1-9.5 or section 8 of this rule.

**326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))**
Pursuant to 326 IAC 2-4.1-1(a), the requirements of 326 IAC 2-4.1 does not apply to an owner or operator that has received all necessary permits for the construction or reconstruction of a major source of hazardous air pollutants (HAP), as defined in 40 CFR 63.41, before July 27, 1997. Grain Processing Corporation was issued CP 027-7239-00046 on June 10, 1997 and this modification does not qualify as a reconstruction in accordance with 40 CFR 63.41. Therefore, the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) do not apply.

**326 IAC 6-3-2 (Particulate Emission Limitations from Manufacturing Processes)**
Pursuant to 326 IAC 6-3-1(c)(1), 326 IAC 6-3-2 shall not apply to if a particulate matter emission limitation established in 326 IAC 2-2-3, concerning prevention of significant deterioration (PSD) best available control technology (BACT) determinations contained in a permit is more stringent than the particulate limitation established in this rule (326 IAC 6-3). Since all emissions units with potential to emit particulate matter associated with this modification are subject to more stringent limitations pursuant to 326 IAC 2-2-3, the requirements of 326 IAC 6-3-2 do not apply to this modification.

**326 IAC 8-1-6 (General Best Available Control Technology (BACT))**
The corn gluten feed dryer, germ dryer, and gluten dryers, all exhausting to thermal oxidizers FPC34a and FPC34b, have existing BACT requirements. A new gluten dryer will be added and all dryers will experience an increased utilization as a part of this modification. The existing dryers will no longer be able to comply with their BACT determination and the new gluten dryer has potential VOC emissions, before control, greater than twenty-five (25) tons per year. Therefore, the corn gluten feed dryer, the germ dryer, and the gluten dryers are subject to the requirements of 326 IAC 8-1-6 (BACT).

The alcohol fermentation system, the alcohol distillation system, and the alcohol storage and loadout area, each have potential VOC emissions, before control, greater than twenty-five tons per year. These operations have not previously been subject to the requirements of 326 IAC 8-1-6 (BACT). Therefore, as part of this modification, these operations will be subject to the requirements of 326 IAC 8-1-6 (BACT).

These units are also subject to Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) (326 IAC 2-2-3) as part of this modification. The 326 IAC 8-1-6 and 326 IAC 2-2-3 BACT determinations were evaluated concurrently and are detailed in Appendix C.

## Testing Requirements

In order to demonstrate compliance with the 326 IAC 2-2-3 (PSD BACT) limits, and 326 IAC 2-2 (PSD) minor limits, the Permittee shall perform the following tests within 180 days after issuance of Significant Permit Modification No. 027-24979-00046.

| Emission Unit | Control Device | Pollutant | Frequency of Testing | Limit or Requirement |
|---|---|---|---|---|
| RTOs (FPC34a & FPC34b) | none | NOx | once every 5 years | NOx: 460 lb/MMcf biogas or natural gas |
| truck & railcar corn unloading process | baghouse (CPC01) | PM/PM10<br>Opacity | once every 5 years | 0.004 gr/dscf, 1.03 lb/hr<br>Opacity not to exceed 3% |
| germ transport system | baghouse (FPC10) | PM/PM10 | once every 5 years | 0.005 gr/dscf, 0.105 lb/hr |

| | | | | |
|---|---|---|---|---|
| CGF transport system | baghouse (FPC18) | PM/PM10 Opacity | once every 5 years | 0.005 gr/dscf, 1.61 lb/hr Opacity not to exceed 3% |
| CGF final mill system | baghouse (FPC19) | PM/PM10 Opacity | once every 5 years | 0.005 gr/dscf, 0.13 lb/hr Opacity not to exceed 3% |
| gluten transport system | baghouse (FPC14) | PM/PM10 Opacity | once every 5 years | 0.005 gr/dscf, 0.43 lb/hr Opacity not to exceed 3% |
| corn storage process supplemental gluten feed system | baghouse (FPC20) | PM/PM10 Opacity | once every 5 years | 0.005 gr/dscf, 0.09 lb/hr Opacity not to exceed 3% |
| germ, gluten, gluten feed, and gluten feed pellet loadout system | baghouse (FPC26) | PM/PM10 opacity | once every 5 years | 0.005 gr/dscf, 1.50 lb/hr opacity not to exceed 3% |
| maltrodextrin drying system | scrubber (MPC39) | PM/PM10 | once every 5 years | PM/PM10: 0.01 gr/dscf, 9.58 lb/hr |
| maltrodextrin dryer | no control | NOx | once every 5 years | NOx: 0.06 lb/MMBtu |
| maltrodextrin transfer system | baghouse (MPC42) | PM/PM10 opacity | once every 5 years | 0.005 gr/dscf, 034 lb/hr opacity not to exceed 3% |
| maltrodextrin loadout and screening process | dust collector (MPC41) | PM/PM10 opacity | once every 5 years | 0.005 gr/dscf, 0.34 lb/hr opacity not to exceed 3% |
| starch dryer | scrubber (SPC49) | PM/PM10 VOC | once every 5 years | PM/PM10: 0.092 gr/dscf, 4.96 lb/hr VOC: 1.0 lb/hr |
| starch dryer | no control | NOx SO2 | once every 5 years | NOx: 0.075 lb/MMBtu SO2: 0.02 lb/hr |

In order to demonstrate compliance with the 326 IAC 2-2-3 (PSD BACT) limits, 326 IAC 2-2 (PSD) minor limits, and 326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions), the Permittee shall perform the following tests within 60 days of achieving maximum capacity but not more than 180 days startup of the grind expansion project. The Permittee has stated that startup of the germ dryer, rotary germ cooler, and gluten dryer will be the completion of the grind expansion project.

| **Emission Unit** | **Control Device** | **Pollutant** | **Frequency of Testing** | **Limit or Requirement** |
|---|---|---|---|---|
| steep Area | scrubber (FPC06) | SO2 | once every 5 years | minimum 90% control or 15 ppm 4.70 lb/hr |
| mill Area | scrubber (FPC07) | SO2 | once every 5 years | minimum 90% control or 15 ppm 4.70 lb/hr |
| feed Area | scrubber (FPC27) | SO2 | once every 5 years | minimum 90% control or 15 ppm 7.52 lb/hr |
| mill Area | scrubber (FPC07) | PM/PM10 | once every 5 years | 0.017 gr/dscf, 2.36 lb/hr |
| feed Area | scrubber (FPC27) | PM/PM10 | once every 5 years | 0.017 gr/dscf, 3.52 lb/hr |
| germ drying system's scrubber FPC12 gluten dryers' scrubber FPC13 CGF dryer's condensing tower FPC17 | RTOs (FPC34a & FPC34b) | PM/PM10 opacity VOC | once every 5 years | PM/PM10: 0.01 gr/dscf, 11.38 lb/hr opacity shall not exceed 8% VOC: mininum 98% control or 10 ppm, 3.02 lb/hr |
| germ drying system | water quench system | NOx | once every 5 years | 0.06 lb/MMBtu |

| Emission Unit | Control Device | Pollutant | Frequency of Testing | Limit or Requirement |
|---|---|---|---|---|
| CGF dryer | flue gas recirculation | NOx | once every 5 years | 0.047 lb/MMBtu |
| gluten dryers | water quench system | NOx | once every 5 years | 0.06 lb/MMBtu |
| germ drying system' | scrubber (FPC12) | SO2 | once every 5 years | minimum 90% control or 10 ppm 3.19 lb/hr |
| gluten dryers | scrubber (FPC13) | SO2 | once every 5 years | minimum 90% control or 10 ppm 13.07 lb/hr |
| CGF dryer | condender (FPC17) | SO2 | once every 5 years | minimum 90% control or 10 ppm 7.52 lb/hr |
| pre-fermenters | scrubber (APC28) | VOC | once every 5 years | minimum 95% control 9.75 lb/hr |
| fermentation system | scrubber (APC29) | VOC | once every 5 years | minimum 95% control 16.83 lb/hr |
| alcohol distillation system | scrubber (APC32) | VOC | once every 5 years | minimum 98% control or 20 ppm 0.7 lb/hr |
| alcohol storage system (beverge) | scrubber (APC95) | VOC | once every 5 years | minimum 98% control or 20 ppm 0.16 lb/hr |
| alcohol storage system (fuel) | scrubber (APC96) | VOC | once every 5 years | minimum 98% control or 20 ppm 0.08 lb/hr |
| alcohol and distilled heads loadout area | scrubber (APC35) | VOC | once every 5 years | 2.3 lb/hr |
| flash cooler vent condenser system | condenser (APC31) | SO2 | once every 5 years | minimum 90% control or 15 ppm 0.53 lb/hr |

In order to demonstrate compliance with the 326 IAC 2-2-3 (PSD BACT) limits, the Permittee shall perform the following tests within 60 of achieving maximum capacity but not more than 180 days after startup of the biogas scrubber (UPC55).

| Emission Unit | Control Device | Pollutant | Frequency of Testing | Limit or Requirement |
|---|---|---|---|---|
| biogas generation | scrubber (UPC55) | H2S, as a surrogate for SO2 | once every 5 years | 2.44 lbs/hr of H2s, which is equivalent to 4.58 lb/hr of SO2 generated during combustion of biogas |

In order to demonstrate compliance with the 326 IAC 2-2-3 (PSD BACT) limits, the Permittee shall perform the following tests within 60 days of achieving maximum capacity but not more than 180 days startup of the feed loadout vacuum system.
.

| Emission Unit | Control Device | Pollutant | Frequency of Testing | Limit or Requirement |
|---|---|---|---|---|
| feed loadout vacuum system | baghouse (FPC33) | PM/PM10 opacity | once every 5 years | 0.005 gr/dscf, 0.01 lb/hr opacity not to exceed 3% |

**Compliance Determination and Monitoring Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

The Compliance Monitoring Requirements applicable to this modification are as follows:

Visible Emissions Notations

Visible emission notations of the stacks shall be performed in accordance with the following:

| Emission Unit/ Processed | Control Device | Stack ID | Frequency |
|---|---|---|---|
| truck and railcar unloading process | baghouse (CPC01) | CP01 | once per day during normal operations |
| corn cleaning, storage, and conveyance processes | baghouse (FPC05) | FP05 | once per day during normal operations |
| mill area | scrubber (FPC07) | FP07 | once per day during normal operations |
| feed area | scrubber (FPC27 | FP27 | once per day during normal operations |
| germ transport system | baghouse (FPC10) | FP10 | once per day during normal operations |
| germ storage bin | bin vent filter (FPC11) | FP11 | one per day during normal operations |
| CGF transport system | baghouse (FPC18) | FP18 | once per day during normal operations |
| CGF storage system | bin vent filter (FPC22) | FP22 | one per day during normal operations |
| CGF final mill system | baghouse (FPC19) | FP19 | once per day during normal operations |
| gluten transport system | baghouse (FPC14) | FP14 | once per day during normal operations |
| gluten storage system | bin vent filter (FPC15) | FP15 | one per day during normal operations |
| corn storage process supplemental gluten feed system | baghouse (FPC20) | FP20 | once per day during normal operations |
| germ drying system, CGF dryer, and gluten dryers | thermal oxidizers (FPC34a & FPC34b) | FP34 | once per day during normal operations |

| Emission Unit/ Processed | Control Device | Stack ID | Frequency |
|---|---|---|---|
| pellet cooler | cyclone (FPC24) | FP18 | once per day during normal operations |
| pellet storage bin | bin vent filter (FPC25) | FP25 | one per day during normal operations |
| germ, gluten feed, gluten pellet loadout system | baghouse (FPC26) | FP26 | once per day during normal operations |
| loadout transfer conveyor | baghouse (FPC28) | FP28 | once per day during normal operations |
| feed loadout vacuum system | baghouse (FPC33) | FP33 | once per day during normal operations |
| starch reactor brine feed system | bin vent filter (SPC65) | SP65 | once per week during normal operations |
| soda ash storage bin | bin vent filter (SPC64) | SP64 | once per week during normal operations |
| starch dryer | scrubber (SPC49) | SP49 | once per day during normal operations |
| starch storage bin | bin vent filter (SPC50) | SP50 | once per day during normal operations |
| loadout system non-fugitive control | baghouse (SPC44a) | SP44a | once per day during normal operations |
| loadout system fugitive control | dust collector (SPC44b) | SP44b | once per day during normal operations |
| dry carbon storage bin | bin vent filter (MPC61) | MP61 | once per week during normal operations |
| maltrodextrin drying system | scrubber (MPC39) | MP39 | once per day during normal operations |
| filter aid storage bin | bin vent filter (MPC60) | MP60 | once per week during normal operations |
| maltrodextrin transfer system | baghouse (MPC42) | MP42 | once per day during normal operations |
| maltrodextrin storage binds | bin vent filter (MPC44) | MP44 | once per day during normal operations |
| maltrodextrin loadout and screening process | dust collector (MPC41) | MP41 | once per day during normal operations |
| maltrodextrin central vacuum system | dust collector (MPC43) | MP43 | once per day during normal operations |
| lime storage bin | bin vent filter (UPC52) | UP52 | once per week during normal operations |
| emergency biogas flare | none | UP56 | once per day during normal operations |

A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee 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. 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.

Parametric Monitoring

(a) The Permittee shall record the pressure drop across the baghouses/dust collector used in conjunction with the following processes at least once per day when these units are in operation. When for any one reading, the pressure drop across the baghouse/dust collector is outside the normal range, as stated below, 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.

| Emission Unit/ Processed | Control Device | Stack ID | Pressure Drop Range |
|---|---|---|---|
| truck and railcar unloading process | baghouse (CPC01) | CP01 | 1.0 and 6.0 inches of water |
| corn cleaning, storage, and conveyance processes | baghouse (FPC05) | FP05 | 1.0 and 6.0 inches of water |
| germ transport system | baghouse (FPC10) | FP10 | 1.0 and 6.0 inches of water |
| CGF transport system | baghouse (FPC18) | FP18 | 1.0 and 6.0 inches of water |
| CGF final mill system | baghouse (FPC19) | FP19 | 1.0 and 6.0 inches of water |
| gluten transport system | baghouse (FPC14) | FP14 | 1.0 and 6.0 inches of water |
| corn storage process supplemental gluten feed system | baghouse (FPC20) | FP20 | 1.0 and 6.0 inches of water |
| germ, gluten feed, gluten pellet loadout system | baghouse (FPC26) | FP26 | 0.1 and 5.0 inches of water |
| loadout transfer conveyor | baghouse (FPC28) | FP28 | 1.0 and 6.0 inches of water |
| feed loadout vacuum system | baghouse (FPC33) | FP33 | 1.0 and 6.0 inches of water |
| loadout system non-fugitive control | baghouse (SPC44a) | SP44a | 1.0 and 6.0 inches of water |
| loadout system fugitive control | dust collector (SPC44b) | SP44b | 1.0 and 6.0 inches of water |
| maltrodextrin transfer system | baghouse (MPC42) | MP42 | 1.0 and 6.0 inches of water |
| maltrodextrin loadout and screening process | dust collector (MPC41) | MP41 | 1.0 and 6.0 inches of water |
| maltrodextrin central vacuum system | dust collector (MPC43) | MP43 | 1.0 and 6.0 inches of water |

(1) The instrument used for determining the pressure drop 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.

(2) In the event that bag failure has been observed:

(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.

(b) The Permittee shall monitor and record the pH of the scrubbing liquid, the exhaust air stream pressure drop, and the scrubbant flow rate at least once per day when the associated processes are in operation. When for any one reading, pH of the scrubbing liquid is below the listed minimum pH 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 reading, the pressure drop is outside the listed 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. When for any one reading, the scrubbant flow rate is less than the listed normal 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 reading that is outside the above mentioned ranges 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

| Emission Unit/ Processed | Control Device | Minimum pH of scrubbing liquid | Pressure Drop Range | Minimum Scrubbant Flow Rate |
|---|---|---|---|---|
| steep area | scrubber (FPC06) | 5.0 | 1.0 and 6.0 inches of water | 36 gallons per minute |
| mill area | scrubber (FPC07) | 5.0 | 1.0 and 6.0 inches of water | 120 gallons per minute |

| Emission Unit/ Processed | Control Device | Minimum pH of scrubbing liquid | Pressure Drop Range | Minimum Scrubbant Flow Rate |
|---|---|---|---|---|
| feed area | scrubber (FPC27) | 5.0 | 1.0 and 6.0 inches of water | 190 gallons per minute |
| corn steep and alcohol evaporation system | scrubber (APC40) | N/A | 15.0 and 20.0 inches of water | N/A |
| germ drying system | scrubber (FPC12) | 5.0 | 4.0 and 12.0 inches of water | 60 gallons per minute |
| gluten dryers | scrubber (FPC13) | 5.0 | 7.0 and 13.0 inches of water | 100 gallons per minute |
| pre-fermenters | scrubber (APC28) | N/A | 1.0 and 10.0 inches of water | 5.0 gallons per minute |
| fermentation system | scrubber (APC29) | N/A | 5.0 and 25.0 inches of water | 20.0 gallons per minute |
| alcohol distillation system | scrubber (APC32) | N/A | 1.0 and 6.0 inches of water | 4.0 gallons per minute |
| alcohol storage system (beverage) | scrubber (ACP95) | N/A | N/A | 5.0 gallons per minute |
| alcohol storage system (fuel) | scrubber (ACP96) | N/A | N/A | 2.0 gallons per minute |
| alcohol & distillation heads & loadout area | scrubber (APC35) | N/A | 1.0 and 6.0 inches of water | 2.0 gallons per minute |
| starch dryer | scrubber (SPC49) | N/A | 4.0 and 12.0 inches of water | 400 gallons per minute |
| maltrodextrin dryer | scrubber (MPC39) | N/A | 4.0 and 12.0 inches of water | 30 gallons per minute |
| biogas generation | scrubber (UPC55) | 9.0 and 11.5 based on 1-hr average | | 70 gallons per minute, based on 1-hr average |

(c) The Permittee shall comply with the following monitoring requirements for thermal oxidizers FPC34a and FPC34b:

(1) A continuous monitoring system shall be calibrated, maintained, and operated on thermal oxidizers FPC34a and FPC34b for measuring operating temperature of the thermal oxidizer. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as a 3-hour average. From the date of initial operation until the results from the approved stack tests are available, the Permittee shall operate thermal oxidizers FPC34a and FPC34b at or above the minimum 3-hour average temperature recommended by the manufacturer. The Permittee shall determine the maximum 3-hour average temperature that demonstrates compliance with the applicable limits. Once the results from the approved stack tests are available, the Permittee shall operate the thermal oxidizers at or above the minimum 3-hour average temperature determined from the most recent compliant stack test following approval of that temperature.

(2) The Permittee shall determine the appropriate duct pressure or fan amperage from the most recent valid stack test that demonstrates compliance with limits in Condition D.4.2(a), as approved by IDEM. The duct pressure or fan amperage shall be observed at least once per day

when the control device is in operation. On and after the date the approved stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in most recent compliant stack test. If the duct pressure or fan pressure is outside the respective established range, the Permittee shall take response steps in accordance with Section C - Response to Excursions or Exceedances. A reading that is outside the normal 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) The Permittee shall comply with the following monitoring requirements for condenser of APC40, condenser FPC17, and condenser APC31:

(1) A continuous monitoring system shall be calibrated, maintained, and operated on the condenser of APC40 for measuring outlet exhaust temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an 3-hour average.

(2) A continuous monitoring system shall be calibrated, maintained, and operated on condenser of FPC17 for measuring outlet exhaust temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an 3-hour average.

(3) A continuous monitoring system shall be calibrated, maintained, and operated on condenser ACP31 for measuring outlet exhaust temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an 3-hour average.

(4) The Permittee shall determine the maximum 3-hour average temperature that demonstrates compliance with the applicable limits.

(5) Once the results from the approved stack tests are available, the Permittee shall then operate the condenser at or below the maximum 3-hour average temperature determined from the most recent compliant stack test following approval of that temperature.

(e) The Permittee shall comply with the following monitoring requirements for flares UPC54 and UPC56:

(1) The presence of a flare pilot flame (for flares UPC54 and UPC56) shall be monitored using a thermocouple, or any other equivalent device, to detect the presence of a flame.

These monitoring requirements are necessary because:

The baghouse FPC28 must operate properly at all times the loadout conveyor system is in operation to ensure compliance with 326 IAC 2-2 (PSD) and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

The baghouses/bin vent filters/dust collectors CPC01, FPC05, FPC10, FPC18, FPC19, FPC14, FPC20, FPC26, FOC28, FPC33, SPC44a, SPC44b, MPC42, MPC41, and

MPC43, and the scrubbers FPC07, and FPC27 must operate properly at all times the associated process in operation in order to ensure compliance with 326 IAC 2-2-3 (PSD BACT) and to render the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) not applicable.

The thermal oxidizers (FPC34a and FPC34b) must operate properly at all times the CGF dryer, the germ dryer, and the gluten dryers are in operation, the scrubber (APC28) must operate properly at all times the pre-fermenters are in operation, the scrubber (APC29) must operate properly at all times the fermentation process is in operation, the scrubber (APC32) must operate properly at the times the alcohol distillation system is in operation, the scrubbers (APC95 and ACP96) must operate properly at all times the alcohol storage systems are in operation, and the scrubber (APC35) must operate properly at all times the alcohol and distillation heads loadout area is in operation in order to ensure compliance with 326 IAC 2-2-3 (PSD BACT) and 326 IAC 8-1-6 (VOC BACT).

The remaining control devices must operate properly at all times the associated processes are in operation ensure compliance with 326 IAC 2-2-3 (PSD BACT).

## Proposed Changes

The proposed changes listed below have been made to Part 70 Operating Permit No. T027-14200-00046. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

**Modification No. 1:**

The emissions unit descriptions in Section A.2 have been modified to reflect the modifications to existing units and stack configurations, and the addition of new emission units and control devices.

Section A.2 has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary
[326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(15)]

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

(a) One (1) corn processing operation, consisting of:

(1) One (1) truck and railcar corn unloading process, installed in March 2000, consisting of:

(A) One (1) truck/railcar unloading pit and one (1) truck unloading pit, each equipped with one (1) totally enclosed drag pit conveyor system, unloading yellow dent corn at a combined nominal design rate of 855,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as CPC01, with all emissions exhausted through Stack CP01.

(B) One (1) totally enclosed discharge conveyor system, conveying corn received from the truck/railcar and/or truck unloading drag pit conveyor systems to the corn storage silo process at a nominal design rate of 855,000 pounds per hour.

(2) One (1) corn storage process, consisting of five (5) storage silos constructed in 2000, designated as Silos A, B, C, D, and E and one (1) storage silo constructed in 2006 designated as Silo F with a combined maximum design capacity of 53,200,000 pounds, storing corn received from the truck and railcar corn unloading process discharge conveyor system, with particulate emissions controlled by one (1) baghouse, identified as FPC05, with all emissions exhausted through Stack FP05.

(3) One (1) corn cleaning process, installed in March 2000, consisting of:

(A) One (1) totally enclosed receiving conveyor system, conveying corn received from the corn storage silo system to the corn cleaning system at a nominal design rate of ~~428,000~~ **560,000** pounds per hour.

(B) One (1) corn cleaning system, cleaning corn received from the corn storage process discharge conveyor system at a nominal design rate of ~~428,000~~ **560,000** pounds per hour; with particulate emissions controlled by one (1) baghouse, identified as FPC05, with all emissions exhausted through Stack FP05.

(C) One (1) totally enclosed discharge conveyor system, conveying corn received from the corn cleaning system to the corn steeping tank system at a nominal design rate of ~~428,000~~ **560,000** pounds per hour.

(4) One (1) corn steeping process, installed in March 2000 **and approved for modification in 2008**, consisting of:

(A) One (1) corn steeping tank system, **installed in 2000 with two (2) additional steep tanks approved for construction in 2008,** ~~and~~ softening corn received from the corn cleaning process discharge conveyor system at a nominal design rate of ~~428,000~~ **560,000** pounds per hour, with $SO_2$ emissions controlled by one (1) **caustic** wet scrubber, identified as FPC06, with all emissions exhausted through Stack FP06.

(B) One (1) totally enclosed discharge conveyor system, conveying steeped corn received from the corn steeping tank system to the steeped corn dewatering system at a nominal design rate of ~~318,000~~ **321,000** pounds per hour;

(C) One (1) steeped corn dewatering system, consisting of two (2) dewatering screens, separating water from the softened corn received from the corn steeping tank system discharge conveyor system at a nominal design rate of ~~318,000~~ **321,000** pounds per hour, yielding a maximum of 168,000 pounds of steeped corn per hour and 150,000 pounds of steep water per hour, with $SO_2$ emissions controlled by one (1) **caustic** wet scrubber, identified as FPC06, with all emissions exhausted through Stack FP06;

(D) One (1) totally enclosed steeped corn discharge conveyor system, conveying steeped corn received from the steeped corn dewatering system to the corn germ, fiber, gluten, and starch separation process primary mill at a nominal design rate of 168,000 pounds per hour; and

(E) One (1) totally enclosed steep water discharge conveyor system, conveying steep water received from the steeped corn dewatering system to the alcohol production process starch precook tank at a nominal design rate of 100,000 pounds per hour and/or corn steep and alcohol stillage evaporation system at a nominal design rate of 50,000 pounds per hour.

(5) One (1) corn germ, fiber, gluten, and starch separation process, installed in March 2000 **and approved for modification in 2008**, milling corn received from the steeped corn discharge conveyor system, consisting of:

(A) One (1) primary milling system, consisting of:

(i) One (1) primary mill area, grinding softened corn and supplemental water received from the steeped corn discharge conveyor system at a nominal design rate of 368,000 pounds per hour, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed discharge conveyor system, conveying milled corn received from the primary mill area to the germ separator at a nominal design rate of 368,000 pounds per hour;

(B) One (1) germ separation system, consisting of:

(i) One (1) germ separation area, separating germ from the corn received from the primary milling system discharge conveyor system at nominal design rate of 368,000 pounds per hour, yielding a maximum of 82,300 pounds of germ per hour and 285,700 pounds of remnant corn, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07,

(ii) One (1) totally enclosed germ discharge conveyor system, conveying germ received from the germ separation area to the germ dryer at a nominal design rate of 23,800 pounds per hour, and

(iii) One totally enclosed remnant corn discharge conveyor system, conveying remnant corn received from the germ separation area to the secondary milling system at a nominal design rate of 285,700 pounds per hour;

(C) One (1) secondary milling system, consisting of:

(i) One (1) secondary milling area, grinding softened corn remnants received from the germ separation system remnant corn discharge conveyor system at a nominal design rate of 285,700 pounds per hour, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07, and

(ii) One (1) totally enclosed discharge conveyor system, conveying milled corn remnants received from the secondary milling area to the fiber separation area at a nominal design rate of 285,700 pounds per hour;

(D) One (1) fiber separation system, consisting of:

(i) One (1) fiber separation area, separating fiber received from the secondary milling system discharge conveyor system at a nominal design rate of 285,700 pounds per hour, with a design maximum of 202,500 pounds of supplemental water added per hour, yielding a maximum of 154,900 pounds of fiber per hour and 333,300 pounds of remnant corn per hour, with SO2 emissions from the separation process controlled by one (1) **caustic** wet scrubber, identified as FPC27, with all emissions exhausted through Stack FP27.

(ii) One (1) totally enclosed fiber discharge conveyor system, conveying fiber received from the fiber separation area to the corn gluten feed dryer at a nominal design rate of 80,000 pounds per hour, and

(iii) One (1) totally enclosed remnant corn discharge conveyor system, conveying remnant corn received from the fiber separation area to the starch and gluten separation area at a nominal design rate of 333,300 pounds per hour.

(E) One (1) starch and gluten separation system, consisting of:

(i) One (1) starch and gluten separation area, separating starch and gluten from the softened corn remnants received from the fiber separation system remnant corn discharge conveyor system at a nominal design rate of 333,300 pounds per hour, yielding a maximum of 260,000 pounds of starch per hour and 73,300 pounds of gluten per hour, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC27, with all emissions exhausted through Stack FP27,

(ii) One (1) totally enclosed starch discharge conveyor system, conveying starch and supplemental water received from the starch and gluten separation area to the alcohol production process starch precook tank at a nominal design rate of 260,000 pounds per hour, starch production process starch reactors at a nominal design rate of 60,000 pounds per hour, and/or maltodextrin production process at a nominal design rate of 55,000 pounds per hour, and

(iii) One (1) totally enclosed gluten discharge conveyor system, consisting of two (2) totally enclosed conveyors, conveying gluten received from the starch and gluten separation area to the gluten dryer at a nominal design rate of 73,300 pounds per hour.

(6) One (1) germ production process, installed in March 2000**, and approved for modification in 2008**, consisting of:

(A) One (1) germ drying system, consisting of:

(i) One (1) 24 MMBtu/hr natural gas and/or biogas fired germ dryer, drying germ received from the germ separation system germ discharge conveyor system at a nominal design rate of 23,800 pounds per hour, yielding a maximum of ~~11,000~~ **18,000** pounds of germ per hour.

**Process and combustion PM and SO2 emissions are controlled by caustic wet scrubber FPC12; combustion NOx emissions are controlled by a water quench system; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.**

~~Currently, the process PM and SO2 emissions are controlled by wet scrubber FPC12, combustion NOx emissions are controlled by a water quench system, and all emissions exhausted through Stack FP12.~~

~~No later than August 10, 2007, process PM and SO2 emissions will be controlled by wet scrubber FPC12, combustion NOx emissions will be controlled by a water quench system, and process VOC emissions will be controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will~~ be ~~exhausted through Stack FP34.~~

(ii) One (1) totally enclosed discharge conveyor system, conveying germ received from the germ dryer to the rotary germ cooler at a nominal design rate of ~~11,000~~ **18,000** pounds per hour;

(B) One (1) rotary germ cooling system, consisting of:

(i) ~~One (1) rotary germ cooler, cooling germ received from the germ drying system discharge conveyor system at a nominal design rate of 11,000 pounds per hour, with all emissions routed through one (1) cyclone, identified as FPC09, with PM and SO2 emissions controlled by one (1) wet scrubber, identified as FPC12, with all emissions exhausted through Stack FP12.~~

~~No later than August 10, 2007, emissions from FPC12 will be exhausted through oxidizers FPC34a and FPC34b to Stack 34; and~~

**One (1) rotary germ cooler, cooling germ received from the germ drying system discharge conveyor system at a maximum design rate of 18,000 pounds per hour, with all emissions routed through one (1) baghouse, identified as FPC09, which exhausts to the inlet combustion air for the germ dryer.**

(ii) One (1) totally enclosed discharge conveyor system, conveying material received from the rotary germ cooler to the germ transport system at a nominal design rate of ~~11,000~~ **18,000** pounds per hour;

(C) One (1) totally enclosed germ transport system, conveying germ received from the germ cooling system discharge conveyor system to the germ storage bin at a nominal design rate of ~~11,000~~ **18,000** pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC10, with all emissions exhausted through Stack FP10.

(D) One (1) germ storage bin, with a nominal design storage capacity of 160 tons, storing germ received from the germ transport system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC11, with all emissions exhausted through Stack FP11.

(7) One (1) corn gluten feed production process, installed in March 2000, consisting of:

(A) One (1) corn steep and alcohol stillage evaporation system, consisting of:

(i) One (1) evaporation system, evaporating off excess water from the steep system and alcohol distillation still bottom (a.k.a. stillage), yielding a maximum of 5,000 pounds of supplemental gluten feed (a.k.a. syrup) per hour, with VOC emissions controlled by one (1) condenser/scrubber **system**, identified as APC40, **installed in 2003,** with all emissions exhausted through Stack AP40.

(ii) One (1) totally enclosed discharge conveyor system, conveying supplemental gluten feed syrup received from the supplemental gluten feed evaporator system to the corn gluten feed dryer at a nominal design rate of 5,000 pounds per hour;

(B) One (1) corn storage process supplemental gluten feed system, consisting of one (1) totally enclosed corn storage process supplemental corn gluten feed conveyor system, conveying supplemental corn gluten feed collected by the corn storage silo system baghouse, identified as FPC05, and the corn unloading baghouse, identified as CPC01, to the corn gluten feed dryer at a nominal design rate of 550 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC20, with all emissions exhausted through stack FP20.

(C) One (1) 30 MMBtu/hr natural gas fired corn gluten feed (CGF) dryer, drying wet corn gluten feed received from the fiber separation system fiber discharge conveyor system, supplemental gluten feed evaporator system discharge conveyor system, and corn storage process supplemental gluten feed system at a combined nominal design rate of 85,560 pounds per hour, yielding a maximum of ~~39,450~~ **52,000** pounds of dried corn gluten feed per hour. **Approved for modification in 2008, with the addition of a flue gas recirculation system for NOx control.**

**Process and combustion PM and SO2 emissions are controlled by condenser FPC17; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.**

~~Currently, all emissions are exhausted through condenser FPC17, thermal oxidizer FPC23, the gluten dryer, wet scrubber FPC13, and exhaust to Stack FP13.~~

~~No later than August 10, 2007, combustion NOx emissions will be controlled by a flue gas recirculation system; PM and SO2 emissions will be controlled by condenser FPC17; and VOC emissions will be controlled by thermal oxidizers (in parallel) FPC34a and FPC34b. All emissions will be exhausted through Stack FP34.~~

(D) One (1) totally enclosed corn gluten feed transport system, conveying corn gluten feed received from the corn gluten feed dryer to the corn gluten feed storage bin at a nominal design rate of ~~39,450~~ **52,000** pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC18, with all emissions exhausted through Stack FP18.

(E) One (1) corn gluten feed storage system, consisting of:

(i) One (1) corn gluten feed storage bin, with a nominal design capacity of 110 tons, storing corn gluten feed received from the corn gluten feed transport system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC22, with all emissions exhausted through Stack FP22.

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed received from the corn gluten feed storage bin to the corn gluten feed final mill at a nominal design rate of ~~39,450~~ **52,000** pounds per hour.

(F) One (1) corn gluten feed final mill system, consisting of:

(i) One (1) final milling area, milling corn gluten feed received from the corn gluten feed storage system discharge conveyor system at a nominal design rate of ~~39,450~~ **52,000** pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC19, with all emissions exhausted through Stack FP19.

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed received from the final milling area to the corn gluten feed loadout system at a nominal design rate of ~~39,450~~ **52,000** pounds per hour, and/or the pellet mill at a nominal design rate of ~~39,450~~ **52,000** pounds per hour.

(8) One (1) gluten production process, installed in March 2000, consisting of:

(A) ~~One (1)~~ **Two (2)** 30 MMBtu/hr natural gas and/or biogas fired gluten dryer**s**, **one (1) installed in 2000 and one (1) approved for construction in 2008,** drying gluten received from the gluten discharge conveyor system at a maximum rate of 18,750 pounds per hour, yielding a maximum of ~~8,333~~ **15,000** pounds of dried gluten per hour.

**Process and combustion PM and SO2 emissions are controlled by caustic wet scrubber FPC13; combustion NOx emissions are controlled by a water quench system; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.**

~~Currently, the combustion NOx emissions are controlled by a water quench system, the combustion and process PM and SO2 emissions controlled by wet scrubber FPC13, and all emissions are exhausted through Stack FP13.~~

~~No later than August 10, 2007, combustion NOx emissions will be controlled by a water quench system, the combustion and process PM and SO2 emissions will be controlled by wet scrubber FPC13, and process VOC emissions will be controlled by thermal oxidizers (in parallel) FPC34a and FPC34b. All emissions will be exhausted through Stack FP34.~~

(B) One (1) totally enclosed gluten transport system, conveying gluten received from the gluten dryer to the gluten storage bin at a nominal design rate of ~~8,333~~ **15,000** pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC14, with all emissions exhausted through Stack FP14.

(C) One (1) gluten storage system, consisting of:

(i) One (1) gluten storage bin, with a nominal design capacity of 200 tons, storing dried gluten received from the gluten transport system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC15, with all emissions exhausted through Stack FP15.

(ii) One (1) totally enclosed gluten storage system discharge conveyor system, conveying gluten received from the gluten storage bin to the transfer conveyor system at a nominal design rate of 180,000 pounds per hour.

(9) One (1) corn gluten feed pellet production process, installed in March 2000, consisting of:

(A) One (1) pellet milling system, consisting of:

(i) One (1) pellet mill, producing corn gluten feed pellets from corn gluten feed received from the corn gluten feed final mill system discharge conveyor system at a nominal design rate of ~~39,450~~ **15,000** pounds per hour, and

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed pellets received from the pellet mill to the pellet cooler at a nominal design rate of ~~39,450~~ **15,000** pounds per hour;

(B) One (1) pellet cooling system, consisting of:

(i) One (1) pellet cooler, cooling corn gluten pellets received from the pellet milling system discharge conveyor system at a nominal design rate of ~~39,450~~ **15,000** pounds per hour, discharging to cyclone FPC24, with all emissions exhausted through Stack FP18.

(ii) One (1) totally enclosed discharge conveyor system, conveying pellets received from the pellet cooler to the pellet storage bin at a nominal design rate of ~~39,450~~ **15,000** pounds per hour.

(C) One (1) pellet storage bin with a nominal design storage capacity of 240 tons, storing pellets received from the pellet cooling system discharge conveyor system, with particulate emissions controlled by one (1) bin vent collector, identified as FPC25, with all emissions exhausted through Stack FP25.

(10) One (1) germ, gluten feed, gluten feed pellet, and gluten loadout process, installed in March 2000, consisting of:

(A) One (1) totally enclosed loadout transfer conveyor system, conveying product received from the storage bins to the loadout system at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC28, with all emissions exhausted through Stack FP28.

(B) One (1) totally enclosed germ, gluten, gluten feed and gluten feed pellet loadout system, loading germ, gluten, gluten feed and gluten feed pellet received from the loadout transfer conveyor system into trucks and/or railcars at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC26, with all emissions exhausted through Stack FP26.

**(C) One (1) feed loadout vacuum system, approved for construction in 2008, for cleanup of the loadout systems, with particulate emissions controlled by one (1) baghouse, identified as FPC33, with emissions exhausted through Stack FP33.**

(11) One (1) alcohol production process, installed in March 2000, consisting of:

(A) One (1) totally enclosed starch cooker and precooker tank, the cooker heats liquified starch received from the precooker tank at a nominal design rate of 260,000 pounds per hour, and converting the starch to fermentable sugars at a nominal design rate of 260,000 pounds per hour.

(B) One (1) flash cooler vent condenser system, identified as APC31, cooling fermentable sugars received from the starch cooker, steep water from the steep system, and stillage from the distillation still bases at a combined nominal design rate of ~~373,000~~ **507,600** pounds per hour, yielding a maximum of ~~373,000~~ **507,600** pounds of fermentable sugars per hour, with the fermentable sugars discharged to one (1) secondary liquefaction tank, with all emissions exhausted through Stack AP31.

(C) One (1) alcohol fermentation system, consisting of:

(i) Two (2) pre-fermenters, fermenting sugars received from the flash cooling chamber at a nominal design rate of 210,000 pounds per hour, yielding a maximum of 210,000 pounds of fermenter feed per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC28, with all emissions exhausted through Stack AP28.

(ii) One (1) fermentation system, fermenting sugars received from the flash cooling chamber at a nominal design rate of 163,000 pounds per hour, yielding a maximum of 123,000 pounds of distillation feed per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC29, with all emissions exhausted through Stack AP29.

(D) One (1) alcohol distillation system, consisting of:

(i) One (1) distillation system, processing distillation feed received from the alcohol fermentation system at a nominal design rate of 50,608 gallons per hour, yielding a maximum of 7,082 gallons of crude alcohol per hour, 30 pounds of distillation heads per hour, and 286,400 pounds of excess corn gluten feed (stillage) per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC32, with all emissions exhausted through Stack AP32.

(ii) One (1) totally enclosed supplemental gluten feed (stillage) discharge conveyor system, conveying supplemental gluten feed received from the alcohol distillation system to the alcohol production process supplemental gluten feed system evaporator at a nominal design rate of 286,400 pounds per hour;

(E) One (1) alcohol storage system, identified as AP95 and AP96, consisting of eighteen (18) alcohol storage tanks, with a maximum combined design capacity of 3,000,000 gallons of finished alcohol product, storing beverage/industrial and anhydrous grade alcohol received from the alcohol distillation system, with VOC emissions controlled by two (2) wet scrubbers, identified as APC95 and APC96, with all emissions exhausted through Stacks AP95 and AP96. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(F) One (1) 51,700 gallon above ground vertical distillation heads storage tank, identified as Tank AP84, storing distillation heads received from the alcohol distillation system, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP84;

(G) One (1) 41,800 gallon above ground vertical burn tank, identified as Tank AP94, storing miscellaneous non-beverage grade alcohol received from the alcohol distillation system, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP94. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(H) One (1) denaturant storage tank system, consisting of:

(i) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP85, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP85. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(ii) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP86, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through

Stack AP86. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iii) One (1) 21,200 gallon above ground vertical storage tank, identified as Tank AP87, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP87. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iv) One (1) 2,100 gallon above ground vertical storage tank, identified as Tank AP88, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP88,

(v) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP89, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP89,

(vi) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP90, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP90, and

(vii) One (1) 1,100 gallon above ground vertical storage tank, identified as Tank AP91, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP91; and

(I) One (1) alcohol and distillation heads loadout area, consisting of:

(i) One (1) alcohol loadout system, loading beverage/industrial or anhydrous alcohol received from the alcohol storage system into trucks and/or railcars at a nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC35;

(ii) One (1) distillation heads loadout system, loading distillation heads received from Tanks AP84 and AP94 into trucks and/or railcars at a combined nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC35; and

(iii) One (1) denaturant delivery system, delivering denaturant received from the denaturant storage tank system to the alcohol loadout system when industrial grade alcohol is being produced, with all non-fugitive VOC emissions controlled by one (1) wet scrubber, identified as APC35, with all non-fugitive emissions exhausted through Stack AP35.

(12) One (1) starch production process, installed in March 2000, consisting of:

(A) One (1) starch reactor system, consisting of:

(i) Eight (8) starch reactors, processing starch received from the starch and gluten separation system starch discharge conveyor system at a nominal design rate of 60,000 pounds per hour, yielding a maximum of 60,000 pounds of processed starch per hour, with all emissions exhausted through **eight stacks collectively identified as** ~~Stack~~ SP46.

(ii) One (1) starch reactor liquid brine feed system, consisting of one (1) 50 ton storage tank, storing brine that is converted from dry feed to liquid and fed to the starch reactors, with the dry brine feed particulate emissions controlled by one (1) bin vent collector, identified as SPC65, with all emissions exhausted through Stack SP65.

(iii) One (1) starch reactor liquid ethylene oxide feed system, consisting of one (1) 40,000 gallon storage tank, storing liquid ethylene oxide that is fed to the starch reactors, and

(iv) One (1) starch reactor dry soda ash feed system, consisting of:

*(a)* One (1) soda ash storage bin with a nominal design capacity of 75 tons, storing soda ash that is fed to the starch reactors, with the dry soda ash feed particulate emissions controlled by one (1) bin vent collector, identified as SPC64, with all emissions exhausted through Stack SP64.

*(b)* One (1) totally enclosed soda ash discharge conveyor system, delivering soda ash received from the soda ash storage bin to the starch reactors, and

*(c)* One (1) totally enclosed starch discharge conveyor system, conveying processed starch received from the starch reactors to the starch filtration system at a nominal design rate of 60,000 pounds per hour;

(B) One (1) starch filtration system, consisting of:

(i) Two (2) starch filters, refining processed starch received from the starch reactor system starch discharge conveyor system at a nominal design rate of 60,000 pounds per hour, and

(ii) One (1) totally enclosed discharge conveyor system, conveying refined starch received from the starch filter to the starch dryer at a nominal design rate of 56,000 pounds per hour;

(C) One (1) starch drying system consisting of:

(i) One (1) 30 MMBtu/hr natural gas **and/or biogas** fired starch dryer, drying refined starch received from the starch filtration system discharge conveyor system at a nominal design rate of 56,000 pounds per hour, with the process and combustion PM emissions controlled by one (1) wet scrubber, identified as SPC49, with all emissions exhausted through Stack SP49.

(ii) One (1) totally enclosed discharge conveyor system, conveying dried starch received from the starch dryer to the starch storage bin at a nominal design rate of 30,000 pounds per hour;

(D) One (1) starch storage system, consisting of four (4) starch storage bins, with a nominal design capacity of 1,000,000 pounds, storing dried starch received from the starch drying system discharge conveyor system, with particulate emissions controlled by four (4) identical bin vent collectors, identified as SPC50, with all emissions exhausted through four stacks collectively identified as SP50;

(E) One (1) totally enclosed starch loadout system, conveying starch received from the starch storage bin into trucks and/or railcars at a nominal design rate of 80,000 pounds per hour, with non-fugitive particulate emissions controlled by one (1) baghouse, identified as SPC44a, and fugitive particulate emissions controlled by one (1) dust collector identified as SPC44b, with all non-fugitive emissions exhausted through Stack SP44a, and all collected fugitive particulate emissions exhausted through Stack SP44b.

(13) One (1) maltodextrin production process, installed in March 2000, consisting of:

(A) One (1) maltodextrin cooking system, consisting of:

(i) One (1) maltodextrin cooker, processing starch received from the starch and gluten separation system starch discharge conveyor system at a nominal design rate of 55,000 pounds per hour, yielding 55,000 pounds of crude maltodextrin per hour, and

(ii) One totally enclosed discharge conveyor system, conveying crude maltodextrin received from the maltodextrin cooker to the maltodextrin filtration system at a nominal design rate of 55,000 pounds per hour;

(B) One (1) maltodextrin filtration system, consisting of:

(i) One (1) maltodextrin filter, refining crude maltodextrin received from the maltodextrin cooking system discharge conveyor system at a nominal design rate of 42,900 pounds per hour,

(ii) One (1) filtration system dry carbon feed system, consisting of:

*(a)* One (1) dry carbon storage bin with a nominal design capacity of 100,000 pounds, storing carbon that is fed to the maltodextrin filtration system at a nominal design rate of 50,000 pounds per hour, with the dry carbon feed particulate emissions controlled by one (1) bin vent collector, identified as MPC61, with all emissions exhausted through Stack MP61.

*(b)* One (1) totally enclosed carbon discharge conveyor system, delivering carbon received from the carbon storage bin to the filtration system,

**(iii) One (1) filtration aid system, consisting of:**

***(a)*** **One (1) filter aid storage bin with a nominal design capacity of 100,000 pounds, storing filter aid that is fed to the Maltrin filtration system, with particulate emissions controlled by one (1) bin vent collector, identified as MPC60, with emissions exhausted through Stack MP60.**

***(b)*** **One (1) totally enclosed filter aid discharge conveyor system, delivering filter aid received from the filter aid storage bin to the maltodextrin filtration system.**

~~(iii)~~**(iv)** One (1) totally enclosed discharge conveyor system, conveying refined maltodextrin from the maltodextrin filter to the maltodextrin dryer at a nominal design rate of 42,900 pounds per hour;

(C) One (1) maltodextrin drying system, consisting of one (1) 72 MMBtu/hr natural gas fired maltodextrin dryer, drying maltodextrin received from the maltodextrin filtration system discharge conveyor system a nominal design rate of 42,900 pounds per hour, with the process and combustion PM emissions controlled by one (1) wet scrubber, identified as MPC39, with all emissions exhausted through Stack MP39.

(D) One (1) totally enclosed maltodextrin transfer conveyor system, conveying dried maltodextrin received from the maltodextrin dryer to the maltodextrin storage system at a nominal design rate of 24,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as MPC42, with all emissions exhausted through Stack MP42.

(E) One (1) maltodextrin storage system, consisting of four (4) maltodextrin storage bins with a combined nominal design capacity of 1,000,000 pounds, storing maltodextrin received from the maltodextrin transfer conveyor system, with particulate emissions controlled by four (4) identical bin vent collectors, identified as MPC44, with all emissions exhausted through four stacks collectively identified as MP44.

(F) One (1) totally enclosed maltodextrin loadout system, including one (1) maltodextrin screening process and one (1) loadout process, conveying maltodextrin received from the maltodextrin storage bins to the maltodextrin packaging system at a nominal design rate of 90,000 pounds per hour, with particulate emissions controlled by one (1) dust collector, identified as MPC41, with all emissions exhausted through Stack MP41.

(G) One (1) maltodextrin central vacuum system, identified as MPC43, controlling fugitive particulate emissions generated by the maltodextrin production process, with all emissions exhausted through Stack MP43.

(b) One (1) anaerobic wastewater treatment process, installed in March 2000**, with H2S emissions controlled by a caustic wet scrubber, approved for construction in 2008, identified as UPC55**, **and equipped with an emergency flare, identified as UPC56.**

**Upon exiting scrubber UPC55, the biogas** ~~Biogas generated by the treatment process~~ can be:

(1) Combusted in one (1) 18 MMBtu/hr **biogas** flare, identified as UPC54, with all emissions exhausted through Stack UP54;

(2) Used as fuel in the germ dryer. ~~Currently, process PM and SO2 emissions from the germ dryer are controlled by scrubber FPC12 and combustion NOx emissions are controlled by a water quench system. All emissions are exhausted to Stack FP13. No later than August 10, 2007, process PM and SO2 emissions will be controlled by wet scrubber FPC12, NOx emissions will be controlled by a water quench system, and process VOC emissions will be controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34~~.

(3) Used as fuel in the gluten dryer**s**. ~~Currently, process PM and SO2 emissions from the germ dryer are controlled by scrubber FPC12 and combustion NOx emissions are controlled by a water quench system. All emissions are exhausted to Stack FP13. No later than August 10, 2007, process PM and SO2 emissions will be controlled by wet scrubber FPC12, NOx emissions will be controlled by a water quench system, and process VOC emissions will be controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.~~

(4) ~~Combusted in thermal oxidizer FPC23 until oxidizers FPC34a and FPC34b are in operation. Emissions from FPC23 are exhausted through Stack FP13.~~
**Used as fuel in the starch dryer.**

(5) **Used as fuel** ~~Combusted~~ in thermal oxidizers FPC34a and FPC34b~~, Emissions will be exhausted through Stack FP34.~~

Supporting the wastewater treatment process is a wastewater treatment lime feed system, consisting of:

**(6) One (1) storage bin, approved for construction in 2008, with a capacity of 30,000 pounds of lime per hour with particulate emissions controlled by one (1) bin vent filter, identified as UPC52, with emissions exhausted through stack UP52**.

~~(1) One (1) lime storage bin with a nominal design capacity of 100,000 pounds, storing lime that is fed to the wastewater treatment system, with the lime feed particulate emissions controlled by one (1) bin vent collector, identified as MPC60, with all emissions exhausted through Stack MP60; and~~

~~(2) One (1) totally enclosed lime discharge conveyor system, delivering lime received from the lime storage bin to the maltodextrin filtration system.~~

(c) Two (2) natural gas or alcohol fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 244 MMBtu/hr, installed in March 2000, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

(d) One (1) process water cooling tower, installed in March 2000, cooling hot process water received from the source processes at a nominal design rate of 18,000,000 pounds per hour, with particulate mist controlled by one (1) mist elimination system, identified as APC38.

**Modification No. 2:**

The following revisions have been made to Section D.1:

- The Section D.1 - Facility Description box has been modified to reflect the modifications to existing units.
- As part of this modification, BACT for PM/PM10 has been evaulated for Silo F. Therefore, the PSD Minor Limit for Silo F for PM/PM10 contained in Former Condition D.1.1(b) has been removed.
- The compliance determination requirements have been revised to reflect the new PSD BACT for PM/PM10.

Section D.1 has been revised as follows:

**SECTION D.1 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(1) * * *

(a)(2) * * *

(a)(3) One (1) corn cleaning process, installed in March 2000, consisting of:

(A) One (1) totally enclosed receiving conveyor system, conveying corn received from the corn storage silo system to the corn cleaning system at a nominal design rate of ~~428,000~~ **560,000** pounds per hour.

(B) One (1) corn cleaning system, cleaning corn received from the corn storage process discharge conveyor system at a nominal design rate of ~~428,000~~ **560,000** pounds per hour; with particulate emissions controlled by one (1) baghouse, identified as FPC05, with all emissions exhausted through Stack FP05.

(C) One (1) totally enclosed discharge conveyor system, conveying corn received from the corn cleaning system to the corn steeping tank system at a nominal design rate of ~~428,000~~ **560,000** pounds per hour.

(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 2-7-5(1)]**

D.1.1 Prevention of Significant Deterioration (PSD) **- Best Available Control Technology for PM and PM10** [326 IAC 2-2]

~~(a)~~ Pursuant to 326 IAC ~~2-2~~ **2-2-3** ~~and PSD CP 027-7239-00046, issued on June 10, 1997~~, **the Best Available Control Technology (PSD BACT) for** PM/PM10 emissions (including filterable and condensible PM10) **for the truck and rail car unloading process, and the corn cleaning process, and storage and conveyance system** shall be as follows:

**PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:**

| Process (Control Device) | Stack | PM/PM10 Limit (gr/dscf) | PM/PM10 Limit (lb/hr) | Opacity |
|---|---|---|---|---|
| Truck and Railcar Corn Unloading Process (Baghouse CPC01) | CP01 | ~~0.005~~ **0.004** | ~~2.57~~ **1.03** | **3%** |
| **Corn Cleaning Process , Corn Storage and Conveyance System (Baghouse FPC05)** | **FP05** | **0.005** | **0.17** | **3%** |

~~(b) Pursuant to SSM 037-22018-000046, issued May 17, 2006:~~

~~(1) Pursuant to 326 IAC 2-2-3, and in order to render the requirements of 326 IAC 2-2 not applicable to Silo F, emissions from Stack FP05 shall not exceed the limits listed in the following table:~~

| ~~Process (Control)~~ | ~~Stack~~ | ~~PM/PM10 Limit (gr/dscf)~~ | ~~PM/PM10 Limit (lb/hr)~~ | ~~PM Limit (lb/hr)~~ |
|---|---|---|---|---|
| ~~Corn Cleaning Process and Corn Storage System (FPC05)~~ | ~~FP05~~ | ~~0.005~~ | ~~0.17~~ | ~~5.7~~ |

~~(2) Throughput of the existing drag pit conveyor (unloading bins to storage silos) and receiving conveyor system (storage silos to corn cleaning process) shall not exceed 15,000 bushels/hour and 7,500 bushels/hour, respectively~~.

D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

* * *

**Compliance Determination Requirements**

D.1.3 Particulate Control

(a) ~~Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in~~ **In** order to comply with Condition D.1.1, baghouse CPC01, used to control particulate emissions, shall be in operation at all times the truck and rail car corn unloading process is in operation.

(b) ~~Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in~~ **In** order to comply with Condition D.1.1, baghouse FPC05, used to control particulate emissions, shall be in operation at all times the corn cleaning process, ~~and~~ **or the** corn storage **and conveyance system** is in operation.

(c) * * *

D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) During the period within **sixty (**60**)** days of achieving the maximum production rate but no later than **one hundred eighty (**180**)** days after start-up of Silo F, in order to demonstrate compliance with Condition D.1.1~~(b)(1)~~, the Permittee shall perform PM and PM10 testing on the stack exhaust from baghouse FPC05 when ~~Silo F is in operation~~ **the corn cleaning process, and the storage and conveyance system is in operation**. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. PM10 includes filterable and condensable PM10. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

(b) Within **one hundred eighty (**180**)** days after issuance of ~~this Part 70 permit~~ **Significant Permit Modification No. 027-24979-00046**, in order to demonstrate compliance with Condition D.1.1~~(a)~~, the Permittee shall perform PM and PM10 testing on the stack exhaust from baghouse CPC01 when the unloading and storage process is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. PM10 includes filterable and condensable PM10. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.1.5 Visible Emissions Notations

(a) * * *

(b) Visible emission notations of the stack exhaust from the corn cleaning process**,** and **the** corn storage **and conveyance** system (stack FP05) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

* * *

D.1.6 Parametric Monitoring

(a) * * *

(b) The Permittee shall record the pressure drop across baghouse FPC05, used in conjunction with the corn cleaning process**,** and **the** corn storage **and conveyance** system at least once per day when either respective process/system is in operation.

* * *

D.1.7 Broken or Failed Bag Detection

* * *

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.1.8 Record Keeping Requirements

~~(a) To document compliance with Condition D.1.1(b)(2), the Permittee shall maintain records of the hourly throughput of the drag pit conveyor and the receiving conveyor system.~~

~~(b)~~**(a)** To document compliance with Condition D.1.5, the Permittee shall maintain **daily** records of the visible emission notations required by that condition. 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).

~~(c)~~**(b)** To document compliance with Condition D.1.6, the Permittee shall maintain **daily** records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

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

**Modification No. 3:**

The following revisions have been made to Section D.2:

- The Section D.2 - Facility Description box has been modified to reflect modifications to existing units and to clarify the type of scrubbers.
- Condition D.2.1 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 has been revised to incorporated the new PSD BACT for SO2.
- The compliance determination requirements have been revised to reflect the new PSD BACT for SO2.

Section D.2 has been revised as follows:

**SECTION D.2 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(4) One (1) corn steeping process, installed in March 2000 **and approved for modification in 2008**, consisting of:

(A) One (1) corn steeping tank system, **installed in 2000 with two (2) additional steep tanks approved for construction in 2008,** ~~and~~ softening corn received from the corn cleaning process discharge conveyor system at a nominal design rate of ~~428,000~~ **560,000** pounds per hour, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC06, with all emissions exhausted through Stack FP06.

(B) One (1) totally enclosed discharge conveyor system, conveying steeped corn received from the corn steeping tank system to the steeped corn dewatering system at a nominal design rate of ~~318,000~~ **321,000** pounds per hour;

(C) One (1) steeped corn dewatering system, consisting of two (2) dewatering screens, separating water from the softened corn received from the corn steeping tank system discharge conveyor system at a nominal design rate of ~~318,000~~ **321,000** pounds per hour, yielding a maximum of 168,000 pounds of steeped corn per hour and 150,000 pounds of steep water per hour, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC06, with all emissions exhausted through Stack FP06;

(D) One (1) totally enclosed steeped corn discharge conveyor system, conveying steeped corn received from the steeped corn dewatering system to the corn germ, fiber, gluten, and starch separation process primary mill at a nominal design rate of 168,000 pounds per hour; and

(E) One (1) totally enclosed steep water discharge conveyor system, conveying steep water received from the steeped corn dewatering system to the alcohol production process starch precook tank at a nominal design rate of 100,000 pounds per hour and/or corn steep and alcohol stillage evaporation system at a nominal design rate of 50,000 pounds per hour.

(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 2-7-5(1)]**

D.2.1 Prevention of Significant Deterioration **(PSD) - Best Available Control Technology for SO2** [326 IAC 2-2]

~~(a) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997 SO2 emissions shall be limited the as follows:~~

| ~~Facility (Control)~~ | ~~Stack/ Vent~~ | ~~SO2 Limit (lb/hr)~~ |
|---|---|---|
| ~~Steep Area (FPC06)~~ | ~~FP06~~ | ~~0.23~~ |

~~Compliance with this limit will render the requirements of 326 IAC 2-2 not applicable.~~

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the corn steeping process shall be as follows:**

**(a) The emissions from the corn steeping process shall be controlled by caustic wet scrubber FPC06.**

**(b) The overall control efficiency for the caustic wet scrubber FPC06 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.**

**(c) The SO2 emissions from stack FP06 shall not exceed 4.70 lbs/hr.**

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

* * *

**Compliance Determination Requirements**

D.2.3 SO2 Control

~~Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in~~ **In** order to comply with Condition D.2.1, scrubber FPC06, used to control SO2 emissions, shall be in operation at all times the corn steeping process is in operation **and venting to scrubber FPC06.**

**D.2.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]**

**Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the germ dryer, rotary bed germ cooler, and the corn gluten feed (CGF) dryer, in order to demonstrate compliance with Condition D.2.1, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for caustic wet scrubber FPC06 when the corn steeping process is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

~~D.2.4~~**D.2.5** Scrubber Monitoring

* * *

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

~~D.2.5~~**D.2.6** Record Keeping Requirements

(a) To document compliance with Condition ~~D.2.4~~ **D.2.5**, the Permittee shall maintain **daily** records of the scrubber operating parameters required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

(b) * * *

**Modification No. 4:**

The following revisions have been made to Section D.3:

- The Section D.3 - Facility Description box has been modified to clarify the type of scrubbers.
- Condition D.3.1 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 has been revised to incorporated the new PSD BACT for PM/PM10.
- Condition D.3.2 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 has been added to incorporated the new PSD BACT for SO2.
- Existing compliance determination and monitoring requirements have been revised to reflect the new PSD BACTs for PM/PM10 and SO2.
- A new compliance monitoring requirement, Condition D.3.6 - Visible Emissions Notations, has been added in order to demonstrate compliance with the PSD BACT for PM/PM10.
- Condition D.3.8 (former Condition D.3.6) - Record Keeping Requirements, has been modified to include recordkeeping requirements associated with Condition D.3.6 - Visible Emissions Notations.

Section D.3 has been revised as follows:

**SECTION D.3 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(5) One (1) corn germ, fiber, gluten, and starch separation process, installed in March 2000 **and approved for modification in 2008**, milling corn received from the steeped corn discharge conveyor system, consisting of:

(A) One (1) primary milling system, consisting of:

(i) One (1) primary mill area, grinding softened corn and supplemental water received from the steeped corn discharge conveyor system at a nominal design rate of 368,000 pounds per hour, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC07, with all emissions exhausted through

**SECTION D.3 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

Stack FP07.

(ii) * * *

(B) One (1) germ separation system, consisting of:

(i) One (1) germ separation area, separating germ from the corn received from the primary milling system discharge conveyor system at nominal design rate of 368,000 pounds per hour, yielding a maximum of 82,300 pounds of germ per hour and 285,700 pounds of remnant corn, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07.

(ii) * * *

(iii) * * *

(C) One (1) secondary milling system, consisting of:

(i) One (1) secondary milling area, grinding softened corn remnants received from the germ separation system remnant corn discharge conveyor system at a nominal design rate of 285,700 pounds per hour, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC07, with all emissions exhausted through Stack FP07.

(ii) * * *

(Continued on next page)

**SECTION D.3 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(Continued from prior page)

(D) One (1) fiber separation system, consisting of:

(i) One (1) fiber separation area, separating fiber received from the secondary milling system discharge conveyor system at a nominal design rate of 285,700 pounds per hour, with a design maximum of 202,500 pounds of supplemental water added per hour, yielding a maximum of 154,900 pounds of fiber per hour and 333,300 pounds of remnant corn per hour, with SO2 emissions from the separation process controlled by one (1) **caustic** wet scrubber, identified as FPC27, with all emissions exhausted through Stack FP27.

(ii) * * *

(iii) * * *

(E) One (1) starch and gluten separation system, consisting of:

(i) One (1) starch and gluten separation area, separating starch and gluten from the softened corn remnants received from the fiber separation system remnant corn discharge conveyor system at a nominal design rate of 333,300 pounds per hour, yielding a maximum of 260,000 pounds of starch per hour and 73,300 pounds of gluten per hour, with SO2 emissions controlled by one (1) **caustic** wet scrubber, identified as FPC27, with all emissions exhausted through Stack FP27.

(ii) * * *

(iii) * * *

(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 2-7-5(1)]**

D.3.1 Prevention of Significant Deterioration **(PSD) - Best Available Control Technology for PM and PM10** [326 IAC 2-2]

~~(a) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, the SO2 emissions shall be limited as follows:~~

| ~~Facility (Control)~~ | ~~Stack/ Vent~~ | ~~SO2 Limit (lb/hr)~~ |
|---|---|---|
| ~~Milling Area (FPC07)~~ | ~~FP07~~ | ~~0.23~~ |

~~Compliance with this limit will render the requirements of 326 IAC 2-2 not applicable.~~

~~(b) The IDEM, OAQ has information that indicates that the SO2 emissions from the starch and gluten separation area have contributed to a violation of 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore, the Permit Shield provided in Section B of this permit does not apply to those emission units with regards to 326 IAC 2-2 (PSD). The~~

~~OAQ will promptly reopen this permit using the provisions of 326 IAC 2-7-9 (Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 2-2 (PSD) and a schedule for achieving compliance with such requirements once this issue has been thoroughly reviewed.~~

**Pursuant to PSD 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for PM/PM10 (including filterable and condensible PM10) for the milling area and feed area processes shall be as follows:**

**PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:**

| Process | Control Device | Stack | PM/PM10 Limit (gr/dscf) | PM/PM10 Limit (lb/hr) |
|---|---|---|---|---|
| Primary Milling System<br>Germ Separation System<br>Secondary Milling System<br>(Milling Area) | Caustic Wet Scrubber (FPC07) | FP07 | 0.017 | 2.36 |
| Separation System<br>Starch and Gluten Separation System<br>(Feed Area) | Caustic Wet Scrubber (FPC27) | FP27 | 0.017 | 3.52 |

**D.3.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]**

**(a) Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the primary milling system, the germ separation system, and the secondary milling system shall be as follows:**

**(1) The emissions from the primary milling system, the germ separation system, and the secondary milling system shall be controlled by caustic wet scrubber FPC07.**

**(2) The overall control efficiency for the caustic wet scrubber FPC07 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.**

**(3) The SO2 emissions from stack FP07 shall not exceed 4.70 lbs/hr.**

**(b) Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the fiber separation system, and the starch and gluten separation system shall be as follows:**

**(1) The emissions from the fiber separation system, and the starch and gluten separation system shall be controlled by caustic wet scrubber FPC27.**

**(2) The overall control efficiency for the caustic wet scrubber FPC27 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.**

**(3) The SO2 emissions from stack FP27 shall not exceed 7.52 lbs/hr.**

~~D.3.2~~**D.3.3** Preventive Maintenance Plan [326 IAC 2-7-5(13)]

* * *

**Compliance Determination Requirements**

~~D.3.3~~**D.3.4** SO2 **and Particulate** Control

(a) ~~Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in~~ **In** order to comply with Condition**s** D.3.1 **and D.3.2**, scrubber FPC07, used to control SO2 **and PM/PM10** emissions, shall be in operation at all times the primary milling, germ separation, and secondary milling processes are in operation **and venting to scrubber FPC07.**

(b) In order to comply with Conditions D.3.1 and D.3.2, ~~Scrubber~~ **Scrubber** FPC27, used to control SO2 **and PM/PM10** emissions, shall be in operation at all times the fiber separation, and starch and gluten separation processes are in operation **and venting to scrubber FPC27.**

~~D.3.4~~**D.3.5** Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

~~Within 180 days after issuance of this Part 70 permit, the Permittee shall perform SO2 and particulate testing for scrubber FPC27 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.~~

**(a) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the germ dryer, rotary germ cooler, and the corn gluten feed (CGF) dryer, in order to demonstrate compliance with Conditions D.3.1 and D.3.2(a), the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency), and PM and PM10 testing for caustic wet scrubber FPC07 when the mill area processes are in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. PM10 includes filterable and condensable PM10. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

**(b) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the germ dryer, rotary germ cooler, and the corn gluten feed (CGF) dryer, in order to demonstrate compliance with Conditions D.3.1 and D.3.2(b), the Permittee shall perform SO2 testing (including emission rate, capture efficiency, and adsorption efficiency), and PM and PM10 testing for caustic wet scrubber FPC27 when the feed area processes are in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. PM10 includes filterable and condensable PM10. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

**D.3.6 Visible Emissions Notations**

**(a) Visible emission notations of the stack exhaust from the mill area processes (stack FP07) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**

**(b) Visible emission notations of the stack exhaust from feed area processes (stack FP27) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**

**(c)** **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.**

**(d)** **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.**

**(e)** **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.**

**(f)** **If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.**

~~D.3.5~~**D.3.7** Scrubber Monitoring

* * *

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

~~D.3.6~~**D.3.8** Record Keeping Requirements

**(a)** **To document compliance with Condition D.3.6, the Permittee shall maintain daily records of the visible emission notations required by that condition. 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).**

~~(a)~~**(b)** To document compliance with Condition ~~D.3.5~~ **D.3.7**, the Permittee shall maintain **daily** records of the scrubber operating parameters required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

~~(b)~~**(c)** * * *

**Modification No. 5:**

The following revisions have been made to Section D.4:

- The Section D.4 - Facility Description box has been modified to reflect modifications to existing emissions units and control device configurations and to remove reference to the anaerobic waste water treatment process.

- Former Condition D.4.1 - PM10, SO2, VOC Emissions, which specified that emissions units that have potentially contributed to a violation of 326 IAC 2-2 (PSD) will be reviewed pursuant to 326 IAC 2-2-3 (PSD BACT), has been removed. This PSD Significant Source Modification (027-24380-00046) includes a PSD BACT determination for the affected units. Therefore, the requirements of the former Condition D.4.1 have been met and are no longer necessary.

- Condition D.4.1 (former Condition D.4.2) incorporates the revised BACT for PM/PM10. The PSD BACT for NOx, VOC, and SO2 have been removed from Condition D.4.1 (former Condition D.4.2). Additionally, the existing minor limit for SO2 and NOx for thermal oxidizers FPC34a and FPC34b has been removed from Condition D.4.1 (former Condition D.4.2).

- Condition D.4.2 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC has been added to incorporate the new BACT pursuant to 326 IAC 2-2 and 326 IAC 8-1-6 for VOC.

- Condition D.4.3 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx has been added to incorporate the new PSD BACT for NOx.

- Condition D.4.4 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 has been added to incorporated the new PSD BACT for SO2.

- Condition D.4.5 - Prevention of Significant Deterioration (PSD) Minor Limit for NOx and SO2 has been added to incorporate the revised minor limits for NOx and SO2 for thermal oxiziders FPC34a and FPC34b. Changes to reporting forms are found in the Modification labeled "Reporting Forms Revisions".

- Existing compliance determination and monitoring requirements have been revised to reflect the new BACT for PM/PM10, VOC, NOx, and SO2.

Section D.4 has been revised as follows:

**SECTION D.4 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(6) One (1) germ production process, installed in March 2000 **and approved for modification in 2008**, consisting of:

(A) One (1) germ drying system, consisting of:

(i) One (1) 24 MMBtu/hr natural gas and/or biogas fired germ dryer, drying germ received from the germ separation system germ discharge conveyor system at a nominal design rate of 23,800 pounds per hour, yielding a maximum of ~~11,000~~ **18,000** pounds of germ per hour.

**Process and combustion PM and SO2 emissions are controlled by caustic wet scrubber FPC12; combustion NOx emissions are controlled by a water quench system; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.**

~~Currently, the process PM and SO2 emissions are controlled by wet scrubber FPC12, combustion NOx emissions are controlled by a water quench system, and all emissions exhausted through Stack FP12.~~

~~No later than August 10, 2007, process PM and SO2 emissions will be controlled by wet scrubber FPC12, combustion NOx emissions will be controlled by a water quench system, and process VOC emissions will be controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will~~ be exhausted through Stack FP34.

(ii) One (1) totally enclosed discharge conveyor system, conveying germ received from the germ dryer to the rotary germ cooler at a nominal design rate of ~~11,000~~ **18,000** pounds per hour;

(B) One (1) rotary germ cooling system, consisting of:

(i) ~~One (1) rotary germ cooler, cooling germ received from the germ drying system discharge conveyor system at a nominal design rate of 11,000 pounds per hour, with all emissions routed through one (1) cyclone, identified as FPC09, with PM and SO2 emissions controlled by one (1) wet scrubber, identified as FPC12, with all emissions exhausted through Stack FP12.~~

~~No later than August 10, 2007, emissions from FPC12 will be exhausted through oxidizers FPC34a and FPC34b to Stack 34; and~~

**One (1) rotary germ cooler, cooling germ received from the germ drying system discharge conveyor system at a maximum design rate of 18,000 pounds per hour, with all emissions routed through one (1) baghouse, identified as FPC09, which exhausts to the inlet combustion air for the germ dryer.**

(ii) One (1) totally enclosed discharge conveyor system, conveying material received from the rotary germ cooler to the germ transport system at a nominal design rate of ~~11,000~~ **18,000** pounds per hour;

(C) One (1) totally enclosed germ transport system, conveying germ received from the germ cooling system discharge conveyor system to the germ storage bin at a nominal design rate of ~~11,000~~ **18,000** pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC10, with all emissions exhausted through Stack FP10.

(D) * * *

(a)(7) One (1) corn gluten feed production process, installed in March 2000, consisting of:

(A) One (1) corn steep and alcohol stillage evaporation system, consisting of:

(i) One (1) evaporation system, evaporating off excess water from the steep system and alcohol distillation still bottom (a.k.a. stillage), yielding a maximum of 5,000 pounds of supplemental gluten feed (a.k.a. syrup) per hour, with VOC emissions controlled by one (1) condenser/scrubber **system**, identified as APC40, **installed in 2003,** with all emissions exhausted through Stack AP40.

(ii) * * *

(B) * * *

(C) One (1) 30 MMBtu/hr natural gas fired corn gluten feed (CGF) dryer, drying wet corn gluten feed received from the fiber separation system fiber discharge conveyor system, supplemental gluten feed evaporator system discharge conveyor system, and corn storage process supplemental gluten feed system at a combined nominal design rate of 85,560 pounds per hour, yielding a maximum of ~~39,450~~ **52,000** pounds of dried corn gluten feed per hour. **Approved for modification in 2008, with the addition of a flue gas recirculation system for NOx control.**

**Process and combustion PM and SO2 emissions are controlled by condenser FPC17; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.**

~~Currently, all emissions are exhausted through condenser FPC17, thermal oxidizer FPC23, the gluten dryer, wet scrubber FPC13, and exhaust to Stack FP13.~~

~~No later than August 10, 2007, combustion NOx emissions will be controlled by a flue gas recirculation system; PM and SO2 emissions will be controlled by condenser FPC17; and VOC emissions will be controlled by thermal oxidizers (in parallel) FPC34a and FPC34b. All emissions will be exhausted through Stack FP34.~~

(D) One (1) totally enclosed corn gluten feed transport system, conveying corn gluten feed received from the corn gluten feed dryer to the corn gluten feed storage bin at a nominal design rate of ~~39,450~~ **52,000** pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC18, with all emissions exhausted through Stack FP18.

(E) One (1) corn gluten feed storage system, consisting of:

(i) * * *

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed received from the corn gluten feed storage bin to the corn gluten feed final mill at a nominal design rate of ~~39,450~~ **52,000** pounds per hour.

(F) One (1) corn gluten feed final mill system, consisting of:

(i) One (1) final milling area, milling corn gluten feed received from the corn gluten feed storage system discharge conveyor system at a nominal design rate of ~~39,450~~ **52,000** pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC19, with all emissions exhausted through Stack FP19.

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed received from the final milling area to the corn gluten feed loadout system at a nominal design rate of ~~39,450~~ **52,000** pounds per hour, and/or the pellet mill at a nominal design rate of ~~39,450~~ **52,000** pounds per hour.

(a)(8) One (1) gluten production process, installed in March 2000, consisting of:

(A) ~~One (1)~~ **Two (2)** 30 MMBtu/hr natural gas and/or biogas fired gluten dryer**s**, **one (1) installed in 2000 and one (1) approved for construction in 2008,** drying gluten received from the gluten discharge conveyor system at a maximum rate of 18,750 pounds per hour, yielding a maximum of ~~8,333~~ **15,000** pounds of dried gluten per hour.

**Process and combustion PM and SO2 emissions are controlled by caustic wet scrubber FPC13; combustion NOx emissions are controlled by a water quench system; and combustion CO emissions, and process and combustion VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.**

~~Currently, the combustion NOx emissions are controlled by a water quench system, the combustion and process PM and SO2 emissions controlled by wet scrubber FPC13, and all emissions are exhausted through Stack FP13.~~

~~No later than August 10, 2007, combustion NOx emissions will be controlled by a water quench system, the combustion and process PM and SO2 emissions will be controlled by wet scrubber FPC13, and process VOC emissions will be controlled by thermal oxidizers (in parallel) FPC34a and FPC34b. All emissions will be exhausted through Stack FP34.~~

(B) * * *

(C) * * *

~~(b) One (1) anaerobic wastewater treatment process, installed in March 2000. Biogas generated by the treatment process can be:~~

~~(1) Combusted in one (1) 18 MMBtu/hr flare, identified as UPC54, with all emissions exhausted through Stack UP54;~~

~~(2) Used as fuel in the germ dryer. Currently, process PM and SO2 emissions from the germ dryer are controlled by scrubber FPC12 and combustion NOx emissions are controlled by a water quench system. All emissions are exhausted to Stack FP13. No later than August 10, 2007, process PM and SO2 emissions will be controlled by wet scrubber FPC12, NOx emissions will be controlled by a water quench system, and process VOC emissions will be controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.~~

~~(3) Used as fuel in the gluten dryer~~**~~s~~**~~. Currently, process PM and SO2 emissions from the germ dryer are controlled by scrubber FPC12 and combustion NOx emissions are controlled by a water quench system. All emissions are exhausted to Stack FP13. No later than August 10, 2007, process PM and SO2 emissions will be controlled by wet scrubber FPC12, NOx emissions will be controlled by a water quench system, and process VOC emissions will be controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.~~

(4) ~~Combusted in thermal oxidizer FPC23 until oxidizers FPC34a and FPC34b are in operation. Emissions from FPC23 are exhausted through Stack FP13.~~

~~(5) Combusted in thermal oxidizers FPC34a and FPC34b. Emissions will be exhausted through Stack FP34.~~

~~Supporting the wastewater treatment process is a wastewater treatment lime feed system, consisting of:~~

~~(1) One (1) lime storage bin with a nominal design capacity of 100,000 pounds, storing lime that is fed to the wastewater treatment system, with the lime feed particulate emissions controlled by one (1) bin vent collector, identified as MPC60, with all emissions exhausted through Stack MP60; and~~

~~(2) One (1) totally enclosed lime discharge conveyor system, delivering lime received from the lime storage bin to the maltodextrin filtration system.~~

(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 2-7-5(1)]**

~~D.4.1 PM10, SO2 and VOC Emissions [326 IAC 2-2]~~

~~(a) The IDEM, OAQ has information that indicates that the SO2 emissions from the wastewater treatment processes and germ dryer have contributed to a violation of 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore, the Permit Shield provided in Section B of this permit does not apply to those emission units with regards to 326 IAC 2-2 (PSD). The OAQ will promptly reopen this permit using the provisions of 326 IAC 2-7-9~~

~~(Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 2-2 (PSD) and a schedule for achieving compliance with such requirements once this issue has been thoroughly reviewed.~~

~~(b) The IDEM, OAQ has information that indicates that the VOC emissions from the corn steep and alcohol stillage evaporation system have contributed to a violation of 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore, the Permit Shield provided in Section B of this permit does not apply to that emission unit with regards to 326 IAC 2-2 (PSD). The OAQ will promptly reopen this permit using the provisions of 326 IAC 2-7-9 (Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 2-2 (PSD) and a schedule for achieving compliance with such requirements once this issue has been thoroughly reviewed.~~

~~(c) The IDEM, OAQ has information that indicates that the PM/PM10 emissions from the corn storage process supplemental gluten feed system, germ dryer and discharge conveyor, gluten dryer, corn gluten feed dryer and gluten transport system have contributed to a violation of 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore, the Permit Shield provided in Section B of this permit does not apply to those emission units with regards to 326 IAC 2-2 (PSD). The OAQ will promptly reopen this permit using the provisions of 326 IAC 2-7-9 (Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 2-2 (PSD) and a schedule for achieving compliance with such requirements once this issue has been thoroughly reviewed.~~

~~D.4.2~~**D.4.1** Prevention of Significant Deterioration **(PSD) - Best Available Control Technology for PM and PM10** [326 IAC 2-2] ~~[326 IAC 8-1-6]~~

~~(a)~~ Pursuant to 326 IAC 2-2**-3** and PSD CP 027-7239-00046, issued on June 10, 1997, **and as revised by Significant Permit Modification 027-24979-00046, the Best Available Control Technology (PSD BACT) for** ~~the~~ PM/PM10 (including filterable and condensable PM10), ~~and NOx emissions from~~ **for** the units of the germ production, corn gluten feed production, **an**d gluten production, ~~and anaerobic wastewater treatment~~ processes shall be ~~limited~~ as follows:

**PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:**

| Facility (Control) | Stack | PM Limit (gr/dscf) | PM10 Limit (lb/hr) | **Opacity** |
|---|---|---|---|---|
| germ transport system (**baghouse** FPC10) | FP10 | 0.005 gr/dscf 0.105 lb/hr | 0.005 gr/dscf 0.105 lb/hr | **N/A** |
| germ storage bin (**bin vent filter** FPC11) | FP11 | 0.005 gr/dscf 0.005 lb/hr | 0.005 gr/dscf 0.005 lb/hr | **N/A** |
| corn gluten feed transport system (**baghouse** FPC18) | FP18 | 0.005 gr/dscf ~~2.15~~ **1.61** lb/hr | 0.005 gr/dscf ~~2.15~~ **1.61** lb/hr | **3%** |
| corn gluten feed storage system (**bin vent filter** FPC22) | FP22 | 0.005 gr/dscf 0.005 lb/hr | 0.005 gr/dscf 0.005 lb/hr | **N/A** |
| corn gluten feed final mill system (**baghouse** FPC19) | FP19 | 0.005 gr/dscf ~~0.17~~ **0.13** b/hr | 0.005 gr/dscf ~~0.17~~ **0.13** b/hr | **3%** |
| gluten transport system (**baghouse** FPC14) | FP14 | 0.005 gr/dscf ~~0.085~~ **0.43** lb/hr | 0.005 gr/dscf ~~0.085~~ **0.43** lb/hr | **3%** |
| gluten storage system (**bin vent filter** FPC15) | FP15 | 0.005 gr/dscf 0.005 lb/hr | 0.005 gr/dscf 0.005 lb/hr | **N/A** |

| Facility (Control) | Stack | PM Limit (gr/dscf) | PM10 Limit (lb/hr) | **Opacity** |
|---|---|---|---|---|
| corn storage process supplemental gluten feed system (**baghouse** FPC20) | FP20 | 0.005 gr/dscf ~~0.045~~ **0.09** lb/hr | 0.005 gr/dscf ~~0.045~~ **0.09** lb/hr | **3%** |
| ~~lime storage bin (MPC60)~~ ~~**()**~~ | ~~MP60~~ ~~**UP52**~~ | ~~0.005 gr/dscf 0.03 b/hr~~ | ~~0.005 gr/dscf 0.03 b/hr~~ | |
| **germ dryer and discharge conveyor, and germ cooler (wet scrubber FPC12) CGF dryer (condensing tower FPC17) gluten dryers (wet scrubber FPC13) FPC12, FPC17, and FPC13 exhaust to thermal oxidizers (in parallel) FPC34a & FPC34b** | **FP34** | **0.01 gr/dscf 11.38 lbs/hr** | **0.01 gr/dscf 11.38 lbs/hr** | **8%** |

~~(b) Pursuant to 326 IAC 2-2 and PSD CP 027-7239-00046, issued on June 10, 1997, the PM/PM10 (including filterable and condensable PM10), and NOx emissions shall be limited as follows:~~

| ~~Facility (Control)~~ | ~~Stack~~ | ~~PM Limit~~ | ~~PM10 Limit~~ | ~~NOx limit~~ |
|---|---|---|---|---|
| ~~germ dryer and discharge conveyor (FPC12)~~ | ~~FP12~~ | ~~0.01 gr/dscf 1.37 lb/hr~~ | ~~-~~ | ~~0.06 lb/MMBtu~~ |
| ~~rotary germ cooling system (FPC09)~~ | ~~FP12~~ | ~~0.03 gr/dscf 0.77 lb/hr~~ | ~~0.03 gr/dscf 0.77 lb/hr~~ | - |
| ~~corn gluten feed dryer and gluten dryer (FPC17, FPC23, FPC13)~~ | ~~FP13~~ | ~~0.01 gr/dscf 3.65 lb/hr (total)~~ | ~~0.05 gr/dscf 1.82 lb/hr (total)~~ | ~~0.06 lb/MMBtu (gluten dryer) 0.047 lb/MMBtu (corn gluten feed dryer)~~ |

**D.4.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2] [326 IAC 8-1-6]**

**(a) Pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6, the Best Available Control Technology (PSD BACT) for VOC for the germ production, corn gluten feed production, and gluten production, processes shall be as follows:**

~~(c) Pursuant to 326 IAC 2-2-3 (PSD - BACT) and 326 IAC 8-1-6, no later than August 10, 2007, the Permittee shall comply with the following requirements:~~

(1) Regenerative thermal oxidizers, identified as FPC34a and FPC34b and exhausting to stack FP34, shall control VOC emissions from **the one (1)** corn gluten feed **dryer**, **two (2)** gluten **dryers,** and **one (1)** germ dryer, and achieve a minimum average overall (including capture and destruction) efficiency of ninety-eight percent (98%)**, or the VOC outlet concentration shall not exceed 10 ppm**.

~~(2) The combined VOC emissions from the corn gluten feed dryer, gluten dryer and germ dryer shall not exceed 2.11 pounds per hour.~~

**(2) When only one (1) of the two (2) thermal oxidizers is in operation only one (1) of the (2) gluten dryers shall be in operation. The thermal oxidizer in operation shall control VOC emissions from the one (1) corn gluten dryer, one (1) gluten dryer, and one (1) germ dryer, and achieve a minimum average overall (including capture and destruction) efficiency of ninety-eight percent (98%), or the VOC outlet concentration shall not exceed 10 ppm.**

**(3) VOC emissions shall not exceed 3.02 lbs/hr for stack FP34.**

~~Compliance with these provisions satisfies the requirements of 326 IAC 2-2-3 and 326 IAC 8-1-6.~~

**(b) Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for VOC for the corn steep and alcohol stillage evaporation system shall be as follows:**

**(1) The emissions from the corn steep and alcohol stillage evaporation system shall be controlled by the condenser/scrubber system APC40.**

**(2) The overall control efficiency for the condenser/scrubber system APC40 (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppm.**

**(3) The VOC emissions from condenser/scrubber system APC40 shall not exceed 0.11 lb/hr.**

**D.4.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the germ production, corn gluten feed production, gluten production processes shall be as follows:**

**NOx emissions shall be controlled by the following methods and shall not exceed the emission limits listed in the following table:**

| Facility | Control Device | NOx Limit (lb/MMBtu) |
|---|---|---|
| germ dryer and germ cooler | water quench system | 0.06 lb/MMBtu |
| CGF dryer | flue gas recirculation system | 0.047 lb/MMBtu |
| gluten dryers | water quench system | 0.06 lb/MMBtu |

~~(d) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, the SO2 emissions shall be limited as follows:~~

| ~~Facility (Control)~~ | ~~Stack~~ | ~~SO2 Limit (lb/hr)~~ |
|---|---|---|
| ~~Germ Dryer (FPC12)~~ | ~~FP12~~ | ~~0.28~~ |

| | | |
|---|---|---|
| ~~Gluten Dryer (FPC13)~~ | ~~FP13~~ | ~~6.67~~ |
| ~~Thermal Oxidizer FPC23~~ | ~~FP13~~ | ~~2.83~~ |

~~Compliance with these limits will render the requirements of 326 IAC 2-2 not applicable.~~

**D.4.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the germ production, corn gluten feed production, and gluten production processes shall be as follows:**

**(a) The SO2 emissions from the germ cooler and dryer shall be controlled by scrubber FPC12.**

**(b) The overall control efficiency for scrubber FPC12 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 10 ppm.**

**(c) The SO2 emissions from scrubber FPC12 shall not exceed 3.19 pounds per hour.**

**(d) The SO2 emissions from the CGF dryer shall be controlled by condenser FPC17.**

**(e) The overall control efficiency for condenser FPC17 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 10 ppm.**

**(f) The SO2 emissions from condenser FPC17 shall not exceed 7.52 pounds per hour.**

**(g) The SO2 emissions from the gluten dryers shall be controlled by scrubber FPC13.**

**(h) The overall control efficiency for scrubber FPC13 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 10 ppm.**

**(i) The SO2 emissions from scrubber FPC13 shall not exceed 13.07 pounds per hour.**

**D.4.5 Prevention of Significant Deterioration (PSD) Minor Limit for NOx [326 IAC 2-2]**

~~(e)~~ **Pursuant to Part 70 Operating Permit T027-14200-00046, issued on October 19, 2008, and as revised by Significant Permit Modification 027-24979-00046,** ~~In~~ **in** order to render the requirements of 326 IAC 2-2 not applicable to FPC34a and FPC34b, the following conditions shall apply:

**(a) Nitrogen Oxides (NOx)**

**(1) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of natural gas used as fuel.**

**(2) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of biogas used as fuel.**

**(3) The total amount of gas (biogas and natural gas) combusted by FPC34a and FPC34b shall not exceed 186 million cubic feet (MMCF) per twelve (12) consecutive month period with compliance determined at the end of each month.**

**Compliance with these limits shall limit the NOx emissions from the thermal oxidizers FPC34a and FPC34b to less than forty-three (43) tons per year.**

**(b) Sulfur Dioxide (SO2)**

**(1) Until the biogas scrubber (UPC55) is online and reducing $H_2S$ emissions from the biogas, the following conditions shall apply:**

~~(1)~~ The total amount of biogas combusted by FPC34a and FPC34b shall not exceed 126 million cubic feet (MMCF) per twelve (12) consecutive month period with compliance determined at the end of each month.

~~(2)~~ For every one (1) MMCF of natural gas greater than 90 MMCF combusted by FPC34a and FPC34b, the respective biogas combustion limit shall be reduced by 1.81 MMCF.

~~(3)~~**(A)** During biogas combustion, the SO2 emissions ~~and NOx emissions~~ from FPC34a and FPC34b shall not exceed 600 ~~and 276~~ pounds per MMCF~~,~~ ~~respectively~~.

~~(4)~~**(B)** During natural gas combustion, the SO2 emissions ~~and NOx emissions~~ from FPC34a and FPC34b shall not exceed 0.6 ~~and 500~~ pounds per MMCF, ~~respectively~~.

**(C) The total SO2 emissions from combustion of biogas and/or natural gas by thermal oxidizers FPC34a and FPC34b shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month. The following equation shall be used to determine compliance:**

**SO2 Emissions = (X1*600 + X2*0.6)/2000**

**Where:**

**X1 = the biogas (MMCF) usage at FPC34a and FPC34b**

**X2 = the gas natural gas (MMCF) usage at FPC34a and FPC34b**

**(2) On and after the date the biogas scrubber (UPC55) is online and controlling $H_2S$ emissions from the biogas, Condition D.4.5(b)(1) shall expire and the following condition shall apply:**

**(A) During biogas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 91.63 pound per MMCF.**

**(B) During natural gas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 276 pounds per MMCF.**

**(C) The total SO2 emissions from combustion of biogas and/or natural gas by thermal oxidizers FPC34a and FPC34b shall be less than**

**forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month. The following equation shall be used to determine compliance:**

**SO2 Emissions = (Y1*91.63 + Y2*0.6)/2000**

**Where:**

**Y1 = the biogas (MMCF) usage at FPC34a and FPC34b**

**Y2 = the gas natural gas (MMCF) usage at FPC34a and FPC34b**

**Compliance with these limits shall ensure that the significant emissions increase of NOx from the thermal oxidizer replacement project is less than forty (40) tons per year, and the SO2 emissions from the thermal oxidizer replacement project are less than forty (40) tons per year, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to RTOs FPC34a and FPC34b.**

~~Compliance with these limits is equivalent to less than 40 tons per year of SO2 and NOx, each~~

~~D.4.3~~**D.4.6** Preventive Maintenance Plan [326 IAC 2-7-5(13)]

* * *

**Compliance Determination Requirements**

~~D.4.4~~**D.4.7** PM, PM10, SO2, VOC, and NOx Control

(a) ~~Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in~~ **In** order to comply with Condition**s D.4.1,** D.4.2**, D.4.3, and D.4.4**:

(1) ~~Cyclone~~ **Baghouse** FPC09 and **caustic** wet scrubber FPC12, used to control PM/PM10 and SO2 emissions, shall be in operation at all times the germ drying and cooling systems are in operation.

(2) * * *

~~(3) Until thermal oxidizers FPC34a and FPC34b are in operation, thermal oxidizer FPC23, used to control VOC emissions from the CGF drying system, shall be in operation at all times the CGF drying system is in operation.~~

**(3) Caustic wet scrubber FPC13, used to control PM/PM10 and SO2 emissions, shall be in operation at all times the gluten drying system is in operation.**

~~(4) Wet scrubber FPC13, used to control PM and SO2 emissions, shall be in operation at all times the CGF drying system, thermal oxidizer FPC23, or gluten drying system is in operation.~~

**(4) Thermal oxidizers FPC34a and FPC34b shall be in operation and control VOC and PM/PM10 emissions from the corn gluten feed (CGF), gluten, and germ dryers at all times when one or more of the dryers is in operation.**

(5) * * *

(6) * * *

(7) * * *

~~(8) The Permittee shall operate the biogas flare at all times exhaust from the wastewater treatment plant is exhausted through Stack UP54. The biogas flare shall be operated as recommended by the manufacturer.~~

~~(9) The bin vent collector, used to control PM/PM10 emissions, shall be in operation at all times material is transferred to the lime storage bin.~~

(b) **In order to comply with Condition D.4.2(b), the** ~~The~~ condenser/wet scrubber **system** APC40, used to control VOC emissions, shall be in operation at all times the corn steep and alcohol stillage evaporation system is in operation.

(c) * * *

~~(d) No later than August 10, 2007, thermal oxidizers FPC34a and FPC34b shall be in operation and control VOC emissions from the corn gluten feed, gluten and germ dryers at all times any one or more of those dryers is in operation.~~

~~(e) A gas pressure sensing device must be installed, calibrated, maintained, and operated in conjunction with biogas flare UPC54 to ensure the continuous presence of a flame when biogas is sent to the flare.~~

~~D.4.5~~**D.4.8** Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) ~~No later than 180 days after startup of the FPC34a and FPC34b~~ **Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the germ dryer, rotary germ cooler, and the corn gluten feed (CGF) dryer**, in order to demonstrate compliance with the limits of Condition**s D.4.1 and** D.4.2 the Permittee shall perform PM/PM10~~,~~ **and** VOC~~, SO2, and NOx~~ testing for thermal oxidizers FPC34a and FPC34b utilizing methods approved by the Commissioner. Each thermal oxidizer shall be tested individually while the corn gluten feed **dryer**, **one (1)** gluten **dryer,** and the germ dryer~~s~~ are operating at maximum capacity. PM10 includes filterable and condensable PM10. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

~~(b) Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Condition D.4.2, the Permittee shall perform VOC testing for thermal oxidizer FPC23 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test~~

**(b) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the germ dryer, rotary germ cooler, and the corn gluten feed (CGF) dryer, in order to demonstrate compliance with Condition D.4.4, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for scrubbers FPC12 and FPC13, and condensing tower FPC17 utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.**

(c) Within **one hundred eighty (**180**)** days after issuance of ~~this Part 70 permit~~ **Significant Permit Modification No. 027-24979-00046**, **in order to demonstrate compliance with Condition D.4.1,** the Permittee shall perform PM/PM10 testing for baghouses **FPC10, FPC18, FPC19,** FPC14 and FPC20 utilizing methods approved by the Commissioner. PM10 includes filterable and condensable PM10. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

~~(d) Within 180 days after issuance of this Part 70 permit, the Permittee shall perform VOC testing for scrubber APC40 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.~~

**(d) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the germ dryer, rotary germ cooler, and the corn gluten feed (CGF) dryer, in order to demonstrate compliance with Condition D.4.5, the Permittee shall perform NOx testing for thermal oxidizers FPC34a and FPC34b utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.**

**(e) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the germ dryer, rotary germ cooler, and the corn gluten feed (CGF) dryer, in order to demonstrate compliance with Condition D.4.3, the Permittee shall perform NOx testing for germ drying system, the gluten dryers, and the CGF dryer utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.**

Testing shall be conducted in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

~~D.4.6~~**D.4.9** Thermal Oxidizer Temperature Monitoring

~~(a) Until thermal oxidizers FPC34a and FPC34b are in operation and FPC23 is shut down, the Permittee shall comply with the following monitoring requirements for thermal oxidizer FPC23:~~

~~(1) A continuous monitoring system shall be calibrated, maintained, and operated on thermal oxidizer FPC23 for measuring operating temperature of the thermal oxidizer. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as a 3-hour average.~~

~~(2) From the date of issuance of this permit until the results from the approved stack tests required by Condition D.4.2 are available, the Permittee shall operate thermal oxidizer FPC23 at or above the minimum 3-hour average temperature of 1400oF.~~

~~(b)~~**(a)** The Permittee shall comply with the following monitoring requirements for thermal oxidizers FPC34a and FPC34b:

(1) * * *

(2) From the date of initial operation until the results from the approved stack tests, required by Condition D.4.2**(a)**, are available, the Permittee shall operate thermal oxidizers FPC34a and FPC34b at or above the minimum 3-hour average temperature recommended by the manufacturer.

~~(c)~~**(b)** The Permittee shall determine the minimum 3-hour average temperature that demonstrates compliance with the limits in Condition D.4.2**(a)**, as approved by IDEM.

~~(d)~~**(c)** * * *

~~D.4.7~~**D.4.10** Condenser/Scrubber Monitoring

The Permittee shall comply with the following monitoring requirements for condenser/scrubber APC40 and condenser FPC17:

(a) For the condenser of APC40 and condenser FPC17:

(1) * * *

(2) * * *

(3) The Permittee shall determine the maximum 3-hour average temperature that demonstrates compliance with the limits in Condition**s** D.4.2**(b)**, **and D.4.4(d), (e), and (f)** as approved by IDEM.

(4) * * *

(b) * * *

~~D.4.8~~**D.4.11** Duct Pressure – Fan Amperage Parametric Monitoring

The Permittee shall comply with the following monitoring requirements for thermal oxidizers ~~FPC23 (prior to installation of FPC34a and FPC34b),~~ FPC34a, and FPC34b:

(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 Condition**s D.4.1** D.4.2, as approved by IDEM.

(b) * * *

(c) * * *

~~(d) Following the operation of FPC34a and FPC34b, the monitoring requirements of this condition are not required for FPC23.~~

~~D.4.9~~**D.4.12** Scrubber Monitoring

* * *

~~**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**~~

~~D.4.10~~**D.4.13** Parametric Monitoring

(a) The Permittee shall record the pressure drop across the baghouses (FPC10, FPC14, FPC18, ~~and~~ FPC19**, and FPC20**) used in conjunction with the corn, germ, and gluten production processes at least once per day when the respective facilities are in operation.

(b) When for any one reading, the pressure drop across baghouses FPC10, FPC14, FPC18, ~~or~~ FPC19**, or FPC20** is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) * * *

~~D.4.11~~**D.4.14** Visible Emissions Notations

(a) Visible emission notations of the germ transport, gluten transport system, corn gluten feed transport system, corn gluten feed final mill system, corn storage process supplemental gluten feed system, **thermal oxidizers** germ storage bin, corn gluten feed storage bin, and gluten storage bin stack exhaust**s (FP10, FP14, FP18, FP19, FP20, FP34, FP11, FP22, and FP15)** shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

* * *

~~D.4.12~~**D.4.15** Broken or Failed Bag **or Bin Vent Filter** Detection

(a) For a single compartment baghouse **or bin vent filter** 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 **or bin vent filter** 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 unit. 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 **or filter** 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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

~~D.4.13~~**D.4.16** Record Keeping Requirements

(a) To document compliance with Condition ~~D.4.2(e)~~ **D.4.5**, the Permittee shall maintain records of the amount of biogas and natural gas combusted by FPC34a and FPC34b.

~~(b) To document compliance with Condition D.4.5, the Permittee shall maintain records of the results from testing required by that condition.~~

**(b) To document compliance with Condition D.4.9 the Permittee shall maintain continuous temperature records for each thermal oxidizer and the 3-hour average temperature used to demonstrate compliance during the most recent stack test.**

~~(c) To document compliance with Conditions D.4.6~~ **~~D.4.8~~** ~~through D.4.10~~ **~~D.4.12~~**~~, the Permittee shall maintain records of the operating parameters required by those conditions. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).~~

**(c) To document compliance with Condition D.4.10(a) the Permittee shall maintain continuous temperature records for each condenser and the 3-hour average temperature used to demonstrate compliance during the most recent stack test.**

**(d) To document compliance with Condition D.4.10(b) the Permittee shall maintain daily records of the supply water pressure readings required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).**

**(e)** **To document compliance with Condition D.4.11, the Permittee shall maintain daily records of the duct pressure or fan amperage for each of the thermal oxidizers readings required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).**

**(f)** **To document compliance with Condition D.4.12, the Permittee shall maintain daily records of the pH of the scrubbing liquid, exhaust air stream pressure drop, and pump discharge pressure readings required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).**

**(g)** **To document compliance with Condition D.4.13, the Permittee shall maintain daily records of the pressure drop readings required by that condition. 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).**

~~(d)~~**(h)** To document compliance with Condition ~~D.4.11~~ **D.4.14**, the Permittee shall maintain **daily** records of the visible emission notations required by that condition. 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).

**(i)** **To document compliance with Condition D.4.1, the Permittee shall maintain on file vendor guarantees of the grain loading in grain per standard cubic foot (gr/dscf) for bin vent filters FPC11, FPC22, and FPC15.**

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

~~D.4.14~~**D.4.17** Reporting Requirements

A quarterly summary of the information to document compliance with Condition ~~D.4.2(e)~~ **D.4.5** shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

**Modification No. 6:**

The following revisions have been made to Section D.5:

- The Section D.5 - Facility Description Box has been modified to reflect modifications to existing emissions units.

- Condition D.5.1 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10, has been revised to incorporated the new PSD BACT for PM/PM10.

- In lieu of stack testing, a requirement to maintain vendor guarantees of grain loading for bin vent filter FPC25 has been added as Condition D.5.6(b).

Section D.5 has been revised as follows:

**SECTION D.5** **FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(9) One (1) corn gluten feed pellet production process, installed in March 2000, consisting of:

(A) One (1) pellet milling system, consisting of:

(i) One (1) pellet mill, producing corn gluten feed pellets from corn gluten feed received from the corn gluten feed final mill system discharge conveyor system at a nominal design rate of ~~39,450~~ **15,000** pounds per hour, and

(ii) One (1) totally enclosed discharge conveyor system, conveying corn gluten feed pellets received from the pellet mill to the pellet cooler at a nominal design rate of of ~~39,450~~ **15,000** pounds per hour;

(B) One (1) pellet cooling system, consisting of:

(i) One (1) pellet cooler, cooling corn gluten pellets received from the pellet milling system discharge conveyor system at a nominal design rate of of ~~39,450~~ **15,000** pounds per hour, discharging to cyclone FPC24, with all emissions exhausted through Stack FP18.

(ii) One (1) totally enclosed discharge conveyor system, conveying pellets received from the pellet cooler to the pellet storage bin at a nominal design rate of of ~~39,450~~ **15,000** pounds per hour.

(C) * * *

(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 2-7-5(1)]**

D.5.1 Prevention of Significant Deterioration (PSD) - **Best Available Control Technology for PM and PM10** [326 IAC 2-2]

Pursuant to 326 IAC 2-2**-3** and PSD CP **T**027-7239-00046, issued on June 10, 1997, **and as revised by this Significant Permit Modification 027-24979-00046,** the **Best Available Control Technology (PSD BACT) for** PM and PM10 emissions (including filterable and condensible PM10) from the corn gluten feed pellet production process shall be ~~limited~~ as follows:

**PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:**

| Facility (Control **Device**) | Stack | PM Limit | PM10 Limit | **Opacity** |
|---|---|---|---|---|
| pellet cooler (**cyclone** FPC24) | FP18 | 0.06 gr/dscf<br>18.00 lb/hr | 0.03 gr/dscf<br>9.00 lb/hr | **N/A** |
| pellet storage bin (**bin vent filter** FPC25) | FP25 | 0.005 gr/dscf<br>~~0.13~~ **0.004** lb/hr | 0.005 gr/dscf<br>~~0.13~~ **0.004** lb/hr | **3%** |

~~Compliance with these limits satisfies the requirements of 326 IAC 2-2-3.~~

D.5.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.5.3 Particulate Control

(a) * * *

(b) ~~Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in~~ **In** order to comply with Condition D.5.1, bin vent collector FPC25, used to control particulate emissions, shall be in operation at all times the pellet storage bin is in operation.

D.5.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within **one hundred eighty (**180**)** days after issuance of ~~this~~ Part 70 permit **T027-14200-00046**, in order to demonstrate compliance with Condition D.5.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from cyclone FPC24 when the pellet cooler is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. PM10 includes filterable and condensable PM10. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.5.5 Visible Emissions Notations

* * *

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.5.6 Record Keeping Requirements

(a) To document compliance with Condition D.5.5, the Permittee shall maintain **daily** records of the visible emission notations required by that condition. 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.5.1, the Permittee shall maintain on file vendor guarantees of the grain loading in grain per standard cubic foot (gr/scf) for bin vent filter FPC25.**

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

**Modification No. 7:**

The following revisions have been made to Section D.6:

- The Section D.6 - Facility Description box has been modified to include a new emission unit and control device.

- D.6.1 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10, has been revised to include the new PSD BACT for PM/PM10.

- Former Condition D.6.2 - PM Emissions, which specified that an emission unit that has potentially contributed to a violation of 326 IAC 2-2 (PSD) will be reviewed pursuant to 326 IAC 2-2-3 (PSD BACT), has been removed. This PSD Significant Source Modification (027-

24380-00046) includes a PSD BACT determination for the affected unit. Therefore, the requirements of the former Condition D.6.2 have been met and are no longer necessary.

- The loadout conveyor system, exhausting through baghouse FPC28, was permitted through Exemption No. 027-12885-00046, issued on December 27, 2000. Baghouse FPC28 was determined to be integral to the process, since the conveyor system would not transfer material effectively from the storage tanks to the railcars and trucks without the use of the baghouse. IDEM, OAQ does not, at this time, agree that baghouse FPC28 is integral to the loadout conveyor system and will correct the erroneous determination as a part of this permitting process. Therefore, new Condition D.6.2 - Prevention of Significant Deterioration (PSD) Minor Limit, will incorporate the appropriate limits necessary to ensure the operation of the loadout conveyor system and baghouse FPC28 does not violate 326 IAC 2-2 (PSD). This change will not require revisions to the existing compliance determination and monitoring, and recordkeeping requirements associated with the loadout conveyor system.

- Appropriate compliance determination and monitoring requirements, and record keeping requirements have been added to ensure compliance with the PSD BACT limitations for the new emission unit and control device.

Section D.6 has been revised as follows:

**SECTION D.6 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(10) One (1) germ, gluten, gluten feed, and gluten feed pellet loadout process, consisting of:

(A) * * *

(B) * * *

**(C) One (1) feed loadout vacuum system, approved for construction in 2008, for cleanup of the loadout systems, with particulate emissions controlled by one (1) baghouse, identified as FPC33, with emissions exhausted through Stack FP33.**

(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 2-7-5(1)]**

D.6.1 Prevention of Significant Deterioration (PSD) **- Best Available Control Technology for PM and PM10** [326 IAC 2-2]

Pursuant to 326 IAC 2-2**-3** and PSD CP 027-7239-00046, issued on June 10, 1997, **and as revised by this SPM (027-24979-00046),** the **Best Available Control Technology (PSD BACT) for** PM and PM10 emissions (including filterable and condensible PM10) from the germ, gluten, gluten feed, and gluten feed pellet loadout system**, and the feed loadout vacuum system** shall be ~~limited~~ as follows:

**PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:**

| Facility (Control) | Stack | PM/PM10 Limit | **Opacity** |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Germ, gluten, gluten feed, and gluten feed pellet loadout system (**baghouse** FPC26) | FP26 | 0.005 gr/dscf ~~0.17~~ **1.50** lb/hr | **3%** |
| **Feed loadout vacuum system (baghouse FPC33)** | **FP33** | **0.005 gr/dscf 0.01 lb/hr** | **3%** |

~~Compliance with these limits satisfies the requirements of 326 IAC 2-2.~~

~~D.6.2 PM Emissions [326 IAC 2-2]~~

~~The IDEM, OAQ has information that indicates that the PM/PM10 emissions from the loadout system (exhausting to stack FP26) has contributed to a violation of 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore, the Permit Shield provided in Section B of this permit does not apply to that emission unit with regards to 326 IAC 2-2 (PSD). The OAQ will promptly reopen this permit using the provisions of 326 IAC 2-7-9 (Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 2-2 (PSD) and a schedule for achieving compliance with such requirements once this issue has been thoroughly reviewed.~~

**D.6.2 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]**

**(a) The PM emissions from the loadout conveyor system shall be vented through baghouse FPC28 and shall not exceed 5.70 lbs/hr.**

**(b) The PM10 emissions from the loadout conveyor system shall be vented through baghouse FPC28 and shall not exceed 3.41 lbs/hr.**

**Compliance with these limits, limits the PM emissions from the loadout conveyor system to less than twenty-five (25) tons per year and the PM10 emissions from the loadout conveyor system to less than fifteen (15) tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are rendered not applicable.**

D.6.3 PM Emissions [326 IAC 6-3-2]

* * *

D.6.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

* * *

**Compliance Determination Requirements**

D.6.5 Particulate Control

(a) ~~Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in~~ **In** order to comply with Condition D.6.1, baghouse FPC26, used to control particulate emissions, shall be in operation at all times the loadout system is in operation.

(b) In order to comply with Condition ~~D.6.3~~ **D.6.2**, baghouse FPC28, used to control particulate emissions, shall be in operation at all times the loadout transfer conveyor system is in operation.

**(c) In order comply with Condition D.6.1, baghouse FPC33, used to control particulate emissions, shall be in operation at all times the feed loadout vacuum system is in operation.**

~~(c)~~**(d)** * * *

D.6.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**(a)** Within **one hundred eighty (**180**)** days after issuance of ~~this Part 70 permit~~ **Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.6.1**, the Permittee shall perform PM/PM10 testing for baghouse FPC26 utilizing methods approved by the Commissioner. PM10 includes filterable and condensable PM10. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

**(b)** **Within sixty (60) days of reaching maximum capacity, but not more than one hundred eighty (180) days after startup of the feed loadout vacuum system, in order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from baghouse FPC33 when the feed loadout vacuum system is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. PM10 includes filterable and condensable PM10. Testing shall be conducted utilizing methods approved by the Commissioner.**

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.6.7 Visible Emissions Notations

(a) * * *

(b) * * *

**(c)** **Visible emission notations of the stack exhaust from the feed loadout vacuum system (stack FP33) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**

~~(c)~~**(d)** * * *

~~(d)~~**(e)** * * *

~~(e)~~**(f)** * * *

~~(f)~~**(g)** * * *

D.6.8 Parametric Monitoring

(a) * * *

(b) * * *

**(c)** **The Permittee shall record the pressure drop across baghouse FPC33, used in conjunction with the feed loadout vacuum system, at least once per day when the respective system is in operation.**

~~(c)~~**(d)** * * *

~~(d)~~**(e)** When for any one reading, the pressure drop across baghouse FPC28 **or FPC33** is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

~~(e)~~**(f)** * * *

D.6.9 Broken or Failed Bag Detection

* * *

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.6.10 Record Keeping Requirements

(a) To document compliance with Condition D.6.7, the Permittee shall maintain **daily** records of the visible emission notations required by that condition. 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.6.8, the Permittee shall maintain **daily** records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) * * *

**Modification No. 8:**

The following revisions have been made to Section D.7:

- The Section D.7 - Facility Description box has been modified to reflect modifications to existing emissions units.

- Former Condition D.7.1 - VOC Emissions, which specified that an emission unit that has potentially contributed to a violation of 326 IAC 2-2 (PSD) will be reviewed pursuant to 326 IAC 2-2-3 (PSD BACT), has been removed. This PSD Significant Source Modification (027-24380-00046) includes a PSD BACT determination for the affected units. Therefore, the requirements of the former Condition D.7.1 have been met and are no longer necessary.

- Condition D.7.1 (former Condition D.7.2) includes the existing BACT for VOC and incorporates the new PSD BACT for VOC. The PSD BACT for SO2 has been removed from Condition D.7.1 (former Condition D.7.2).

- Condition D.7.2 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 has been added to incorporate the new PSD BACT for SO2.

- Condition D.7.7 - Condenser Monitoring has been added to incorporate the necessary compliance monitoring requirements associated with the new PSD BACT for SO2,

- Condition D.7.8 (former Condition D.7.7) has been revised to include record keeping requirements associated with the new PSD BACT for SO2.

- The applicable requirements of 40 CFR Part 60, Subpart Kb (New Source Performance Standards for Volatile Organic Storage Vessels), which were included as part of Condition D.7.10 (former Condition D.7.10) - New Source Performance Standards for Volatile Organic Storage Vessels: Requirements, have been removed from the permit, and are now incorporated by reference. 40 CFR 60, Subpart Kb has been included, in its entirety, as Attachment C to the permit.

Section D.7 has been revised as follows:

**SECTION D.7 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(11) One (1) alcohol production process, installed in March 2000, consisting of:

(A) * * *

(B) One (1) flash cooler vent condenser system, identified as APC31, cooling fermentable sugars received from the starch cooker, steep water from the steep system, and stillage from the distillation still bases at a combined nominal design rate of ~~373,000~~ **507,600** pounds per hour, yielding a maximum of ~~373,000~~ **507,600** pounds of fermentable sugars per hour, with the fermentable sugars discharged to one (1) secondary liquefaction tank, with all emissions exhausted through Stack AP31.

(C) * * *

(D) * * *

(E) * * *

(F) * * *

(G) * * *

(H) * * *

(I) * * *

(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 2-7-5(1)]**

~~D.7.1 VOC Emissions [326 IAC 2-2]~~

~~The IDEM, OAQ has information that indicates that the VOC emissions from the alcohol fermentation system have contributed to a violation of -IAC 2-2 (Prevention of Significant Deterioration). Therefore, the Permit Shield provided in Section B of this permit does not apply to those emission units with regards to 326 IAC 2-2 (PSD). The OAQ will promptly reopen this permit using the provisions of 326 IAC 2-7-9 (Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 2-2 (PSD) and a schedule for achieving compliance with such requirements once this issue has been thoroughly reviewed.~~

~~D.7.2~~**D.7.1** Prevention of Significant Deterioration (PSD) **- Best Available Control Technology for VOC** [326 IAC 2-2]

~~(a)~~ Pursuant to 326 IAC 2-2**-3** and PSD CP 027-7239-00046, issued on June 10, 1997**, and 326 IAC 8-1-6, and as revised by Significant Permit Modification 027-24797-00046, the Best Available Control Technology (PSD BACT) for VOC for the pre-fermentation, fermentation, alcohol distillation system, loadout area, and storage tanks shall be as follows**:

~~(1) The VOC emissions from the equipment of the alcohol production process shall be limited as follows:~~

**VOC emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:**

| Facility | **Control Device** | Stack | VOC Limit |
|---|---|---|---|
| Two (2) Pre-fermenters | **wet scrubber (APC28)** | **AP28** | **98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 4.27 lbs/hr** |
| Fermentation System | **wet scrubber (APC29)** | **AP29** | **98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 12.90 lbs/hr** |
| Alcohol Distillation System ~~(APC32)~~ | **wet scrubber (APC32)** | AP32 | ~~1.14 lb/hr~~ **98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 0.7 lbs/hr** |
| Alcohol Storage System **(beverage)** ~~(APC95 and APC96)~~ | **wet scrubber (APC95)** | AP95 | ~~0.8 lb/hr combined total~~ **98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 0.16 lb VOC/hr** |
| **Alcohol Storage System (fuel)** | **wet scrubber (APC96)** | **AP96** | **98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 0.08 lb VOC/hr** |
| Alcohol and Distillation Heads Loadout Area ~~(APC35)~~ | **scrubber (APC35)** | AP35 | 2.3 lb/hr |
| **Storage Tank** | **Internal Floating Roof** | **AP84** | **0.03 lb /hr** |
| **Storage Tank** | **Internal Floating Roof** | **AP94** | **0.02 lb/hr** |
| Storage Tank | **Internal Floating Roof** | AP85 | ~~0.06~~ **0.20** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP86 | ~~0.03~~ **0.20** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP87 | ~~0.02~~ **0.26** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP88 | ~~0.0003~~ **0.13** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP89 | ~~0.005~~ **0.15** b/hr |

| Facility | **Control Device** | Stack | VOC Limit |
|---|---|---|---|
| Storage Tank | **Internal Floating Roof** | AP90 | ~~0.005~~ **0.15** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP91 | ~~0.004~~ **0.21** lb/hr |
| Alcohol Production Process Fugitive Emissions | | None | 10.40 lb/hr |

~~(2)~~ To ensure that the fugitive VOC emissions from the alcohol production process are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program for the equipment of the alcohol production process.

**D.7.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]**

~~(b) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, the SO2 emissions shall be limited as follows:~~

| ~~Facility (Control)~~ | ~~Stack~~ | ~~SO2 Limit (lb/hr)~~ |
|---|---|---|
| ~~Flash Cooler Vent Condenser System~~ | ~~AP31~~ | ~~0.04~~ |

~~Compliance with this limit will render the requirements of 326 IAC 2-2 not applicable.~~

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the flash vent condenser system (APC31), controlling emissions from the fermentable sugar cooling, steep water, and stillage, shall be as follows:**

**(a) The SO2 emissions from the fermentable sugar cooling, steep water, and stillage shall be controlled by condenser APC31.**

**(b) The overall control efficiency for the condenser (APC31) (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.**

**(c) The SO2 emissions from condenser (APC31) shall not exceed 0.53 lb/hr.**

D.7.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

* * *

**Compliance Determination Requirements**

D.7.4 VOC **and SO2** Control

**(a)** ~~Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in~~ **In** order to comply with Condition ~~D.7.2~~ **D.7.1** scrubbers ~~APC28, APC29, APC32, APC95, APC96 and~~ APC35, used to control VOC emissions, shall be in operation at all times the **alcohol and**

**distillation heads loadout area process is** ~~associated facilities of the alcohol production process are~~ in operation.

(b) In order to comply with Condition D.7.1, scrubbers APC28, APC29, APC32, **APC84**, APC94, APC95, and APC96, used to control VOC emissions, shall be in operation at all times the associated facilities of the alcohol production process are in operation.

**(c) In order to comply with Condition D.7.2, the condenser APC31, used to control SO2 emissions, shall be in operation at all times the flash cooling process is in operation.**

D.7.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within **sixty (60) days after achieving maximum capacity, but not more than** one hundred eighty **(**180**)** days **after initial startup of the germ dryer, rotary germ cooler, and the corn gluten feed (CGF) dryer**~~ issuance of this Part 70 permit~~, in order to demonstrate compliance with Condition ~~D.7.2(a)~~ **D.7.1**, the Permittee shall perform VOC testing **(including adsorption efficiency or outlet concentration, and emission rate and capture efficiency)** for scrubbers APC28, APC29, APC32, APC95, APC96 and APC35 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

(b) Within **sixty (60) days after achieving maximum capacity, but not more than** one hundred eighty **(**180**)** days after **initial startup of the germ dryer, rotary germ cooler, and the corn gluten feed (CGF) dryer,** in order to demonstrate compliance with Condition D.7.2~~(b)~~, the. Permittee shall perform SO2 testing **(including adsorption efficiency or outlet concentration, and emission rate and capture efficiency)** for the flash cooler vent condenser system **(APC31)** utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

**Testing shall be conducted in accordance with Section C - Performance Testing.**

**Compliance Monitoring Requirements**

D.7.6 Scrubber Monitoring

* * *

**D.7.7 Condenser Monitoring**

**The Permittee shall comply with the following monitoring requirements for condenser APC31:**

**(a) A continuous monitoring system shall be calibrated, maintained, and operated on the condenser of APC31 for measuring outlet exhaust temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an 3-hour average.**

**(b) The Permittee shall determine the maximum 3-hour average temperature that demonstrates compliance with the limits in Condition 7.2 as approved by IDEM.**

**(c) Once the results from the approved stack tests are available, the Permittee shall then operate the condenser at or below the maximum 3-hour average temperature determined from the most recent compliant stack test following approval of that temperature.**

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

~~D.7.7~~**D.7.8** Record Keeping Requirements

~~(a) To document compliance with Condition D.7.5, the Permittee shall maintain records of the results from testing required by that condition.~~

~~(b)~~**(a)** To document compliance with Condition D.7.6, the Permittee shall maintain **daily** records of the operating parameters required by those condition**s**. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

**(b) To document compliance with Condition D.7.7 the Permittee shall maintain continuous temperature records for condenser APC31 and the 3-hour average temperature used to demonstrate compliance during the most recent stack test.**

(c) * * *

**New Source Performance Standards (NSPS) Requirements – 40 CFR Part 60, Subpart Kb [326 IAC 2-7-5(1)]**

~~D.7.8~~**D.7.9** General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 12-1] [40 CFR Part 60, Subpart A]

* * *

~~D.7.9~~**D.7.10** New Source Performance Standards for Volatile Organic Storage Vessels: Requirements [40 CFR Part 60, Subpart Kb]

Pursuant to 40 CFR 60.110b, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart Kb for tanks AP85, AP86, AP87, AP94, AP95 and AP96 as specified as follows:

**(1) 40 CFR 60.110b**
**(2) 40 CFR 60.111b**
**(3) 40 CFR 60.112b**
**(4) 40 CFR 60.113b**
**(5) 40 CFR 60.114b**
**(6) 40 CFR 60.115b**
**(7) 40 CFR 60.116b**

*The applicable requirements of 40 CFR 60 Subpart Kb have been deleted from the permit.*

**Modification No. 9:**

The following revisions have been made to Section D.8:

- The Section D.78 - Facility Description box has been modified to reflect modifications to the starch drying system.

- Condition D.8.1 has been revised to incorporate the new PSD BACT for PM/PM10. The PSD BACTs for NOx, and VOC have been removed from Condition D.8.1

- Condition D.8.2 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx has been added to incorporate the new BACT for NOx.

- Condition D.8.3 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC has been added to incorporate the new PSD BACT for VOC.

- Condition D.4.4 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 has been added to incorporated the new PSD BACT for SO2.

- Existing compliance determination and monitoring requirements have been revised to reflect the new BACT for PM/PM10, NOx, and VOC.

Section D.8 has been revised as follows:

**SECTION D.8 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(12) One (1) starch production process, installed in March 2000, consisting of:

(A) * * *

(B) * * *

(Continued on next page)

(Continued from prior page)

(C) One (1) starch drying system consisting of:

(i) One (1) 30 MMBtu/hr natural gas **and/or biogas** fired starch dryer, drying refined starch received from the starch filtration system discharge conveyor system at a nominal design rate of 56,000 pounds per hour, with the process and combustion PM emissions controlled by one (1) wet scrubber, identified as SPC49, with all emissions exhausted through Stack SP49.

(ii) * * *

(D) * * * ;

(E) * * *

(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 2-7-5(1)]**

D.8.1 Prevention of Significant Deterioration (PSD) **- Best Available Control Technology for PM and PM10** [326 IAC 2-2]

~~(a)~~ Pursuant to 326 IAC 2-2**-3** and PSD CP 027-7239-00046, issued on June 10, 1997, **and as revised by this SPM 027-24979-00046, the Best Available Control Technology (PSD BACT) for PM and PM (including filterable and condensable PM10) shall be as follows:**

**PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:**

| Facility (Control) | Stack | PM Limit | PM10 Limit | **Opacity** |
|---|---|---|---|---|
| starch reactor brine feed system (**bin vent filter** SPC65) | SP65 | 0.02 gr/dscf 0.34 lb/hr | 0.01 gr/dscf 0.17 lb/hr | **N/A** |
| soda ash storage bin (**bin vent filter** SPC64) | SP64 | 0.02 gr/dscf 0.34 **lb/hr** | 0.01 gr/dscf 0.17 **lb/hr** | **N/A** |
| starch dryer (**scrubber** SPC49) | SP49 | ~~0.01~~ **0.092** gr/dscf ~~10.80~~ **4.96** lb/hr | **0.092 gr/dscf 4.96 lb/hr** | **N/A** |
| starch storage bin (**bin vent filter** SPC50) | SP50 | 0.005 gr/dscf 0.09 lb/hr | 0.005 gr/dscf 0.09 lb/hr | **N/A** |
| loadout system non-fugitive control (**baghouse** SPC44a) | SP44a | 0.005 gr/dscf ~~0.22~~ **0.15 lb/hr** | 0.005 gr/dscf ~~0.22~~ **0.15 lb/hr** | **3%** |
| loadout system fugitive control (**dust collector** SPC44b) | SP44b | 0.005 gr/dscf ~~0.26~~ **0.29** lb/hr | 0.005 gr/dscf ~~0.26~~ **0.29** lb/hr | **3%** |

~~(1) The PM, PM10 (including filterable and condensable PM10), NOx, and VOC emissions from the units of the starch production process shall be limited as follows:~~

| ~~Facility (Control)~~ | ~~Stack~~ | ~~PM Limit~~ | ~~PM10 Limit~~ | ~~NOx Limit~~ | ~~VOC Limit~~ |
|---|---|---|---|---|---|
| ~~starch reactor system~~ | ~~SP46~~ | - | - | - | ~~1 lb per hour per 10 hour period~~ |
| ~~starch reactor brine feed system (SPC65)~~ | ~~SP65~~ | ~~0.02 gr/dscf 0.34 lb/hr~~ | ~~0.01 gr/dscf 0.17 lb/hr~~ | - | - |
| ~~soda ash storage bin (SPC64)~~ | ~~SP64~~ | ~~0.02 gr/dscf 0.34~~ | ~~0.01 gr/dscf 0.17~~ | - | |
| ~~starch dryer (SPC49)~~ | ~~SP49~~ | ~~0.01 gr/dscf 10.80 lb/hr~~ | - | ~~0.075 lb/MMBtu~~ | - |
| ~~starch storage bin (SPC50)~~ | ~~SP50~~ | ~~0.005 gr/dscf 0.09 lb/hr~~ | ~~0.005 gr/dscf 0.09 lb/hr~~ | - | - |
| ~~loadout system non-fugitive control (SPC44a)~~ | ~~SP44a~~ | ~~0.005 gr/dscf 0.22 lb/hr~~ | ~~0.005 gr/dscf 0.22 lb/hr~~ | - | - |
| ~~loadout system fugitive control (SPC44b)~~ | ~~SP44b~~ | ~~0.005 gr/dscf 0.26 lb/hr~~ | ~~0.005 gr/dscf 0.26 lb/hr~~ | - | - |

~~(2) To ensure that the fugitive VOC emissions from the starch reactor system are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program.~~

~~Compliance with these requirements satisfies the requirements of 326 IAC 2-2-3.~~

**D.8.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the starch spray dryer shall be no control and the NOx emissions from the starch dryer shall not exceed 0.075 lb/MMBtu.**

**D.8.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2]**

Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, **the Best Available Control Technology (PSD BACT) for VOC for the starch reactor system (SP46) and the starch dryer (SP49) shall be as follows:**

**(a) The VOC emissions from the starch reactor system (SP46) shall not exceed 1.0 lb per ten (10) hour period.**

**(b) To ensure that the fugitive VOC emissions from the starch reactor system (SP46) are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program.**

~~(b)~~**(c)** ~~Pursuant to 326 IAC 2-2-3 (PSD - BACT), the~~ **The** VOC emissions from the starch dryer **(SP49)** shall not exceed 1.0 pound per hour.

**Compliance with these requirements satisfies the requirements of 326 IAC 2-2-3.**

**D.8.4 Prevention of Significant Deterioration (PSD) ~~Minor Limit~~ - Best Available Control Technology for SO2 [326 IAC 2-2]**

~~(c) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, the SO2 emissions shall be limited as follows:~~

| ~~Facility (Control)~~ | ~~Stack~~ | ~~SO2 Limit (lb/hr)~~ |
|---|---|---|
| ~~Starch Dryer (SPC49)~~ | ~~SP49~~ | ~~0.02~~ |

~~Compliance with this limit will render the requirements of 326 IAC 2-2 not applicable.~~

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the starch dryer (SP49) shall be as follows:**

**(a) The SO2 emissions, when combusting biogas, shall not exceed 91.63 lb/MMCF and 4.58 lb/hr.**

**(b) The SO2 emissions, when combusting natural gas, shall not exceed 0.6 lb/MMCF and 0.02 lb/hr.**

**Compliance with these requirements satisfies the requirements of 326 IAC 2-2-3.**

~~D.8.2~~**D.8.5** Preventive Maintenance Plan [326 IAC 2-7-5(13)]

* * *

**Compliance Determination Requirements**

~~D.8.3~~ **D.8.6** Particulate Control

(a) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in order to comply with Condition D.8.1, the PM/PM10 emissions from the starch reactor liquid brine feed system, soda ash storage bin,~~ starch dryer,~~ **and** starch storage bin~~, starch loadout system nonfugitive control system, and starch loadout system fugitive control system~~ shall be controlled by bin vent collector SPC65, bin vent collector SPC64,~~ scrubber SPC49,~~ **and** bin vent collector SPC50~~, baghouse SPC44a, and dust collector SPC44b,~~ at all times when the associated facilities are in operation.

**(b) In order to comply with Condition D.8.1, the PM/PM10 emissions from the starch dryer, starch loadout system non-fugitive control system, and starch loadout system fugitive control system shall be controlled by scrubber SPC49, baghouse SPC44a, and dust collector SPC44b, at all times when the associated facilities are in operation.**

~~(b)~~**(c)** * * *

~~D.8.4~~ **D.8.7** Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Within **sixty (60) days after achieving maximum capacity, but not more than one hundred eighty (**180**)** days **after initial startup of the germ dryer, rotary germ cooler, and the corn gluten feed (CGF) dryer**~~ issuance of this Part 70 permit~~, in order to demonstrate compliance with Conditions D.8.1 **and D.8.2** the Permittee shall perform PM/PM10 and NOx testing for the starch dryer scrubber (SPC49) utilizing methods as approved by the Commissioner. **PM10 includes filterable and condensable PM10.** This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

(b) Within **sixty (60) days after achieving maximum capacity, but not more than one hundred eighty (**180**)** days **after initial startup of the germ dryer, rotary cooler, and the corn gluten feed (CGF) dryer**~~ issuance of this Part 70 permit~~, in order to demonstrate compliance with Condition**s** ~~D.8.1~~ **D.8.3(b) and D.8.4**, the Permittee shall perform VOC and SO2 testing for the starch dryer scrubber (SPC49) utilizing methods approved by the Commissioner.

Testing shall be conducted in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

~~D.8.5~~ **D.8.8** Scrubber Monitoring

* * *

~~D.8.6~~ **D.8.9** Baghouse/Collector Monitoring

(a) The Permittee shall record the pressure drop across the baghouse~~s~~ **(SPC44a)** and dust collector~~s~~ **(SPC44b)** used in conjunction with the ~~starch reactor liquid brine feed system,~~ starch loadout system nonfugitive control system, and starch loadout system fugitive control system at least once per day when the respective facilities are in operation.

(b) * * *

(c) * * *

~~D.8.7~~ **D.8.10** Visible Emissions Notations

* * *

~~D.8.8~~ **D.8.11** Broken or Failed Bag, **Bin Vent Filter, or Dust Collector** Detection

(a) For a single compartment baghouse, **bin vent filter, or dust collector** 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, **bin vent filter, or dust collector** 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 unit. 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, **filter, or collector** failure can be indicated by a significant drop in the baghouse's **or collector'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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

~~D.8.9~~ **D.8.12** Record Keeping Requirements

(a) To document compliance with Condition ~~D.8.2(a)(2)~~ **D.8.3(a)(2)**, the Permittee shall maintain a copy of the most recent version of the visual inspection and maintenance program and any supporting documentation.

(b) To document compliance with Conditions ~~D.8.5 and D.8.6~~ **D.8.8**, the Permittee shall maintain **daily** records of the readings required by those conditions. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

**(c) To document compliance with Condition D.8.9, the Permittee shall maintain daily records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).**

~~(c)~~**(d)** To document compliance with Condition ~~D.8.7~~ **D.8.10**, the Permittee shall maintain **daily** records of the visible emission notations required by that condition. 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).

**(e) To document compliance with Condition D.8.1, the Permittee shall maintain on file vendor guarantees of the grain loading in grain per standard cubic foot (gr/scf) for bin vent filters SPC65, SPC64, and SPC50.**

~~(d)~~**(f)** * * *

**Modification No. 10:**

The following revisions have been made to Section D.9:

- The Section D.9 - Facility Description box has been modified to reflect new emissions units and control devices.
- Former Condition D.9.1 - Prevention of Significant Deterioration, which specified that the maltrodextrin production process will be reviewed pursuant to 326 IAC 2-2-3 (PSD BACT), has been removed. This PSD Significant Source Modification (027-24380-00046) includes a PSD BACT determination for the affected units. Therefore, the requirements of the former Condition D.4.1 have been met and are no longer necessary.
- New Condition D.9.1 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 contains BACT for PM and PM10.
- New Condition D.9.2 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 contains BACT for SO2.
- New Condition D.9.3 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx contains BACT for NOx.
- New Conditions D.9.4 through D.9.11 contains the compliance determination and monitoring requirements, the record keeping requirements associated with BACT.

Section D.9 has been revised as follows:

**SECTION D.9 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(a)(13) One (1) maltodextrin production process, installed in March 2000, consisting of:

(A) * * *

(B) One (1) maltodextrin filtration system, consisting of:

(i) * * *

(ii) * * *

**(iii) One (1) filtration aid system, consisting of:**

***(a)*** **One (1) filter aid storage bin with a nominal design capacity of 100,000 pounds, storing filter aid that is fed to the Maltrin filtration system, with particulate emissions controlled by one (1) bin vent collector, identified as MPC60, with emissions exhausted through Stack MP60**.

***(b)*** **One (1) totally enclosed filter aid discharge conveyor system, delivering filter aid received from the filter aid storage bin to the maltodextrin filtration system.**

~~(iii)~~**(iv)** One (1) totally enclosed discharge conveyor system, conveying refined maltodextrin from the maltodextrin filter to the maltodextrin dryer at a nominal design rate of 42,900 pounds per hour;

(Continued on next page)

(Continued from prior page)

(C) * * *

(D) * * *

(E) * * *

(F) * * *

(G) * * *

(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 2-7-5(1)]

~~D.9.1 Prevention of Significant Deterioration [326 IAC 2-2]~~

~~Pursuant PSD CP 027-7239-00046, issued on June 10, 1997, the maltodextrin production process is subject to a number of 326 IAC 2-2 requirements. However, the maltodextrin production process has not been in operation since 2002. As a result, the Permittee is not allowed to operate the maltodextrin production process until this process is re-evaluated under 326 IAC 2-2 (Prevention of Significant Deterioration).~~

**D.9.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for PM and PM10 (including filterable and condensable PM10) shall be as follows:**

| Facility (Control) | Stack | PM Limit | PM10 Limit | Opacity |
|---|---|---|---|---|
| dry carbon storage bin (bin vent filter MPC61) | MP61 | 0.005 gr/dscf 0.03 lb/hr | 0.005 gr/dscf 0.03 lb/hr | 3% |
| maltrodextrin drying system (scrubber MPC39) | MP39 | 0.01 gr/dscf 9.58 lb/hr | 0.01 gr/dscf 9.58 lb/hr | N/A |
| filter aid storage bin (bin vent filter MPC60) | MP60 | 0.005 gr/dscf 0.03 lb/hr | 0.005 gr/dscf 0.03 lb/hr | 3% |
| maltrodextrin transfer system (baghouse MPC42) | MP42 | 0.005 gr/dscf 0.34 lb/hr | 0.005 gr/dscf 0.34 lb/hr | 3% |
| maltrodextrin storage bins (bin vent filters MPC44) | MP44 | 0.005 gr/dscf 0.009 lb/hr | 0.005 gr/dscf 0.009 lb/hr | 3% |
| maltrodextin loadout and screening process (dust collector MPC41) | MP41 | 0.005 gr/dscf 0.34 lb/hr | 0.005 gr/dscf 0.34 lb/hr | 3% |
| maltrodextrin central vacuum system (dust collector MPC43) | MP43 | 0.005 gr/dscf 0.02 lb/hr | 0.005 gr/dscf 0.02 lb/hr | 3% |

**D.9.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 for the maltrodextrin spray dryer (MP39) shall be no control and SO2 emissions shall not exceed 0.0006 lb/MMBtu.**

**D.9.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the maltrodextrin spray dryer (MP39) shall be no control and NOx emissions shall not exceed 0.06 lb/MMBtu.**

**D.9.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

**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.9.5 PM, PM10, and NOx Control**

**(a) In order to comply with Condition D.9.1, the dry carbon storage bin, maltrodextrin drying system, filter aid storage bin, maltrodextrin transfer system, maltrodextrin storage bins, maltrodextrin loadout and screening process, and maltrodextrin central vacuum system PM/PM10 emissions shall be controlled by bin vent filter MPC61, scrubber MPC39, bin vent filter MPC60, baghouse MPC42, bin vent filters MPC44, dust collector MPC41, and dust collector MPC43 at all times the respective facilities are in operation.**

**(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**

**D.9.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

**(a) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.9.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from scrubber MPC39, baghouse MPC42, and dust collectors MCP41 and 43 while the respective processes are in operation. PM10 includes filterable and condensable PM10. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner.**

**(b) Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.9.3, the Permittee shall perform NOx testing on the maltrodextrin dryer while the dryer is in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner.**

**Testing shall be conducted in accordance with Section C - Performance Testing.**

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

**D.9.7 Scrubber Monitoring**

(a) **The Permittee shall monitor the exhaust air stream pressure drop and scrubbant flow rate of scrubber MPC39 at least once per day when the respective scrubber is in operation.**

(b) **When for any one reading, the exhaust air stream pressure drop is outside the normal range of 4.0 and 12.0 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.**

(c) **When for any one reading, the scrubbant flow rate is less than 30 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. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.**

(d) **The instrument used for determining the pressure drop or 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.9.8 Baghouse/Collector Monitoring**

(a) **The Permittee shall record the pressure drop across the baghouse (MPC42) and dust collectors (MPC41 and MPC43) used in conjunction with the maltrodextrin transfer system, maltrodextrin loadout and screening processes, and the maltrodextrin central vacuum system at least once per day when the respective facilities are in operation.**

(b) **When for any one reading, the pressure drop is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.**

(c) **The instrument used for determining the pressure drop 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.9.9 Visible Emissions Notations**

(a) **Visible emission notations of the stack exhaust from the maltrodextrin production processes (stacks MP39, MP42, MP44, MP41, and MP43) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**

(b) **Visible emission notations of the stack exhaust from the maltrodextrin production processes (stacks MP60 and MPC61) shall be performed once per week during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**

**(c) 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.**

**(d) 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.**

**(e) 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.**

**(f) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.**

**D.9.10 Broken or Failed Bag, Bin Vent Filter, or Dust Collector Detection**

**(a) For a single compartment baghouse, bin vent filter, or dust collector 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, bin vent filter, or dust collector 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 unit. 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, filter, or collector failure can be indicated by a significant drop in the baghouse’s or collector'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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

**D.9.11 Record Keeping Requirements**

**(a) To document compliance with Condition D.9.7, the Permittee shall maintain daily records of the readings required by those conditions. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).**

**(b) To document compliance with Condition D.9.8, the Permittee shall maintain daily records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).**

**(c) To document compliance with Condition D.9.9, the Permittee shall maintain daily or weekly records of the visible emission notations required by that condition. The**

**Permittee shall include in its daily or weekly 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 or week).**

**(d) To document compliance with Condition D.9.1, the Permittee shall maintain on file vendor guarantees of the grain loading in grain per standard cubic foot (gr/scf) for bin vent filters MPC60 and MPC61.**

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

**Modification No. 11:**

Section D.10 has been added to the permit in order to incorporate the applicable requirements for the anaerobic wastewater treatment process.

Section D.10 has been added as follows:

**SECTION D.10 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

**(b) One (1) anaerobic wastewater treatment process, installed in March 2000, with H2S emissions controlled by a wet caustic scrubber, approved for construction in 2008, identified as UPC55, and equipped with an emergency flare, identified as UPC56.**

**Upon existing scrubber UPC55, the biogas can be:**

**(1) Combusted in one (1) 18 MMBtu/hr biogas flare, identified as UPC54, with all emissions exhausted through Stack UP54;**

**(2) Used as fuel in the germ dryer.**

**(3) Used as fuel in the gluten dryers.**

**(4) Used as fuel in the starch dryer.**

**(5) Used as fuel in thermal oxidizers FPC34a and FPC34b.**

**Supporting the wastewater treatment process is a wastewater treatment lime feed system, consisting of:**

**(6) One (1) storage bin, approved for construction in 2008, with a capacity of 30,000 pounds of lime per hour with particulate emissions controlled by one (1) bin vent filter, identified as UPC52, with emissions exhausted through stack UP52.**

**(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 2-7-5(1)]**

**D.10.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for H2S [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for H2S from biogas generation from the anaerobic digestion at the waste water treatment plant shall be 100% destruction of the H2S by combustion.**

**All biogas shall be combusted in one or more of the following combustion units:**

**(1) one 18 MMBtu/hr flare (UPC54)**
**(2) one (1) emergency flare (UPC56)**
**(3) one (1) germ dryer**
**(4) two (2) gluten dryers**
**(5) one (1) starch dryer**
**(6) thermal oxidizers FPC34a and FPC34b**

**Pursuant to PSD BACT for SO2, upon installation of the biogas gas scrubber, all biogas generated from anaerobic digestion at the waste water treatment plant will be scrubbed prior to combustion.**

**D.10.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for SO2 generated during combustion of biogas, shall be as follows:**

**(a) All biogas shall be controlled by wet caustic scrubber UPC55.**

**(b) The overall control efficiency for scrubber UPC55 (including the capture efficiency and adsorption efficiency) shall be at least 90% or the H2S outlet concentration shall not exceed 550 ppm.**

**(c) The H2S emissions from scrubber UPC55 shall not exceed 2.44 lbs/hr, which is equivalent to 4.58 lbs/hr of SO2 generated during combustion of biogas.**

**D.10.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for PM and PM10 emissions (including filterable and condensible PM10) from the lime storage bin and the emergency biogas flare shall be as follows:**

**PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:**

| Facility (Control) | Stack | PM Limit | PM10 Limit | Opacity |
|---|---|---|---|---|
| lime storage bin (bin vent filter SPC52) | SP52 | 0.005 gr/dscf 0.05 lb/hr | 0.005 gr/dscf 0.05 lb/hr | 3% |
| emergency biogas flare | UP56 | 0.0019 lb/MMBtu | 0.0019 lb/MMBtu | N/A |

**D.10.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for VOC emissions from the emergency biogas flare shall be at least 98% overall control efficiency of VOC.**

**D.10.5 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the emergency biogas flare (UPC56) shall be no control and NOx emissions shall not exceed 0.07 lb/MMBtu.**

**D.10.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

**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.10.7 Hydrogen Sulfide (H2S) and Sulfur Dioxide (SO2)**

**In order to comply with Conditions D.10.1 and D.10.2:**

**(a) Once installed, the scrubber (UPC55), used to prevent SO2 emissions by removing H2S from biogas, shall be in operation at all times when biogas is produced from anaerobic digestion at the waste water treatment plant and combusted in any one or more of the following emission units:**

**(1) one 18 MMBtu/hr flare (UPC54)**
**(2) one (1) germ dryer**
**(3) two (2) gluten dryers**
**(4) one (1) starch dryer**
**(5) thermal oxidizers FPC34a and FPC34b**

**(b) When the amount of the biogas produced by anaerobic digestion at the waste water treatment plant exceeds the capacities of the germ dryer, the gluten dryers, the starch dryer, thermal oxidizers FPC34a and FPC34b, and the main flare (UPC54), then the emergency flare (UPC56) shall operate to combust the biogas at all times when biogas may be vented to it.**

**(c) Whenever inspection or maintenance of the biogas scrubber (UPC55) or blowers occurs that requires biogas from the anaerobic digester be isolated to allow for maintenance to be performed safely, the biogas shall be vented to the emergency flare (UPC56).**

**(d) The Permittee shall measure on a daily basis the hydrogen sulfide content of the untreated biogas and the total amount of biogas treated by the scrubber (UPC55). Whenever the concentration of hydrogen sulfide exceeds 5500 ppm or the amount of biogas vented to the scrubber exceed 50,000 cubic feet per hour, the Permittee shall calculate an average hourly sulfur dioxide emission rate.**

**If the biogas is directed to the emergency flare (UPC56), the total amount of untreated biogas burned by the emergency flare (UPC56) shall be measured and used to calculate an average hourly daily sulfur dioxide emission rate.**

**D.10.8 Particulate Control**

(a) **In order to comply with Condition D.10.3, bin vent filter UPC52, used to control particulate emissions, shall be in operation at all times the storage bin is in operation.**

(b) **In the event that bag failure is observed in a multi-compartment bin vent filter, 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.10.9 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]**

**Within sixty (60) days after achieving maximum capacity, but not more than one hundred and eighty (180) days after startup of the biogas scrubber, in order to demonstrate compliance with Condition D.10.2 H2S testing on the inlet and outlet of the biogas scrubber (UPC55) shall be performed while biogas is venting to the scrubber. All hydrogen sulfide measured will be assumed to have been converted to sulfur dioxide in flares UPC54 and UPC56, the germ dryer, the gluten dryers, the CGF dryer, and the starch dryer, and in the thermal oxidizers FPC34a and FPC34b. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.**

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

**D.10.10 Flare Pilot Flame**

**The presence of a flare pilot flame (for flares UPC54 and UPC56) shall be monitored using a thermocouple, or any other equivalent device, to detect the presence of a flame.**

**D.10.11 Monitoring for Scrubber**

(a) **The Permittee shall monitor the scrubber pH of the scrubbing liquor at least once per day from scrubber UPC55 used to scrub the biogas from the anaerobic digestion process at the waste water treatment plant.**

(b) **A continuous monitoring system shall be operated at all times scrubber UPC55 is in operation. The monitoring system shall continuously measure and record the scrubber recirculation rate from scrubber UPC55 controlling emissions biogas emissions. If the pH reading is outside of the normal range, or 1-hr average flow rate is below the minimum flow rate for any one reading, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances.**

(1) **The normal pH range for Scrubber UPC55 is 9 to 11.5 or the range established during the latest stack test. The minimum 1-hr average flow rate for Scrubber UPC55 is 70 gpm or a minimum flow rate established during the latest stack test.**

(c) **A pH reading that is outside of the normal range, or 1-hr average flow rate that is below the minimum flow rate for any one reading 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) **The instruments used for determining the flow rate and pH shall comply with**

**Section C - Instrument Specifications of this permit, and shall be calibrated at least once every six (6) months. The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.**

**D.10.12 Visible Emissions Notations**

**(a) Visible emission notations of the stack exhaust from the lime storage bin (stack UP52) shall be performed once per week during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**

**(b) Visible emission notations of the stack exhaust from the emergency biogas flare stack (UP56) shall be performed once per day when the flare is in operation. A trained employee shall record whether emissions are normal or abnormal.**

**(c) 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.**

**(d) 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.**

**(e) 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.**

**(f) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.**

**D.10.13 Broken or Failed Bin Vent Filter Detection**

**(a) For a single compartment bin vent filter 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 bin vent filter 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 unit. 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).**

**Bin vent filter failure can be indicated by a significant drop in the filter'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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

**D.10.14 Record Keeping Requirements**

**(a) To document compliance with Condition D.10.1, the Permittee shall maintain:**

**(1) A log of the daily H2S content before the scrubber (UPC55), the total amount of the biogas generated and the total amount of biogas burned in the emergency flare (UPC56).**

**(2) Records of all calculations used to determine the SO2 emissions from the combustion of biogas in the emergency flare (UPC56).**

**(b) To document compliance with Condition D.10.3, the Permittee shall maintain on file vendor guarantees of the grain loading in grain per standard cubic foot (gr/scf) for bin vent filter UPC52.**

**(c) To document compliance with Condition D.10.11, the Permittee shall maintain records of the scrubber pH and scrubber's recirculation rate from scrubber UPC55**

**(d) To document compliance with Condition D.10.12(a), the Permittee shall maintain daily records of the visible emission notations required by that condition. The Permittee shall include in its weekly 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 week).**

**(e) To document compliance with Condition D.10.12(b), the Permittee shall maintain records of the visible emissions notations required by that condition.**

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

**Modification No. 12:**

The following revisions have been made to Section D.11 (former Section D.10):

- Former Condition D.10.1 - SO2 Emissions, which specified that emissions units that have potentially contributed to a violation of 326 IAC 2-2 (PSD) will be reviewed pursuant to 326 IAC 2-2-3 (PSD BACT), has been removed. This PSD Significant Source Modification (027-24380-00046) includes a PSD BACT determination for the affected units. Therefore, the requirements of the former Condition D.10.1 have been met and are no longer necessary.

- New Condition D.11.1 - Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 has been added to incorporate the new PSD BACT for SO2.

- Condition D.11.4 - Sulfur Dioxide Emissions and Sulfur Content for alcohol heads and by-product waste oil has been added in order to determine compliance with PSD BACT for SO2.

- The applicable requirements of 40 CFR Part 60, Subpart Db (New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units), which were included as part of Condition D.11.9 (former Condition D.10.8), have been removed from the permit, and are now incorporated by reference. 40 CFR 60 Subpart Db has been included, in it entirety, as Attachment C to the permit.

Section D.11 (former Section D.10) has been revised as follows:

**SECTION ~~D.10~~ D.11 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

(c) Two (2) natural gas or alcohol fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 244 MMBtu/hr, installed in March 2000, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

(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 2-7-5(1)]**

~~D.10.1 SO2 Emissions [326 IAC 2-2]~~

~~The IDEM, OAQ has information that indicates that the SO2 emissions from Boiler 1 and Boiler 2 have contributed to a violation of 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore, the Permit Shield provided in Section B of this permit does not apply to those emission units with regards to 326 IAC 2-2 (PSD). The OAQ will promptly reopen this permit using the provisions of 326 IAC 2-7-9 (Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 2-2.~~

**D.11.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]**

**Pursuant to 326 IAC 2-2-3, the Best Available Control Technology for SO2 for Boiler 1 and Boiler 2, shall be as follows:**

**(a) The SO2 emissions from each boiler shall not exceed 0.0006 lb/MMbtu when combusting natural gas.**

**(b) The Sulfur (S) content of the alcohol heads and by-product waste oil shall not exceed 6.9 ppm.**

**(c) The amount of alcohol heads and by-product waste oil combusted shall not exceed six hundred (600) gallons per hour.**

~~D.10.2~~**D.11.2** Prevention of Significant Deterioration (PSD) **-Best Available Control Technology** [326 IAC 2-2] [326 IAC 6-2-4]

Pursuant to 326 IAC 2-2**-3** and PSD CP 027-7239-00046, issued on June 10, 1997, **the Best Available Control Technology (PSD BACT) for Boiler 1 and Boiler 2 shall be as follows:** ~~the following requirements apply to Boiler 1 and Boiler 2:~~

(a) The PM/PM10 emissions from each boiler shall not exceed 2.44 pounds per hour.

(b) The NOx emissions shall not exceed 0.05 lb/MMBtu during periods of normal operation and 0.20 lb/MMBtu during periods of startup, shutdown, and malfunction.

(c) NOx emissions shall be controlled using a low NOx burner/flue gas recirculation system.

(d) The Permittee shall minimize the CO emissions through the use of combustion controls on each boiler. The controls will measure the oxygen content of the flue gas to determine the efficient operating conditions.

~~D.10.3~~**D.11.3** Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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.11.4 Sulfur Dioxide Emissions and Sulfur Content for alcohol heads and by-product waste oil**

**(a) The Permittee shall demonstrate that the alcohol heads and by-product waste oil sulfur content does not exceed six and nine-tenths parts per million by weight (6.9 ppm), in accordance with 326 IAC 3-7-4(a).**

**(b) Prior to combusting alcohol heads and by-product waste oil contained in the vertical burn tank, identified as Tank AP94, a sample shall be collected and analyzed according the following:**

**(1) Sampling shall occur when the tank has been refilled since the prior sampling event.**

**(2) Sampling shall occur whenever the elapsed time since the prior sampling event is greater than one (1) month.**

**(c) A determination of noncompliance shall not be refuted by evidence of compliance pursuant to any other method.**

~~D.11.4~~**D.11.5** NOx and CO Control

(a) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in order to comply with Condition D.11.2(b), the flue gas recirculation system, used to control NOx emissions, shall be in operation at all times Boiler 1 or Boiler 2 is in operation.

(b) Pursuant to PSD CP 027-7239-00046, issued on June 10, 1997, and in order to comply with Condition D.11.2(b), the combustion controls, used to minimize CO emissions, shall be in operation at all times Boiler 1 or Boiler 2 is in operation. The controls will measure the oxygen content of the flue gas to determine the efficient operating conditions.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

~~D.11.5~~**D.11.6** Continuous Emissions Monitoring [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5, continuous emission monitoring systems (CEMS) for Boiler 1 and Boiler 2 shall be installed, calibrated, maintained, and operated for measuring NOx and O2 which meet all applicable performance specifications of 326 IAC 3-5-2.

(b) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(c) Pursuant to 326 IAC 3-5-4, if revisions are made to the continuous monitoring standard operating procedures (SOP), the Permittee shall submit updates to the department biennially.

(d) Relative accuracy tests and routine quarterly audits shall be performed in accordance with the contents of the standard operating procedures (SOP) pursuant to 326 IAC 3-5-5.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5 and 40 CFR Part 60.

**D.11.7 Visible Emissions Notations**

**(a) Visible emission notations of the boiler's stack exhaust shall be performed once per day during normal daylight operations when exhausting to the atmosphere when combusting alcohol waste and by-product waste oil. 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.**

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

~~D.11.6~~**D.11.8** Record Keeping Requirements

**(a) To document compliance with Condition D.11.1, the Permittee shall maintain records in accordance with (1) and (2) below.**

**(1) Dates and results of analyzed samples.**

**(2) Actual alcohol heads and by-product waste oil combusted on an hourly basis.**

~~(a)~~**(b)** To document compliance with Condition ~~D.10.5~~ **D.11.6**, the Permittee shall maintain records of the continuous emission monitoring data for NOx and O2 in accordance with 326 IAC 3-5.

**(c) To document compliance with Condition D.11.7, the Permittee shall maintain records of daily visible emission notations of the boiler's stack exhaust when combusting alcohol heads and by-product waste oil.**

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

**D.11.9 Natural Gas Certification**

**The natural gas Boiler 4 certification form will document compliance with condition D.11.1 when the Boilers 1 and 2 are burning natural gas. The certification form shall be submitted quarterly to the address listed in Section C - General Reporting Requirements of this permit.**

**New Source Performance Standards (NSPS) Requirements – 40 CFR Part 60, Subpart Db [326 IAC 2-7-5(1)]**

~~D.10.7~~**D.11.10** General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR Part 60, Subpart Db, 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 Boiler 1 and Boiler 2 except as otherwise specified in 40 CFR Part 60, Subpart Db.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

~~D.10.8~~**D.11.11** New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units: Requirements [40 CFR Part 60, Subpart Db]

Pursuant to 40 CFR 60.40b, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart Db for Boiler 1 and Boiler 2 as specified as follows:

**(1) 40 CFR 60.40b(a)**
**(2) 40 CFR 60.40b(g)**
**(3) 40 CFR 60.40b(j)**
**(4) 40 CFR 60.40b(k)**
**(5) 40 CFR 60.44b(a)**
**(6) 40 CFR 60.44b(f)**
**(7) 40 CFR 60.44b(h)**
**(8) 40 CFR 60.44b(i)**
**(9) 40 CFR 60.44b(l)**
**(10) 40 CFR 60.46b(c)**
**(11) 40 CFR 60.46b (e)(1)**
**(12) 40 CFR 60.46b (e)(4)**
**(13) 40 CFR 60.48b(b)**
**(14) 40 CFR 60.48b(c)**
**(15) 40 CFR 60.48b(d)**
**(16) 40 CFR 60.48b (e)(2)**
**(17) 40 CFR 60.49b(a)**
**(18) 40 CFR 60.49b(b)**
**(19) 40 CFR 60.49b(c)**
**(20) 40 CFR 60.49b(d)**
**(21) 40 CFR 60.49b(g)**
**(22) 40 CFR 60.49b (h)(2)**
**(23) 40 CFR 60.49b(i)**
**(24) 40 CFR 60.49b(j)**
**(25) 40 CFR 60.49b(o)**
**(26) 40 CFR 60.49b(v)**
**(27) 40 CFR 60.49b(w)**

*The applicable requirements of 40 CFR 60 Subpart Db have been deleted from the permit.*

**Modification No. 13:**

The original Section D.11 is now Section D.12. No other changes have been made to the original Section D.11.

**Modification No. 14:**

The original Section D.12 is now Section D.13. No other changes have been made to the original Section D.12.

**Modification No. 15:**

The original Section D.13 has been deleted in its entirety as shown below:

**~~SECTION D.13 FACILITY OPERATION CONDITIONS~~**

| |
|---|
| **~~Facility Description [326 IAC 2-7-5(15)]: Entire Source~~**<br><br>~~All facilities used to process corn, a corn product or a derivative thereof.~~<br><br>~~(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 2-7-5(1)]~~**

~~D.13.1 SO2 Emissions [326 IAC 2-2]~~

~~The IDEM, OAQ has information that indicates that the SO2 emissions from various emission units located at the source have contributed to a violation of 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore, the Permit Shield provided in Section B of this permit does not apply to those emission units with regards to 326 IAC 2-2 (PSD). The OAQ will promptly reopen this permit using the provisions of 326 IAC 2-7-9 (Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 2-2 (PSD) and a schedule for achieving compliance with such requirements once this issue has been thoroughly reviewed.~~

**Modification No. 16:**

The applicable requirements of 40 CFR 60 Subpart VV (New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry) for which Construction, Reconstruction, or Modification Commenced after January 5, 1981, and on or Before November 7, 2006, which were included as part of Condition E.1.2, have been removed from the permit, and are now incorporated by reference. 40 CFR 60 Subpart VV has been included, in its entirety, as Attachment E to the permit.

A list of the applicable requirements of 40 CFR 60 Subpart VV have been added to Condition E.1.2 as follows:

E.1.2 New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry: Requirements [40 CFR Part 60, Subpart VV]

Pursuant to 40 CFR 60.480, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart VV for tanks for all affected facilities as specified as follows:

**(1) 40 CFR 60.480**
**(2) 40 CFR 60.481**
**(3) 40 CFR 60.482-1**

**(4) 40 CFR 60.482-2**
**(5) 40 CFR 60.482-3**
**(6) 40 CFR 60.482-4**
**(7) 40 CFR 60.482-5**
**(8) 40 CFR 60.482-6**
**(9) 40 CFR 60.482-7**
**(10) 40 CFR 60.482-8**
**(11) 40 CFR 60.482-9**
**(12) 40 CFR 60.482-10**
**(13) 40 CFR 60.483-1**
**(14) 40 CFR 60.483-2**
**(15) 40 CFR 60.485**
**(16) 40 CFR 60.486**
**(17) 40 CFR 60.437**

*The applicable requirements of 40 CFR 60 Subpart VV have been deleted from the permit.*

**Modification No. 17:**

The applicable requirements of 40 CFR 60 Subpart VVa (New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry) for which Construction, Reconstruction, or Modification Commenced after November 7, 2006, have been incorporated into the permit as new Section E.2 (the former Section E.2 is now Section E.3). 40 CFR 60 Subpart VVa has been included, in its entirety, as Attachment F to the permit.

**SECTION E.2 FACILITY OPERATION CONDITIONS**

| |
|---|
| **Facility Description [326 IAC 2-7-5(15)]:**<br><br>**All facilities subject to 40 CFR Part 60, Subpart VVa - including pumps, compressors, pressure relief devices, sampling connection systems, and valves.**<br><br>**(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 – 40 CFR Part 60, Subpart VV [326 IAC 2-7-5(1)]**

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

**(a) Pursuant to 40 CFR Part 60, Subpart VVa, 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 Part 60, Subpart VVa.**

**(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:**

**Indiana Department of Environmental Management**
**Compliance 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 for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced after November 7, 2006: Requirements [40 CFR Part 60, Subpart VVa]**

**Pursuant to 40 CFR 60.480a, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart VVa for tanks for all affected facilities as specified as follows:**

**(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 60.484a**
**(17) 40 CFR 60.485a**
**(18) 40 CFR 60.486a**
**(19) 40 CFR 60.487a**
**(20) 40 CFR 60.488a**
**(21) 40 CFR 60.489a**

**Modification No. 18:**

The applicable requirements of 40 CFR 63 Subpart EEEE (National Emission Standards for Hazardous Air Pollutants - Organic Liquids Distribution), which were included as part of Condition E.3.2 (formerly E.2.2), have been removed from the permit, and are now incorporated by reference. 40 CFR 63 Subpart EEEE has been included, in its entirety, as Attachment G to the permit. Additionally, the former Section E.2 has been renumbered as Section E.3.

A list of the applicable requirements of 40 CFR 63 Subpart EEEE have been added to Condition E.3.2 as follows:

E.3.2 National Emission Standards for Hazardous Air Pollutants - Organic Liquids Distribution: Requirements [40 CFR Part 63, Subpart EEEE]

Pursuant to 40 CFR 63.2342, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart EEEE for all affected facilities as specified as follows on and after February 2, 2007:

**(1) 40 CFR 63.2330**
**(2) 40 CFR 63.2334**
**(3) 40 CFR 63.2338**
**(4) 40 CFR 63.2342**
**(5) 40 CFR 63.2343**
**(6) 40 CFR 63.2346**
**(7) 40 CFR 63.2350**
**(8) 40 CFR 63.2354**
**(9) 40 CFR 63.2358**
**(10) 40 CFR 63.2362**
**(11) 40 CFR 63.2366**

**(12) 40 CFR 63.2370**
**(13) 40 CFR 63.2374**
**(14) 40 CFR 63.2378**
**(15) 40 CFR 63.2382**
**(16) 40 CFR 63.2386**
**(17) 40 CFR 63.2390**
**(18) 40 CFR 63.2394**
**(19) 40 CFR 63.2396**
**(20) 40 CFR 63.2398**
**(21) 40 CFR 63.2402**
**(22) 40 CFR 63.2406**

**Table 1 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 2 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 3 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 4 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 5 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 6 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 7 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 8 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 9 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 10 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 11 to 40 CFR 63 Subpart EEEE (the applicable portions)**
**Table 12 to 40 CFR 63 Subpart EEEE (the applicable portions)**

*The applicable requirements of 40 CFR 63 Subpart EEEE have been deleted from the permit.*

**Modification No. 19: Reporting Forms Revisions:**

The following revisions have been made to the reporting forms located at the end of the permit:

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

## Part 70 Quarterly Report

| | |
|---|---|
| Source Name: | Grain Processing Corporation |
| Source Address: | 1443 South 300 West, Washington, IN 47501 |
| Mailing Address: | 1443 South 300 West, Washington, IN 47501 |
| **PSD/SSM No.:** | **027-24380-00046** |
| **SPM No.:** | **027-24979-00046** |
| Part 70 Permit No.: | T027-14200-00046 |
| Facility: | Regenerative Thermal Oxidizers FPC34a and FPC34b |
| Parameter: | ~~Amount of biogas and natural gas combusted~~ **SO2 emissions from natural gas and/or biogas combusted** |
| Limit: | ~~The total amount of biogas combusted shall not exceed 126 million cubic feet (MMCF) per (12) twelve consecutive month period with compliance determined at the end of each month. For every one (1) MMCF of natural gas greater than 90 MMCF combusted by FPC34a and FPC34b, the biogas combustion limit shall be reduced by 1.81 MMCF.~~ **SO2 emissions shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the** |

**end of each month.**

QUARTER : YEAR:

| ~~Month~~ | ~~Biogas Combustion~~ | | ~~Natural Gas (NG) Combustion~~ | | ~~BG~~ | ~~NG~~ |
|---|---|---|---|---|---|---|
| | ~~This Month~~ | ~~Previous 11 Months~~ | ~~This Month~~ | ~~Previous 11 Months~~ | ~~12 Month Total~~ | ~~12 Month Total~~ |
| ~~1~~ | | | | | | |
| ~~2~~ | | | | | | |
| ~~3~~ | | | | | | |

| **Month** | **SO2 (tons)** | **SO2 (tons)** | **SO2 (tons)** |
|---|---|---|---|
| | **This Month** | **Previous 11 Months** | **12 Month Total** |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: ____________________
Title / Position: ____________________
Signature: ____________________
Date: ____________________
Phone: ____________________

Attach a signed certification to complete this report.

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

## Part 70 Quarterly Report

**Source Name:** Grain Processing Corporation
**Source Address:** 1443 South 300 West, Washington, IN 47501
**Mailing Address:** 1443 South 300 West, Washington, IN 47501
**PSD/SSM No.:** 027-24380-00046
**SPM No.:** 027-24979-00046
**Part 70 Permit No.:** T027-14200-00046
**Facility:** Regenerative Thermal Oxidizers FPC34a and FPC34b
**Parameter:** NOx emissions from natural gas and/or biogas combusted
**Limit:** NOx emissions shall not exceed forty-three (43) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

**QUARTER :** **YEAR:**

| Month | NOx (tons) | NOx (tons) | NOx (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ **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.**

**Proposed Changes Subsequent to the Initial Public Notice (April 26, 2008)**

On April 26, 2008, the Office of Air Quality (OAQ) had a notice published in the Washington Times Herald, Washington, Indiana, stating that Grain Processing Corporation had applied for a significant modification to its Part 70 Operating Permit No. T027-14200-00046. Additional changes have been made to the Part 70 Operating Permit No. T027-14200-00046 subsequent to the April 26, 2008, public notice.

The proposed changes listed below have been made to Part 70 Operating Permit No. T027-14200-00046. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Additional Change No. 1:

Testing is required within 60 days after achieving maximum capacity, but no later than 180 days after startup of new or modified equipment. Testing Conditions D.2.4, D.3.5 (formerly D.3.4), D.4.8 (formerly D.4.5), D.7.5, and D.8.7 (formerly D.8.4), as public noticed on April 26, 2008, did not clearly address what new or modified units triggered the testing period. Therefore, these conditions have been revised to more clearly define the beginning of the testing period.

On July 15$^{th}$ 2008 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) was effective. Pursuant to this rule revision, IDEM will continue to evaluate condensable PM for NSR permits and set limits for filterable and condensable PM10/PM2.5. However, IDEM will not require compliance demonstration until after the publication of a new or revised condensable test method (consistent with the "transition period" established by the U. S. EPA in this rulemaking). Testing Conditions D.1.4, D.3.5 (formerly D.3.4), D.4.8 (formerly D.4.5), D.5.4, D.6.6, D.8.7, and D.9.6, which require PM10 testing, have been revised to reflect the new time period.

The following changes have been made to Part 70 Operating Permit No. 027-14200-00046.

D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) During the period within **sixty (**60**)** days of achieving the maximum production rate but no later than **one hundred eighty (**180**)** days after start-up of Silo F, in order to demonstrate compliance with Condition D.1.1~~(b)(1)~~, the Permittee shall perform PM ~~and PM10~~ testing on the stack exhaust from baghouse FPC05 when ~~Silo F is in operation~~ **the corn cleaning process, and the storage and conveyance system is in operation**. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. ~~PM10 includes filterable and condensable PM10.~~ Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**(b) In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM10 testing on the stack exhaust from baghouse FPC05 when the corn cleaning process, and the storage and conveyance system is in operation. Testing shall be performed within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after startup of Silo F, 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 test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

~~(b)~~**(c)** Within **one hundred eighty (**180**)** days after issuance of ~~this Part 70 permit~~ **Significant Permit Modification No. 027-24979-00046**, in order to demonstrate compliance with Condition D.1.1~~(a)~~, the Permittee shall perform PM ~~and PM10~~ testing on the stack exhaust from baghouse CPC01 when the unloading and storage process is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. ~~PM10 includes filterable and condensable PM10.~~ Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**(d) In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM10 testing on the stack exhaust from baghouse CPC01 when the unloading and storage process is in operation. Testing shall be performed 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. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing . PM10 includes filterable and condensable PM.**

**D.2.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]**

**Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of two (2) additional steep tanks, in order to demonstrate compliance with Condition D.2.1, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for caustic wet scrubber FPC06 when the corn steeping process is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

~~D.3.4~~**D.3.5** Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

~~Within 180 days after issuance of this Part 70 permit, the Permittee shall perform SO2 and particulate testing for scrubber FPC27 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.~~

**(a) Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the new gluten tank and new filter press at the milling area, in order to demonstrate compliance with Conditions D.3.1 and D.3.2(a), the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency), and PM testing for caustic wet scrubber FPC07 when the mill area processes are in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

**(b) In order to demonstrate compliance with Condition D.3.1, the Permittee shall perform PM10 testing for caustic wet scrubber FPC07 when the mill area processes are in operation. Testing shall be performed within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the new gluten tank and new filter press at the milling area, 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 test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

**(c)** **Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the two (2) new gluten filter presses and starch tank at the feed area, in order to demonstrate compliance with Conditions D.3.1 and D.3.2(b), the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency), and PM testing for caustic wet scrubber FPC27 when the feed area processes are in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

**(d)** **In order to demonstrate compliance with Condition D.3.1, the Permittee shall perform PM10 testing for caustic wet scrubber FPC27 when the feed area processes are in operation. PM10 testing shall be performed within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, and the two (2) new gluten filter presses and starch tank at the feed area, 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. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

~~D.4.5~~**D.4.8** Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) ~~No later than 180 days after startup of the FPC34a and FPC34b~~ **Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer**, in order to demonstrate compliance with the limits of Condition**s D.4.1 and** D.4.2, the Permittee shall perform PM/~~PM10,~~ **and** VOC~~, SO2, and NOx~~ testing for thermal oxidizers FPC34a and FPC34b, utilizing methods approved by the Commissioner. Each thermal oxidizer shall be tested individually while the corn gluten feed **dryer**, **one (1)** gluten **dryer,** and the germ dryer~~s~~ are operating at maximum capacity. ~~PM10 includes filterable and condensable PM10.~~ These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted in accordance with Section C - Performance Testing.

~~(b) Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Condition D.4.2, the Permittee shall perform VOC testing for thermal oxidizer FPC23 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test~~

**(b)** **In order to demonstrate compliance with Condition D.4.1, the Permittee shall perform PM10 testing for thermal oxidizers FPC34a and FPC34b. Each thermal oxidizer shall be tested individually while the corn gluten feed dryer, one (1) gluten dryer, and the germ dryer~~s~~ are operating at maximum capacity. Testing shall be performed within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, 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. These test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

**(c)** **Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, in order to demonstrate compliance with Condition D.4.4, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for scrubbers FPC12 and FPC13, and condensing tower FPC17. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

~~(c)~~**(d)** Within **one hundred eighty (**180**)** days after issuance of ~~this Part 70 permit~~ **Significant Permit Modification No. 027-24979-00046**, **in order to demonstrate compliance with Condition D.4.1,** the Permittee shall perform PM~~/PM10~~ testing for baghouses **FPC10, FPC18, FPC19,** FPC14 and FPC20 utilizing methods approved by the Commissioner. ~~PM10 includes filterable and condensable PM10~~. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted in accordance with Section C - Performance Testing.

**(e)** **In order to demonstrate compliance with Condition D.4.1, the Permittee shall perform PM10 testing for baghouses FPC10, FPC18, FPC19, FPC14 and FPC20, 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. These test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

~~(d) Within 180 days after issuance of this Part 70 permit, the Permittee shall perform VOC testing for scrubber APC40 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.~~

**(f)** **Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.4.5, the Permittee shall perform NOx testing for thermal oxidizers FPC34a and FPC34b. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall**

**be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

**(g)** **Within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup of the new gluten dryer and the flue gas recirculation system for the CGF dryer, in order to demonstrate compliance with Condition D.4.3, the Permittee shall perform NOx testing for germ drying system, the gluten dryers, and the CGF dryer. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

D.5.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**(a)** Within **one hundred eighty (**180**)** days after issuance of ~~this~~ Part 70 permit **T027-14200-00046**, in order to demonstrate compliance with Condition D.5.1, the Permittee shall perform PM ~~and PM10~~ testing on the stack exhaust from cyclone FPC24 when the pellet cooler is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test~~. PM10 includes filterable and condensable PM10.~~ Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**(b)** **In order to demonstrate compliance with Condition D.5.1, the Permittee shall perform PM10 testing on the stack exhaust from cyclone FPC24 when the pellet cooler is in operation. Testing shall be performed 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. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

D.6.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**(a)** Within **one hundred eighty (**180**)** days after issuance of ~~this Part 70 permit~~ **Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.6.1**, the Permittee shall perform PM~~/PM10~~ testing for baghouse FPC26 utilizing methods approved by the Commissioner~~. PM10 includes filterable and condensable PM10.~~ This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. **Testing shall be conducted in accordance with Section C - Performance Testing.**

**(b)** **In order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM10 testing on the stack exhaust from baghouse FPC26 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. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

**(c)** **Within sixty (60) days of reaching maximum capacity, but not more than one hundred eighty (180) days after startup of the feed loadout vacuum system, in order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM**

**testing on the stack exhaust from baghouse FPC33 when the feed loadout vacuum system is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

**(d)** **In order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM10 testing on the stack exhaust from baghouse FPC33 when the feed loadout vacuum system is in operation. Testing shall be performed within sixty (60) days of reaching maximum capacity, but not more than one hundred eighty (180) days after startup of the feed loadout vacuum system, 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 test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

D.7.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within **sixty (60) days after achieving maximum capacity, but not more than** one hundred eighty **(**180**)** days **after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area**~~ issuance of this Part 70 permit~~, in order to demonstrate compliance with Condition ~~D.7.2(a)~~ **D.7.1**, the Permittee shall perform VOC testing **(including adsorption efficiency or outlet concentration, and emission rate and capture efficiency)** for scrubbers APC28, APC29, APC32, APC95, APC96 and APC35 utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. **Testing shall be conducted in accordance with Section C - Performance Testing.**

(b) Within **sixty (60) days after achieving maximum capacity, but not more than** one hundred eighty **(**180**)** days after **initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area,** in order to demonstrate compliance with Condition D.7.2~~(b)~~, the. Permittee shall perform SO2 testing **(including adsorption efficiency or outlet concentration, and emission rate and capture efficiency)** for the flash cooler vent condenser system **(APC31)** utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

~~D.8.4~~**D.8.7** Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Within **sixty (60) days after achieving maximum capacity, but not more than one hundred eighty (**180**)** days **after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area**~~ issuance of this Part 70 permit~~, in order to demonstrate compliance with Conditions D.8.1 **and D.8.2,** the Permittee shall perform PM~~/PM10~~ and NOx testing for the starch dryer scrubber (SPC49). ~~utilizing methods as approved by the Commissioner.~~ These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted **utilizing methods as approved by the Commissioner and** in accordance with Section C - Performance Testing.

**(b)** **In order to demonstrate compliance with Condition D.8.1, the Permittee shall perform PM10 testing for the starch dryer scrubber. Testing shall be performed within sixty (60) days of reaching maximum capacity, but not more than one hundred eighty (180) days after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area, 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 test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

~~(b)~~**(c)** Within **sixty (60) days after achieving maximum capacity, but not more than one hundred eighty (**180**)** days **after initial startup of the two (2) additional steep tanks at the steep area, the new gluten tank and new filter press at the milling area, and the two (2) new gluten filter presses and starch tank at the feed area** ~~issuance of this Part 70 permit~~, in order to demonstrate compliance with Condition**s** ~~D.8.1~~ **D.8.3(b) and D.8.4**, the Permittee shall perform VOC and SO2 testing for the starch dryer scrubber (SPC49). **Testing shall be conducted** utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.

**D.9.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

**(a)** **Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.9.1, the Permittee shall perform PM testing on the stack exhaust from scrubber MPC39, baghouse MPC42, and dust collectors MCP41 and 43 while the respective processes are in operation. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

**(b)** **In order to demonstrate compliance with Condition D.9.1, the Permittee shall perform PM10 testing on the stack exhaust from scrubber MPC39, baghouse MPC42, and dust collectors MCP41 and 43 while the respective processes are in operation. Testing shall be performed 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. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.**

**(c)** **Within one hundred eighty (180) days after issuance of Significant Permit Modification No. 027-24979-00046, in order to demonstrate compliance with Condition D.9.3, the Permittee shall perform NOx testing on the maltrodextrin dryer while the dryer is in operation. This test shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test. Testing shall be conducted utilizing methods approved by the Commissioner and in accordance with Section C - Performance Testing.**

Additional Change No. 2:

Condition D.10.11, as public noticed on April 26, 2008, establishes a 1-hr average recirculation rate and a pH range for scrubber UPC55. The source can not be certain of the recirculation rate or pH range that will be recommended by the manufacturer upon completion of installation of the scrubber. In order to accommodate the uncertainty of these parameters, the following change has been made to Part 70 Operating Permit No. 027-14200-00046.

**D.10.11 Monitoring for Scrubber**

(a) **The Permittee shall monitor the scrubber pH of the scrubbing liquor at least once per day from scrubber UPC55 used to scrub the biogas from the anaerobic digestion process at the waste water treatment plant.**

(b) **A continuous monitoring system shall be operated at all times scrubber UPC55 is in operation. The monitoring system shall continuously measure and record the scrubber flow rate from scrubber UPC55 controlling biogas emissions. The output of this system shall be recorded as a 1-hr average.**

(c) **If the pH reading is outside of the normal range, or 1-hr average flow rate is below the minimum flow rate for any one reading, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances.**

(1) **The normal pH range for Scrubber UPC55 is 9 to 11.5, a pH range recommended by the manufacturer, or a pH range established during the latest stack test.**

(2) **The minimum 1-hr average flow rate for Scrubber UPC55 is 70 gpm, a minimum flow rate recommended by the manufacturer, or a minimum flow rate established during the latest stack test.**

(d) **A pH reading that is outside of the normal range, a pH range recommended by the manufacturer, or a pH range established during the latest stack test; or a 1-hr average flow rate that is below the normal minimum flow rate, a minimum flow rate recommended by the manufacturer, or a minimum flow rate established during the latest stack test for any one reading 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.**

(e) **The instruments used for determining the flow rate and pH shall comply with Section C - Instrument Specifications of this permit, and shall be calibrated at least once every six (6) months. The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.**

Additional Change No. 3:

Condition D.11.9 as public noticed on April 26, 2008, does not address the reporting requirements under 326 IAC 3-5. In order to address reporting required under 326 IAC 3-5, the following change has been made to the Part 70 Operating Permit No. 027-14200-00046.

D.11.9 **Reporting Requirements**

(a) The natural gas Boiler 4 certification form will document compliance with condition D.11.1 when the Boilers 1 and 2 are burning natural gas. The certification form shall be submitted quarterly to the address listed in Section C - General Reporting Requirements of this permit.

**(b) The Permittee shall submit reports in accordance 326 IAC 3-5.**

**The reports submitted by the Permittee do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).**

Additional Change No. 4:

Conditions D.4.16 (formerly D.4.13), D.5.6, D.8.12 (formerly D.8.9), D.9.11, and D.10.14, as public noticed on April 26, 2008, require the source to maintain on file vendor guarantees of grain loading for bin vent filters. Upon further consideration IDEM, OAQ, has determined that this requirement is not necessary. Therefore, the following changes have been made to Part 70 Operating Permit No. 027-14200-00046.

~~D.4.13~~**D.4.16** Record Keeping Requirements

(a) To document compliance with Condition ~~D.4.2(e)~~ **D.4.5**, the Permittee shall maintain records of the amount of biogas and natural gas combusted by FPC34a and FPC34b.

~~(b) To document compliance with Condition D.4.5, the Permittee shall maintain records of the results from testing required by that condition.~~

**(b) To document compliance with Condition D.4.9 the Permittee shall maintain continuous temperature records for each thermal oxidizer and the 3-hour average temperature used to demonstrate compliance during the most recent stack test.**

~~(c) To document compliance with Conditions D.4.6~~ ~~**D.4.8**~~ ~~through D.4.10~~ ~~**D.4.12**~~~~, the Permittee shall maintain records of the operating parameters required by those conditions. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).~~

**(c) To document compliance with Condition D.4.10(a) the Permittee shall maintain continuous temperature records for each condenser and the 3-hour average temperature used to demonstrate compliance during the most recent stack test.**

**(d) To document compliance with Condition D.4.10(b) the Permittee shall maintain daily records of the supply water pressure readings required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).**

**(e) To document compliance with Condition D.4.11, the Permittee shall maintain daily records of the duct pressure or fan amperage for each of the thermal oxidizers readings required by that condition. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).**

**(f) To document compliance with Condition D.4.12, the Permittee shall maintain daily records of the pH of the scrubbing liquid, exhaust air stream pressure drop, and pump discharge pressure readings required by that condition. The Permittee shall**

**include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).**

**(g)** **To document compliance with Condition D.4.13, the Permittee shall maintain daily records of the pressure drop readings required by that condition. 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).**

~~(d)~~**(h)** To document compliance with Condition ~~D.4.11~~ **D.4.14**, the Permittee shall maintain **daily** records of the visible emission notations required by that condition. 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).

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

D.5.6 Record Keeping Requirements

(a) To document compliance with Condition D.5.5, the Permittee shall maintain **daily** records of the visible emission notations required by that condition. 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) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

~~D.8.9~~**D.8.12** Record Keeping Requirements

(a) To document compliance with Condition ~~D.8.2(a)(2)~~ **D.8.3(a)(2)**, the Permittee shall maintain a copy of the most recent version of the visual inspection and maintenance program and any supporting documentation.

(b) To document compliance with Conditions ~~D.8.5 and D.8.6~~ **D.8.8**, the Permittee shall maintain **daily** records of the readings required by those conditions. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).

**(c)** **To document compliance with Condition D.8.9, the Permittee shall maintain daily records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).**

~~(c)~~**(d)** To document compliance with Condition ~~D.8.7~~ **D.8.10**, the Permittee shall maintain **daily** records of the visible emission notations required by that condition. 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).

~~(d)~~**(e)** * * *

**D.9.11 Record Keeping Requirements**

**(a)** **To document compliance with Condition D.9.7, the Permittee shall maintain daily records of the readings required by those conditions. The Permittee shall include in its daily record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day).**

**(b) To document compliance with Condition D.9.8, the Permittee shall maintain daily records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).**

**(c) To document compliance with Condition D.9.9, the Permittee shall maintain daily or weekly records of the visible emission notations required by that condition. The Permittee shall include in its daily or weekly 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 or week).**

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

**D.10.14 Record Keeping Requirements**

**(a) To document compliance with Condition D.10.1, the Permittee shall maintain:**

**(1) A log of the daily H2S content before the scrubber (UPC55), the total amount of the biogas generated and the total amount of biogas burned in the emergency flare (UPC56).**

**(2) Records of all calculations used to determine the SO2 emissions from the combustion of biogas in the emergency flare (UPC56).**

**(b) To document compliance with Condition D.10.11, the Permittee shall maintain records of the scrubber pH and scrubber's recirculation rate from scrubber UPC55**

**(c) To document compliance with Condition D.10.12(a), the Permittee shall maintain daily records of the visible emission notations required by that condition. The Permittee shall include in its weekly 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 week).**

**(d) To document compliance with Condition D.10.12(b), the Permittee shall maintain records of the visible emissions notations required by that condition.**

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

Additional Change No. 5:

Grain Processing Corporation (GPC) submitted a application for a PSD/Part 70 Operating Permit (No. T027-14200-00046) on March 15, 2001. As part of the application, GPC requested that BACT for the pre-fermentation and fermentation system be re-evaluated. On November 17, 2003, the Office of Air Quality (OAQ) had a notice published in the Washington Times Herald, Washington, Indiana, stating that Grain Processing Corporation had applied for a PSD/Part 70 Operating permit for a stationary corn wet milling plant. Included in the documents available for public comment was the considered BACT for VOC for pre-fermentation and fermentation systems.

The pre-fermentation and fermentation systems are equipped with wet scrubbers, installed prior to 2001, for control of VOC emissions, and the systems will not experience a change in the method of operations or an increase in emissions due to this modification (PSD/SSM 027-24380-00046) that would require BACT, as public noticed in November of 2003, be revised. Therefore, IDEM, OAQ has determined the BACT should be as established during the 2001-2003 time period.

In order to reflect the BACT for pre-fermentation and fermentation systems, based on the above considerations, Condition D.7.1 (formerly D.7.2), has been revised. Additionally, Attachment A of the TSD (calculations) and Attachment B of the TSD (BACT Analysis) have been revised.

The following change has been made to Condition D.7.1 (formerly D.7.2) of the Part 70 Operating Permit No. 027-14200-00046.

~~D.7.2~~**D.7.1** Prevention of Significant Deterioration (PSD) **- Best Available Control Technology for VOC** [326 IAC 2-2]

~~(a)~~ Pursuant to 326 IAC 2-2**-3** and PSD CP 027-7239-00046, issued on June 10, 1997**, and 326 IAC 8-1-6, and as revised by Significant Permit Modification 027-24797-00046, the Best Available Control Technology (PSD BACT) for VOC for the pre-fermentation, fermentation, alcohol distillation system, loadout area, and storage tanks shall be as follows**:

~~(1) The VOC emissions from the equipment of the alcohol production process shall be limited as follows:~~

**VOC emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:**

| Facility | **Control Device** | Stack | VOC Limit |
|---|---|---|---|
| Two (2) Pre-fermenters | **wet scrubber (APC28)** | **AP28** | **95% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 9.25 lbs/hr** |
| Fermentation System | **wet scrubber (APC29)** | **AP29** | **95% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 16.83 lbs/hr** |
| Alcohol Distillation System ~~(APC32)~~ | **wet scrubber (APC32)** | AP32 | ~~1.14 lb/hr~~ **98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 0.7 lbs/hr** |
| Alcohol Storage System **(beverage)** ~~(APC95 and APC96)~~ | **wet scrubber (APC95)** | AP95 | ~~0.8 lb/hr combined total~~ **98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 0.16 lb VOC/hr** |
| **Alcohol Storage System (fuel)** | **wet scrubber (APC96)** | **AP96** | **98% control efficiency or VOC <= 20 ppm, and the VOC emissions shall not exceed 0.08 lb VOC/hr** |
| Alcohol and Distillation Heads Loadout Area ~~(APC35)~~ | **scrubber (APC35)** | AP35 | 2.3 lb/hr |
| **Storage Tank** | **Internal Floating Roof** | **AP84** | **0.03 lb /hr** |

| Facility | **Control Device** | Stack | VOC Limit |
|---|---|---|---|
| **Storage Tank** | **Internal Floating Roof** | **AP94** | **0.02 lb/hr** |
| Storage Tank | **Internal Floating Roof** | AP85 | ~~0.06~~ **0.20** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP86 | ~~0.03~~ **0.20** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP87 | ~~0.02~~ **0.26** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP88 | ~~0.0003~~ **0.13** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP89 | ~~0.005~~ **0.15** b/hr |
| Storage Tank | **Internal Floating Roof** | AP90 | ~~0.005~~ **0.15** lb/hr |
| Storage Tank | **Internal Floating Roof** | AP91 | ~~0.004~~ **0.21** lb/hr |
| Alcohol Production Process Fugitive Emissions | | None | 10.40 lb/hr |

~~(2)~~ To ensure that the fugitive VOC emissions from the alcohol production process are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program for the equipment of the alcohol production process.

## Conclusion and Recommendation

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed PSD/Significant Source Modification No. 027-24380-00046 and Part 70 Significant Permit Modification No. 027-24979-00046. The staff recommend to the Commissioner that these source and permit modifications be approved.

| Stack ID | Emission Unit | PTE Controlled (tpy) | | | | | |
|---|---|---|---|---|---|---|---|
| | | PM | PM10 | SO2 | NOx | CO | VOC |
| CP01 | Grain Unloading | 4.51 | 4.51 | -- | -- | -- | -- |
| FP05 | Corn Receiving,<br>Bucket Elevator,<br>Corn Silos,<br>Grain Unloading Baghouse,<br>Corn Cleaner | 0.75 | 0.75 | -- | -- | -- | -- |
| FP10 | Germ Cyclone,<br>Germ Pneumatic Transfer System | 0.47 | 0.47 | -- | -- | -- | -- |
| FP11 | Germ Storage Bin | 0.02 | 0.02 | -- | -- | -- | -- |
| FP14 | Gluten Pneumatic Transfer System, Gluten Cyclone | 1.88 | 1.88 | -- | -- | -- | -- |
| FP15 | Gluten Storage Bin | 0.02 | 0.02 | -- | -- | -- | -- |
| FP18 | CGF Pneumatic System,<br>CGF Cyclone (FPC18) | 7.04 | 7.04 | -- | -- | -- | -- |
| FP19 | CGF Final Cage Mill | 0.56 | 0.56 | -- | -- | -- | -- |
| FP20 | Corn Receiving Dust Collector, Corn Unloading Baghouse | 0.38 | 0.38 | -- | -- | -- | -- |
| FP22 | CGF Fiber Storage Bin | 0.02 | 0.02 | -- | -- | -- | -- |
| FP18 | Pellet Mill,<br>Pellet Cooler,<br>Pellet Cooler Cyclone (FPC24) | 39.42 | 39.42 | -- | -- | -- | -- |
| FP25 | Pellet Storage Bin | 0.02 | 0.02 | -- | -- | -- | -- |
| FP26 | Germ, Gluten, CGF Loadout | 6.57 | 6.57 | -- | -- | -- | -- |
| FP28 | Germ/Gluten Pneumatic System | 0.69 | 0.69 | -- | -- | -- | -- |
| FP33 | Feed Loadout Vacuum System | 0.04 | 0.04 | -- | -- | -- | -- |
| MP41 | Maltrin Packaging System, Screener | 1.50 | 1.50 | -- | -- | -- | -- |
| MP42 | Maltodextrin transfer conveyor | 1.50 | 1.50 | -- | -- | -- | -- |
| MP43 | Maltrin Dry Vacuuming | 0.09 | 0.09 | -- | -- | -- | -- |
| MP44 | Maltrin Storage (2 of 4 running at any given time) | 0.04 | 0.04 | -- | -- | -- | -- |
| MP60 | Filter Aid Storage | 0.11 | 0.11 | -- | -- | -- | -- |
| MP61 | Carbon Storage | 0.01 | 0.01 | -- | -- | -- | -- |
| SP44a | Starch Loadout Receiver & Pneumatic Conveying System | 0.68 | 0.68 | -- | -- | -- | -- |
| SP44b | Starch Loadout Dust | 1.27 | 1.27 | -- | -- | -- | -- |
| SP50 | Starch Storage (2 of 4 running at any given time) | 0.38 | 0.38 | -- | -- | -- | -- |
| SP64 | Soda Ash Bin | 1.50 | 0.75 | -- | -- | -- | -- |
| SP65 | Brine Storage | 1.50 | 0.75 | -- | -- | -- | -- |
| UP52 | Lime Bin | 0.23 | 0.23 | -- | -- | -- | -- |
| FP06 | Steep Area Scrubber | -- | -- | 20.59 | -- | -- | -- |
| FP07 | Mill Area Scrubber | 10.34 | 10.34 | 20.59 | -- | -- | -- |
| FP27 | Feed Area Scrubber | 15.43 | 15.43 | 32.94 | -- | -- | -- |
| AP28 | Prefermentation Scrubber | -- | -- | -- | -- | -- | 42.71 |
| AP29 | Fermentation Scrubber | -- | -- | -- | -- | -- | 73.72 |
| AP31 | Flash Cooler vent Condenser | -- | -- | 2.33 | -- | -- | |
| AP32 | Distillation Vent Scrubber | -- | -- | -- | -- | -- | 3.05 |
| AP40 | MR Condenser Vent | -- | -- | -- | -- | -- | 0.50 |
| AP95 | Alcohol Storage Scrubber - Beverage | -- | -- | -- | -- | -- | 0.69 |
| AP96 | Alcohol Storage Scrubber - Fuel | -- | -- | -- | -- | -- | 0.33 |
| MP39 | Maltrodextrin Spray Scrubber | 41.96 | 41.96 | 0.19 | 23.65 | 26.49 | 1.73 |
| AP35a | Alcohol Loadout Scrubber | -- | -- | -- | -- | -- | 3.65 |
| AP35a | Alcohol Loadout Fugitives (AP35b) | -- | -- | -- | -- | -- | 20.655 |
| UP51 | Combined Boiler Stack | 6.76 | 17.54 | 1.66 | 106.87 | 175.77 | 13.03 |
| SP46 | Starch Reactor Vent | -- | -- | -- | -- | -- | 0.14 |
| AP38 | Cooling Tower | 24.08 | 24.08 | -- | -- | -- | -- |
| SP47 | Hydrochloric Acid Storage Tank (fug) | -- | -- | -- | -- | -- | 0.16 |

| Stack ID | Emission Unit | PTE Controlled (tpy) | | | | | |
|---|---|---|---|---|---|---|---|
| | | PM | PM10 | SO2 | NOx | CO | VOC |
| AP84 | Heads Tanks | -- | -- | -- | -- | -- | 0.13 |
| AP85 | Denaturant Tank - Ethyl Acetate | -- | -- | -- | -- | -- | 0.87 |
| AP86 | Denaturant Tank - Methanol | -- | -- | -- | -- | -- | 0.87 |
| AP87 | Denaturant Tank - Ispropanol | -- | -- | -- | -- | -- | 1.14 |
| AP88 | Denaturant Tank - MIBK | -- | -- | -- | -- | -- | 0.55 |
| AP89 | Denaturant Tank - Ethanol | -- | -- | -- | -- | -- | 0.67 |
| AP90 | Denaturant Tank - Ethanol | -- | -- | -- | -- | -- | 0.67 |
| AP91 | Denaturant Tank - Ethanol | -- | -- | -- | -- | -- | 0.91 |
| AP94 | Burn Tank - Ethanol | -- | -- | -- | -- | -- | 0.09 |
| FUG-1 | Roads Dust | 25.31 | 4.86 | -- | -- | -- | -- |
| AP-33 | Fugitive Alcohol Emissions | -- | -- | -- | -- | -- | 45.65 |
| The following three emissions units SP49, UP54, and FP34 are summarized below. The emissions are worst case. | | | | | | | |
| SP49 | Starch Flash Dryer Scrubber | 71.57 | 71.57 | 102.58 | 81.97 | 32.88 | 36.71 |
| UP54 | Biogas Flare | | | | | | |
| FP34 | RTOs FPC34a & FPC34b | | | | | | |
| | **Total PTE (tpy):** | **266.61** | **255.44** | **180.87** | **212.50** | **235.14** | **248.63** |

Scenario 1 - All biogas burned at germ/gluten dryers

| | PM | PM10 | SO2 | NOx | CO | VOC |
|---|---|---|---|---|---|---|
| | Controlled Emissions (tpy) | | | | | |
| RTO (FP34) | 49.83 | 49.83 | 84.43 | 72.12 | 2.61 | 13.21 |
| Starch Dryer (SP49) | 21.74 | 21.74 | 0.08 | 9.86 | 4.60 | 5.10 |
| * Biogas Flare (UP54) | 0 | 0 | 0 | 0 | 0 | 0 |
| **Totals:** | 71.57 | 71.57 | 84.51 | 81.97 | 7.21 | 18.32 |

Scenario 2 - All fuel burned at RTO is biogas. Remainder of biogas burned in germ/gluten dryers

| | PM | PM10 | SO2 | NOx | CO | VOC |
|---|---|---|---|---|---|---|
| | Controlled Emissions (tpy) | | | | | |
| RTO (FP34) | 49.83 | 49.83 | 97.48 | 72.12 | 2.61 | 13.21 |
| Starch Dryer (SP49) | 21.74 | 21.74 | 0.08 | 9.86 | 4.60 | 5.10 |
| * Biogas Flare (UP54) | 0 | 0 | 0 | 0 | 0 | 0 |
| **Totals:** | 71.57 | 71.57 | 97.56 | 81.97 | 7.21 | 18.32 |

Scenario 3 - All biogas burned in starch dryers

| | PM | PM10 | SO2 | NOx | CO | VOC |
|---|---|---|---|---|---|---|
| | Controlled Emissions (tpy) | | | | | |
| RTO (FP34) | 49.83 | 49.83 | 82.43 | 50.06 | 2.00 | 13.21 |
| Starch Dryer (SP49) | 21.74 | 21.74 | 20.07 | 8.94 | 26.28 | 22.78 |
| * Biogas Flare (UP54) | 0 | 0 | 0 | 0 | 0 | 0 |
| **Totals:** | 71.57 | 71.57 | 102.50 | 59.00 | 28.28 | 35.99 |

Scenario 4 - All biogas burned in biogas flare

| | PM | PM10 | SO2 | NOx | CO | VOC |
|---|---|---|---|---|---|---|
| | Controlled Emissions (tpy) | | | | | |
| RTO (FP34) | 49.83 | 49.83 | 82.43 | 50.06 | 2.00 | 13.21 |
| Starch Dryer (SP49) | 21.74 | 21.74 | 0.08 | 9.86 | 4.60 | 5.10 |
| Biogas Flare (UP54) | 0 | 0 | 20.07 | 8.94 | 26.28 | 18.40 |
| **Totals:** | 71.57 | 71.57 | 102.58 | 68.85 | 32.88 | 36.71 |

* Biogas Flare emissions will be from pilot light and neg.

| Stack ID | Control ID | Description of Control | Emission Unit | Flow Rate | PM Loading | PM10 Loading | Control Efficiency | Uncontrolled PTE | | | | Controlled PTE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | PM | | PM10 | | PM | | PM10 | |
| | | | | *(acfm)* | *(gr/cuft)* | *(gr/cuft)* | *(%)* | *(lb/hr)* | *(tpy)* | *(lb/hr)* | *(tpy)* | *(lb/hr)* | *(tpy)* | *(lb/hr)* | *(tpy)* |
| CP01 | CPC01 | Fabric Baghouse | Grain Unloading | 30,000 | 0.004 | 0.004 | 99.00% | 102.86 | 450.51 | 102.86 | 450.51 | 1.03 | 4.51 | 1.03 | 4.51 |
| FP05 | FPC05 | Fabric Baghouse | Corn Receiving, Bucket Elevator, Corn Silos, Grain Unloading Baghouse, Corn Cleaner | 4,000 | 0.005 | 0.005 | 99.00% | 17.14 | 75.09 | 17.14 | 75.09 | 0.17 | 0.75 | 0.17 | 0.75 |
| FP10 | FPC10 | Baghouse | Germ Cyclone, Germ Pneumatic Transfer System | 2,500 | 0.005 | 0.005 | 99.00% | 10.71 | 46.93 | 10.71 | 46.93 | 0.11 | 0.47 | 0.11 | 0.47 |
| FP11 | FPC11 | Bag filters | Germ Storage Bin | 100 | 0.005 | 0.005 | 99.00% | 0.43 | 1.88 | 0.43 | 1.88 | 0.004 | 0.019 | 0.004 | 0.02 |
| FP14 | FPC14 | Baghouse | Gluten Pneumatic Transfer System, Gluten Cyclone | 10,000 | 0.005 | 0.005 | 99.00% | 42.86 | 187.71 | 42.86 | 187.71 | 0.43 | 1.88 | 0.43 | 1.88 |
| FP15 | FPC15 | Bag filters | Gluten Storage Bin | 100 | 0.005 | 0.005 | 99.00% | 0.43 | 1.88 | 0.43 | 1.88 | 0.004 | 0.02 | 0.004 | 0.02 |
| FP18 | FPC18 | Baghouse | CGF Pneumatic System, CGF Cyclone | 37,500 | 0.005 | 0.005 | 99.00% | 160.71 | 703.93 | 160.71 | 703.93 | 1.61 | 7.04 | 1.61 | 7.04 |
| FP19 | FPC19 | Baghouse | CGF Final Cage Mill | 3,000 | 0.005 | 0.005 | 99.00% | 12.86 | 56.31 | 12.86 | 56.31 | 0.13 | 0.56 | 0.13 | 0.56 |
| FP20 | FPC20 | Baghouse | Corn Receiving Dust Collector, Corn Cleaning Transfer Baghouse | 2,000 | 0.005 | 0.005 | 99.00% | 8.57 | 37.54 | 8.57 | 37.54 | 0.09 | 0.38 | 0.09 | 0.38 |
| FP22 | FPC22 | Bag filters | CGF Fiber Storage Bin | 100 | 0.005 | 0.005 | 99.00% | 0.43 | 1.88 | 0.43 | 1.88 | 0.004 | 0.02 | 0.004 | 0.02 |
| FP18 | FPC24 | Cyclone (vent to shared stack with FPC18) | Pellet Mill, Pellet Cooler, Pellet Cooler Cyclone | 35,000 | 0.03 | 0.03 | 85.00% | 60.00 | 262.80 | 60.00 | 262.80 | 9.00 | 39.42 | 9.00 | 39.42 |
| FP25 | FPC25 | Bag filters | Pellet Storage Bin | 100 | 0.005 | 0.005 | 99.00% | 0.43 | 1.88 | 0.43 | 1.88 | 0.004 | 0.02 | 0.004 | 0.02 |
| FP26 | FPC26 | Baghouse | Germ, Gluten, CGF Loadout | 35,000 | 0.005 | 0.005 | 99.00% | 150.00 | 657.00 | 150.00 | 657.00 | 1.50 | 6.57 | 1.50 | 6.57 |
| FP28 | FPC28 | Baghouse | Germ/Gluten Pneumatic System | 3,650 | 0.005 | 0.005 | 99.00% | 15.64 | 68.52 | 15.64 | 68.52 | 0.16 | 0.69 | 0.16 | 0.69 |
| FP33 | FPC33 | Baghouse | Feed Loadout Vacuum System | 200 | 0.005 | 0.005 | 99.00% | 0.86 | 3.75 | 0.86 | 3.75 | 0.01 | 0.04 | 0.01 | 0.04 |
| MP41 | MPC41 | Dust Collector | Maltrin Packaging System, Screener | 8,000 | 0.005 | 0.005 | 99.00% | 34.29 | 150.17 | 34.29 | 150.17 | 0.34 | 1.50 | 0.34 | 1.50 |
| MP42 | MPC42 | Baghouse | Maltodextrin transfer conveyor | 8,000 | 0.005 | 0.005 | 99.00% | 34.29 | 150.17 | 34.29 | 150.17 | 0.34 | 1.50 | 0.34 | 1.50 |
| MP43 | MPC43 | Baghouse | Maltrin Dry Vacuuming | 500 | 0.005 | 0.005 | 99.00% | 2.14 | 9.39 | 2.14 | 9.39 | 0.02 | 0.09 | 0.02 | 0.09 |
| MP44 | MPC44 | Fabric Baghouse | Maltrin Storage (2 of 4 running at any given time) | 100 | 0.005 | 0.005 | 99.00% | 0.86 | 3.75 | 0.86 | 3.75 | 0.009 | 0.04 | 0.009 | 0.04 |
| MP60 | MPC60 | Bag Filters | Filter Aid Storage | 600 | 0.005 | 0.005 | 99.00% | 2.57 | 11.26 | 2.57 | 11.26 | 0.03 | 0.11 | 0.03 | 0.11 |
| MP61 | MPC61 | Bag Filters | Carbon Storage | 600 | 0.005 | 0.005 | 99.00% | 2.57 | 11.26 | 2.57 | 11.26 | 0.03 | 0.01 | 0.03 | 0.01 |
| SP44a | SPC44a | Baghouse | Starch Loadout Receiver & Pneumatic Conveying System | 3,600 | 0.005 | 0.005 | 9.00% | 0.17 | 0.74 | 0.17 | 0.74 | 0.15 | 0.68 | 0.15 | 0.68 |
| SP44b | SPC44b | Dust Collector | Starch Loadout Dust | 6,750 | 0.005 | 0.005 | 99.00% | 28.93 | 126.71 | 28.93 | 126.71 | 0.29 | 1.27 | 0.29 | 1.27 |
| SP50 | SPC50 | Dust Collector | Starch Storage (2 of 4 running at any given time) | 2,000 | 0.005 | 0.005 | 99.00% | 17.14 | 75.09 | 17.14 | 75.09 | 0.09 | 0.38 | 0.09 | 0.38 |
| SP64 | SPC64 | Bag Filters | Soda Ash Bin | 2,000 | 0.02 | 0.01 | 99.00% | 34.29 | 150.17 | 17.14 | 75.09 | 0.34 | 1.50 | 0.17 | 0.75 |
| SP65 | SPC65 | Filter Sock | Brine Storage | 2,000 | 0.02 | 0.01 | 85.00% | 2.29 | 10.01 | 1.14 | 5.01 | 0.34 | 1.50 | 0.17 | 0.75 |
| UP52 | UPC52 | Bin Vent | Lime Bin | 1,200 | 0.005 | 0.005 | 99.00% | 5.14 | 22.53 | 5.14 | 22.53 | 0.05 | 0.23 | 0.05 | 0.23 |

**1. FPC06 (Steep Scrubber), FPC07 (Milling Scrubber), FPC27 (Feed Scrubber)**

Scrubber Specifications

| | $^oF$ | $^oR$ | $B_{wo}$ | acfm | dscfm |
|---|---|---|---|---|---|
| FPC06 | 120 | 580 | 11.50% | 5100 | 4,109 |
| FPC07 | 120 | 580 | 11.50% | 20100 | 16,194 |
| FPC27 | 120 | 580 | 11.50% | 30000 | 24,170 |

PM/PM10 PTE

| | gr/acf | gr/scf | gr/dscf | lb/hr | tpy |
|---|---|---|---|---|---|
| FPC07 | 0.014 | -- | 0.017 | 2.36 | 10.34 |
| FPC27 | 0.014 | -- | 0.017 | 3.52 | 15.43 |

SO2 PTE

Note: SO2 is added at the steeping processes and is emitted at the steeping, milling and feedhouse operations at the following rates:

SO2 added to process (lb/hr) 470

| | FPC06 | FPC07 | FPC27 |
|---|---|---|---|
| SO2 emitted from process | 10% | 10% | 16% |
| Control Efficiency | 90% | 90% | 90% |

| | Uncontrolled PTE SO2 | | Controlled PTE SO2 | |
|---|---|---|---|---|
| | *(lb/hr)* | *(tpy)* | *(lb/hr)* | *(tpy)* |
| FPC06 | 47.00 | 205.86 | 4.70 | 20.59 |
| FPC07 | 47.00 | 205.86 | 4.70 | 20.59 |
| FPC27 | 75.20 | 329.38 | 7.52 | 32.94 |

Methodology

dscfm = acfm * (528 $^oR$/ $^oR$) * (1-$B_{wo}$/100)

gr/dscf = gr/acf * (dscf/scf)

PM/PM10 PTE (lb/hr) = gr/dscf * dscf/min

SO2 PTE (lb/hr) - Controlled = SO2 added to process * SO2 emitted from process * (1-control efficiency)

PM/PM10/SO2 PTE (tpy) = PM/PM10/SO2 (lb/hr) * 8760 hrs/yr * 1/2000 lbs/ton

**2. APC28 (Prefermentation), APC29 (Fermentation), APC32 (Dist. Vent), APC40 (MR Cond.)**

| | APC28 | APC29 | APC32 | APC40 |
|---|---|---|---|---|
| pph $CO_2$ and Air scrubbed | 15,000 | 40,075 | 15,830 | 1,512 |
| VOC content (%) | 1% | 0.84% | 0.22% | 0.15% |
| Scrubber EtOH removal (%) | 95% | 95% | 98% | 95% |

| | Uncontrolled VOC (EtOH) | | Controlled VOC (EtOH) | |
|---|---|---|---|---|
| | *(lb/hr)* | *(tpy)* | *(lb/hr)* | *(tpy)* |
| APC28 | 195.00 | 854.10 | 9.75 | 42.71 |
| APC29 | 336.63 | 1474.44 | 16.83 | 73.72 |
| APC32 | 34.83 | 152.54 | 0.70 | 3.05 |
| APC40 | 2.27 | 9.93 | 0.11 | 0.50 |

Methodology
VOC PTE (lb/hr) - Controlled = VOC content (%) * $CO_2$ and Air scrubbed (lb/hr) * (1-control efficiency)
VOC PTE (tpy) - Controlled = VOC PTE (lb/hr) * 8760 hrs/yr * 1/2000 lbs/ton

**3. APC95 (Alcohol Storage - Beverage), APC96 (Alcohol Storage - Fuel)**

| | VOC Emissons from Alcohol Storage Tanks (lb/hr) | Control Efficiency | EtOH Controlled (lb/hr) | EtOH Controlled (tpy) |
|---|---|---|---|---|
| APC95 | 7.83 | 98% | 0.16 | 0.69 |
| APC96 | 3.78 | 98% | 0.08 | 0.33 |

Methodology
VOC PTE (lb/hr) - Controlled = VOC Emissions from Alcohol Storage Tanks (lb/hr) x (1-control efficiency)
VOC PTE (tpy) - Controlled = VOC PTE (lb/hr) * 8760 hrs/yr * 1/2000 lbs/ton

**4. APC31**

| | |
|---|---|
| Starch Slurry to cooking system (lb/hr) | 507,600 |
| $SO_2$ contained in liquefied starch stream (ppm) | 105 |
| $SO_2$ emitted from process | 10% |
| Condenser $SO_2$ removal (%) | 90% |

Uncontrolled $SO_2$ emmissions (lb/hr) = **5.33**
[uncontrolled $SO_2$ emissions (lb/hr) x 8760 (days/yr) x 1/2000 (ton/lb)]
Uncontrolled $SO_2$ emmissions (tpy) = **23.34**
[slurry (lb/hr) x lb $SO_2$/lb slurry x % $SO_2$ emitted]
Controlled $SO_2$ emmissions (lb/hr) = **0.53**
[uncontrolled $SO_2$ emissions (lb/hr) x (1-condenser $SO_2$ removal)]
Controlled $SO_2$ emmissions (tpy) = **2.33**
[slurry (lb/hr) x lb $SO_2$/lb slurry x % $SO_2$ emitted]

**MP39 - Maltrodextrin Spray Dryer Scrubber**

**1. Emissions from NG Combustion (not controlled by scrubber)**

| Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr |
|---|---|
| 72.0 | 630.7 |

| | Pollutant | | | |
|---|---|---|---|---|
| | SO2 | [1] NOx | VOC | CO |
| Emission Factor in lb/MMCF | 0.6 | 75.0 | 5.5 | 84.0 |
| Emission Factor in lb/MMbBtu | | | | |
| Potential Emission in lb/hr | 0.04 | 5.40 | 0.40 | 6.05 |
| Potential Emission in tons/yr | 0.19 | 23.65 | 1.73 | 26.49 |

[1] Manufacturer guarantee

**Methodology**
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**2. PM/PM10 Emissions (controlled by scrubber)**

| $^oF$ | $^oR$ | $B_{wo}$ | acfm | dscfm | gr/dscf | lb/hr | tpy |
|---|---|---|---|---|---|---|---|
| 140 | 600 | 19.62% | 158,000 | 111,760 | 0.0100 | 9.58 | 41.96 |

Methodology
dscfm = acfm * (528 $^oR$/ $^oR$) * (1-$B_{wo}$/100)
PM/PM10 PTE (lb/hr) = gr/dscf * dscf/min

**SPC46 - Starch Reactor Vent**

| | | |
|---|---|---|
| Air Flow | 670 | cuft of head space in vessel to vent |
| capacity of vessel (cuft) | 87100 | |
| EtOH content (ppm) | 50 | |
| Density of Vapor (lb/cuft) | 0.07 | |
| Time to fill Reactor (hrs) | 9.8 | |
| Reactor Fills per day | 2.45 | |
| Control Efficiency | 0% | |

| | | | |
|---|---|---|---|
| EtOH (lb/cuft) = [ 0.07 lb /cuft x 50 lb EtOH/(1.0E+6 lb vapor) ] | = | 0.0000035 | lb EtOH/cuft |
| EtOH (lb/fill) = EtOH (lb/cuft) x (capacity of reactor - headroom) | = | 0.302505 | lb/fill |
| EtOH lb/day = lb/fill x fill/day | = | 0.74113725 | lb/day |
| EtOH tpy = lb/day x 365 days/yr x 1/2000 lb/ton | = | 0.135257548 | tpy |

**APC38 Cooling Tower**

| flow rate gpm | TDS (ppm) | Drift (%) | PM/PM10 (lb/hr) | PM/PM10 (tpy) |
|---|---|---|---|---|
| 44000 | 5000 | 0.0050% | 5.50 | 24.08 |

**SPC49 - Starch Flash Dryer Scrubber**

**1. Emissions from Combustion (not controlled by scrubber)**

| | | | | |
|---|---|---|---|---|
| Heat Input Capacity | | 30.0 | MMBtu/hr | |
| Potential Throughput | NG | 30,000 | scf/hr | (1000 Btu/scf NG) |
| | Biogas | 50,000 | scf/hr | (600 Btu/scf biofuel) |

| | Pollutant (Natural Gas Combustion) | | | |
|---|---|---|---|---|
| | NOx | CO | VOC | SO2 |
| Emission Factor in lb/MMCF | 75.0 | 35.0 | 5.5 | 0.6 |
| Potential Emission in lb/hr | 2.25 | 1.05 | *0.17* | 0.02 |
| Potential Emission in tons/yr | 9.86 | 4.60 | *0.72* | 0.08 |

NOX emission factor - Manufacturer guarantee
CO and SO2 based on AP-42 Emission Factors

| | Pollutant (Biogas Combustion) | | | |
|---|---|---|---|---|
| | NOx | CO | VOC | SO2 |
| Emission Factor in lb/MMCF | 40.800 | 120.00 | 84.00 | 91.63 |
| Potential Emission in lb/hr | 2.04 | 6.00 | *4.20* | 4.58 |
| Potential Emission in tons/yr | 8.94 | 26.28 | *18.40* | 20.07 |

SO2 (lb/MMCF) based on Sulfer content of biogas stream
CO & NOX (lb/MMCF) from AP-42 for Industrial Flares

Methodology
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04
(AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**2. PM/PM10 Emissions (controlled by scrubber)**

| $^oF$ | $^oR$ | $B_{wo}$ | acfm | dscfm | gr/dscfm | lb/hr |
|---|---|---|---|---|---|---|
| 140 | 600 | 19.62% | 89,000 | 62,954 | 0.0092 | 4.96 |

Methodology
dscfm = acfm * (528 $^oR$/ $^oR$) * (1-$B_{wo}$/100)
PM/PM10 PTE (lb/hr) = gr/dscf * dscf/min

**3. VOC Emissions**

Pursuant to 326 IAC 2-2-2 (PSD BACT) VOC Emissions shall not exceed 1.0 lb/hr from the starch drying process. Therfore, worst case VOC (tpy) is combustion emissions in addition to the PSD BACT Limit.

| | VOC (lb/hr) | VOC (tpy) |
|---|---|---|
| Natural Gas | 1.17 | 5.10 |
| Biogas | 5.20 | 22.78 |

**Summary of Emissions from 4 Scenarios - RTO emissions only**

Scenario #1 - all biogas burned at Germ/Gluten dryers, NG burned at CGF and RTO

| | PM | PM10 | SO2 | NOx | CO | VOC |
|---|---|---|---|---|---|---|
| Uncontrolled Emissions | | | | | | |
| pound per hour | 227.52 | 227.52 | 192.64 | 16.47 | 14.88 | 150.84 |
| ton per year | 996.54 | 996.54 | 843.78 | 72.12 | 65.20 | 660.68 |
| Controlled Emissions | | | | | | |
| pound per hour | 11.38 | 11.38 | 19.28 | 16.47 | 0.60 | 3.02 |
| ton per year | 49.83 | 49.83 | 84.43 | 72.12 | 2.61 | 13.21 |

Scenario #2 - RTO burns biogas with balance of biogas rolled to Germ/Gluten dryer, CGF burns NG

| | PM | PM10 | SO2 | NOx | CO | VOC |
|---|---|---|---|---|---|---|
| Uncontrolled Emissions | | | | | | |
| pound per hour | 227.52 | 227.52 | 192.64 | 16.47 | 14.88 | 150.84 |
| ton per year | 996.54 | 996.54 | 843.78 | 72.12 | 65.20 | 660.68 |
| Controlled Emissions | | | | | | |
| pound per hour | 11.38 | 11.38 | 22.26 | 16.47 | 0.60 | 3.08 |
| ton per year | 49.83 | 49.83 | 97.48 | 72.12 | 2.61 | 13.21 |

Scenario #3 and #4 - All Biogas burned at Starch dryer or flared

| | PM | PM10 | SO2 | NOx | CO | VOC |
|---|---|---|---|---|---|---|
| Uncontrolled Emissions | | | | | | |
| pound per hour | 227.52 | 227.52 | 188.08 | 16.47 | 11.40 | 150.84 |
| ton per year | 996.54 | 996.54 | 823.80 | 72.12 | 49.95 | 660.68 |
| Controlled Emissions | | | | | | |
| pound per hour | 11.38 | 11.38 | 18.82 | 11.43 | 0.46 | 3.02 |
| ton per year | 49.83 | 49.83 | 82.43 | 50.06 | 2.00 | 13.21 |

**Methodology:**

**1. PM/PM10 Emissions (Combustion and Product Drying)** (Scenario 1 - 4)

| | | |
|---|---|---|
| Design Air Flow Rate for Each RTO ( FPC34) | 84,000 scfm | |
| Exhaust Temp | 261 $^0$F | 721 $^0$R |
| Control Efficiency | 95% | |
| Moisture content | 21% | |
| Adjusted Air Flow | 66,360 dscfm | |
| PM Grain Loading | 0.01 gr/dscf | |
| PM10 Grain Loading | 0.01 gr/dscf | |

| | PTE Uncontrolled (lb/hr) | | PTE Uncontrolled (tpy) | | **PTE Controlled (lb/hr)** | | **PTE Controlled (tpy))** | |
|---|---|---|---|---|---|---|---|---|
| | PM | PM10 | PM | PM10 | PM | PM10 | PM | PM10 |
| FPC34a | 113.76 | 113.76 | 498.27 | 498.27 | 5.69 | 5.69 | 24.91 | 24.91 |
| FPC34b | 113.76 | 113.76 | 498.27 | 498.27 | 5.69 | 5.69 | 24.91 | 24.91 |
| Totals: | 227.52 | 227.52 | 996.54 | 996.54 | **11.38** | **11.38** | **49.83** | **49.83** |

dscfm = scfm * (1-$B_{wo}$/100)
PM/PM10 PTE - Controlled (lb/hr) = gr/dscf * dscf/min * (1- control efficiency)
PM/PM10 PTE - Controlled (tpy) = PM/PM10 PTE (lb/hr) * 8760 hrs/yr * 1/2000 lbs/ton

**2. SO2 Emissions (Product Drying)**

| | FP12 | FP13 | FP17 |
|---|---|---|---|
| SO2 added to process (lb/hr) | 470 | 470 | 470 |
| SO2 emitted from process | 6% | 18% | 16% |
| Control Efficiency | 90% | 90% | 90% |

| | Uncontrolled PTE SO2 | | **Controlled PTE SO2** | |
|---|---|---|---|---|
| | (lb/hr) | (tpy) | (lb/hr) | (tpy) |
| FP12 (Germ Dryer) | 28.20 | 123.52 | 2.82 | 12.35 |
| FP13 (Gluten Dryers) | 84.60 | 370.55 | 8.46 | 37.05 |
| FP17 (CGF Dryer) | 75.20 | 329.38 | 7.52 | 32.94 |
| **SO2 Totals:** | **188.00** | **823.44** | **18.80** | **82.34** |

Controlled PTE SO2 = Uncontrolled SO2 (lb/hr) * (1- control efficiency)
Uncontrolled PTE SO2 = SO2 added to process (lb/hr) * SO2 emitted from process (lb/hr)
PTE SO2 (tpy) = PTE SO2 (lb/hr) * 8760 hrs/yr * 1/2000 lb/ton

**3. VOC Emissions (Combustion (NG from dryers) and Product Drying)** (Scenario 1 - 4)

VOC emissions are based on stack tests when burning natural gas and, therefore, include emissions from both production drying and combustion at the dryers

| | Stack Test appr. VOC | Control Efficiency | Uncontrolled PTE VOC | | **Controlled PTE VOC** | |
|---|---|---|---|---|---|---|
| | (lb/hr) | (%) | (lb/hr) | (tpy) | (lb/hr) | (tpy) |
| FP12 (Germ Dryer Scrubber) | 14.23 | 98% | 14.23 | 62.33 | 0.28 | 1.25 |
| FP13 (Gluten Dryers Scrubber) | 96.00 | 98% | 96.00 | 420.48 | 1.92 | 8.41 |
| FP17 (CGF Dryer Scrubber) | 40.61 | 98% | 40.61 | 177.87 | 0.81 | 3.56 |
| | | **Totals** | 150.84 | 660.68 | **3.02** | **13.21** |

**4. SO2, NOx, and CO Emissions from Dryers, and SO2, NOx, CO, and VOC Emissions from RTO combustion of NG or Biogas**

**a. Specifications**

| | MMBtu/hr | | | |
|---|---|---|---|---|
| FP12 (Germ Dryer) | 24.00 | | | |
| FP13 (Gluten Dryers) | 60.00 | (2 at 30.0 MMBtu/hr each) | | |
| FP17 (CGF Dryer Scrubber) | 30.00 | | | |
| RTOs | 21.77 | | | |
| Maximum Biogas for System | 30 | or | 0.05 | MMcf/hr based on heat capacity of biogas (600 Btu/cf) |
| CO reduction in RTOs | 96.00% | 96% conversion CO to CO2 per manufacturer | | |
| VOC Control in RTOs | 98.00% | | | |
| SO2 Control in Scrubbers FPC12 & FPC15 | 90.00% | | | |
| SO2 Control in Condenser FPC17 | 90.00% | | | |

**b. Emission Factor Summary**

| NOx Emission Factors | units | FP12 | FP13 | FP17 | RTOs |
|---|---|---|---|---|---|
| NG - Manufacturer's Guarantee | lb/MMBtu | 0.06 | 0.06 | 0.047 | 0.46 |
| NG - Manufacturer's Guarantee | lb/MMscf | 60 | 60 | 47 | 460 |
| Biogas - AP42 (SCC 30190099) | lb/MMBtu | 0.06 | 0.06 | 0.047 | 0.46 |
| Biogas | lb/MMcf | 36 | 36 | -- | 276 |

| Additional Emission Factors | units | SO2 | CO | VOC |
|---|---|---|---|---|
| NG - AP42 (SCC 10200602) | lb/MMcf | 0.6 | 84 | 5.5 |
| Biogas | lb/MMBtu | -- | 0.2 | 0.14 |
| [1] Biogas | lb/MMcf | 91.63 | 120 | 84 |

[1] Biogas SO2 emission factor based on 5000ppm H2S in stream

**c. Germ/Gluten Dryer Options -** Germ/Gluten Dryers can burn either NG or Biogas

All biogas is burned at Germ and/or Gluten Dryer

| | | |
|---|---|---|
| Germ/Gluten Burner Capacity | 84.00 MMBtu/hr | |
| Biogas Burned at Germ/Gluten Dryers | 30.00 MMBtu/hr | 5.00E-02 MMcf/hr (based on 1 MMCF Biogas = 600 MMBtu) |
| NG Burned at Germ/Gluten Dryers | 54.00 MMBtu/hr | 5.40E-02 MMcf/hr (based on 1MMCF NG = 1000MMBtu) |

| **Germ/Gluten Dryers** | SO2 | | NOx | | CO | |
|---|---|---|---|---|---|---|
| **Scenario 1** | Biogas | NG | Biogas | NG | Biogas | NG |
| Throughput (MMcf/hr) | 0.050 | 0.054 | 0.050 | 0.054 | 0.050 | 0.054 |
| Emission Factor (lb/MMcf) | 91.63 | 0.6 | 36.00 | 60 | 120 | 84 |
| Reduction (%) | 0.9 | 0.9 | -- | -- | 96.00% | 96.00% |
| Emissions Uncontrolled (lb/hr) | 4.581 | 0.032 | 1.800 | 3.240 | 6.000 | 4.536 |
| Emissions Controlled (lb/hr) | **0.458** | **0.003** | **1.800** | **3.240** | **0.240** | **0.181** |

RTO burns only biogas with remainder of biogas burned at Germ and/or Gluten Dryer

| | | |
|---|---|---|
| Maximum Biogas for System | 30 MMBtu/hr | 0.05 MMcf/hr (based on 600 Btu/cf) |
| Biogas Used as Fuel at RTOs | 21.77 MMBtu/hr | 3.63E-02 MMcf/hr (based on 1 MMCF Biogas = 600 MMBtu) |
| Biogas Rolled to Germ/Gluten Dryers | 8.23 MMBtu/hr | 1.37E-02 MMcf/hr (based on 1 MMCF Biogas = 600 MMBtu) |
| Germ/Gluten Burner Capacity | 84.00 MMBtu/hr | |
| NG Burned at Germ/Gluten Dryers | 75.77 MMBtu/hr | 7.58E-02 MMcf/hr (based on 1MMCF NG = 1000MMBtu) |

| **Germ/Gluten Dryers** | SO2 | | NOx | | CO | |
|---|---|---|---|---|---|---|
| **Senario 2** | Biogas | NG | Biogas | NG | Biogas | NG |
| Throughput (MMcf/hr) | 0.014 | 0.076 | 0.014 | 0.076 | 0.014 | 0.076 |
| Emission Factor (lb/MMcf) | 91.63 | 0.6 | 36.00 | 60 | 120 | 84 |
| Reduction (%) | 0.9 | 0.9 | -- | -- | 96.00% | 96.00% |
| Emissions Uncontrolled (lb/hr) | 1.256 | 0.045 | 0.494 | 4.546 | 1.646 | 6.365 |
| Emissions Controlled (lb/hr) | **0.126** | **0.005** | **0.494** | **4.546** | **0.066** | **0.255** |

Germ/Gluten Dryers burn only Natural Gas

| **Germ/Gluten Dryers** | SO2 | | NOx | | CO | |
|---|---|---|---|---|---|---|
| **Scenario 3 and 4** | Biogas | NG | Biogas | NG | Biogas | NG |
| Throughput (MMcf/hr) | -- | 0.084 | -- | 0.084 | -- | 0.084 |
| Emission Factor (lb/MMcf) | -- | 0.6 | -- | 60 | -- | 84 |
| Reduction (%) | -- | 90.00% | -- | -- | -- | 96.00% |
| Emissions Uncontrolled (lb/hr) | -- | 0.050 | -- | 5.040 | -- | 7.056 |
| Emissions Controlled (lb/hr) | **--** | **0.005** | **--** | **5.040** | **--** | **0.282** |

**d. CGF Dryer - Capable of Burning only Natural Gas**

CGF Burner Capacity 30.00 MMBtu/hr 3.00E-02 MMcf/hr of NG

| **CGF Dryers (Scenerios 1-4)** | SO2 | NOx | CO |
|---|---|---|---|
| Throughput (MMcf/hr) | 0.030 | 0.030 | 0.030 |
| Emission Factor (lb/MMcf) | 0.6 | 47.00 | 84.00 |
| Reduction (%) (RTO) | 90.00% | -- | 96.00% |
| Emissions Uncontrolled (lb/hr) | 0.018 | 1.410 | 2.520 |
| Emissions Controlled (lb/hr) | **1.80E-03** | **1.410** | **0.101** |

**e. RTO Combustion Options**

RTO burns only Biogas or only NG, but not both at the same time
RTO burns NG in Scenarios 1, 3, and 4
RTO burns biogas in Scenario 2

RTO Capacity (NG) 21.77 MMBtu/hr 2.18E-02 MMcf/hr
RTO Capacity (Biogas) 21.77 MMBtu/hr 3.63E-02 MMcf/hr (based on 600 Btu/cf)

| **RTO (combustion)** | SO2 | | NOx | | CO | | VOC | |
|---|---|---|---|---|---|---|---|---|
| | Biogas | NG | Biogas | NG | Biogas | NG | Biogas | NG |
| Throughput (MMcf/hr) | 3.63E-02 | 0.02 | 3.63E-02 | 0.02 | 3.63E-02 | 0.02 | 3.63E-02 | 0.02 |
| Emission Factor (lb/MMcf) | 91.63 | 0.6 | 276 | 460 | 120 | 84 | 84 | 5.5 |
| Reduction (%) | -- | -- | -- | -- | 96.00% | 96.00% | 98.00% | 98.00% |
| Emissions Uncontrolled (lb/hr) | 3.325 | 0.013 | 10.015 | 10.015 | 4.354 | 1.829 | 3.048 | 0.120 |
| Emissions Controlled (lb/hr) | **3.325** | **0.013** | **10.015** | **10.015** | **0.174** | **0.073** | **0.061** | **0.002** |

**1. PTE H2S**

| | | |
|---|---|---|
| H2S Concentration prior to Scrubber | 5500 | ppmv |
| MW H2S | = | 34.08 |
| MW SO2 | = | 64.06 |
| Scrubber Control | 90 | % |
| H2S Controlled Concentration | 550 | ppmv |

H2S PTE = (5500 mole H2S/1E+06 mole Biogas ) x (34.08 g H2S/mole H2S) x
(1 lb H2S/453.59 g H2S) x (1 mole Biogas/24.0 liter Biogas) x
(28.31 liter/cuft) x (50,000 cf biogas/hr)

| | | | | |
|---|---|---|---|---|
| H2S PTE = | 24.37 | lb/hr uncontrolled | 2.44 | lb/hr controlled |
| | 107 | tpy uncontrolled | 11 | tpy controlled |

Note: 5500 ppmv inlet concentration is based on scf

**2. Scrubbed Biogas Combustion Emission Factor**

H2S Combustion Reaction

2 H2S + 3 O2 $\longrightarrow$ 2 SO2 + 2 H2O

MW H2S = 34.08

= (550 mole H2S/1E+06 mole Biogas ) x (2 mole SO2/2 mole H2S) X
(64.06 g SO2/mole SO2) x (1lb/453.59 g) x
(1 mole Biogas/24.0 liter Biogas) x (28.31 liter/cuft)

SO2 Emission Factor

= 9.16E-05 lb SO2/ft$^3$

or

**= 91.63 lb SO2/MMCF**

CO Emission Factor

CO emission factor from RBLC IA-0088, issued 6/29/2007, this emission factor has not been tested yet.

**= 0.2 lb CO/MMBtu**

**3. Flare UPC54**

| | | | |
|---|---|---|---|
| Biogas heat of combustion | 600 | btu/cuft | |
| Flow Rate (acf/hr) | 50,000 | | |
| Heating Rate @ 50,000cuft/hr | 30 | MMBtu/hr | (600 Btu/hr x 50,000 scf/hr) |

| | NOx | VOC |
|---|---|---|
| AP-42 Emission Factor (lb/MMBTU) | 0.068 | 0.14 |
| Emissions (lb/hr) | 2.04 | 4.20 |
| **Emissions (tpy)** | **8.94** | **18.40** |

TSP Emissions = 0 for a non-smoking flare

SO2 Emissions = 50,000 acf/hr x 9.16 E-05 lb SO2/acf biogas
= 4.58 lb/hr
= **20.07 tpy**

CO Emissions = 0.05 MMcf/hr x 600 MMBtu/MMCF x 0.2 lb CO/MMBtu
= 6.00 lb/hr
= **26.28 tpy**

Per Boiler
Heat Input Capacity 244.0 MMBtu/hr

| | | |
|---|---|---|
| Heads & Oils Specs | 46,667 | Btu/gal |
| | 600 | gal/hr |
| | 28 | MMBtu/hr (heads and oil (Btu/gal) * gal/hr) |
| Natural Gas Burned | 216.0 | MMBtu/hr |

| Emission Factor in lb/MMBtu | PM | PM10 | SO2 | NOx | VOC | CO |
|---|---|---|---|---|---|---|
| Natural Gas | 0.0019 | 0.0076 | 0.0006 | 0.0500 | 0.0055 | 0.0840 |
| Heads and Oils | 0.0129 | 0.0129 | 0.0021 | 0.0500 | 0.0107 | 0.0686 |

| | PTE (lbs/hr) | | | | | |
|---|---|---|---|---|---|---|
| | PM | PM10 | SO2 | NOx | VOC | CO |
| Natural Gas (216 MMBtu/hr) | 0.41 | 1.64 | 0.13 | 10.80 | 1.19 | 18.14 |
| Heads & Oils (28 MMBtu/hr) | 0.36 | 0.36 | 0.06 | 1.40 | 0.30 | 1.92 |
| **Totals both Boilers (lb/hr) :** | 1.54 | 4.01 | 0.38 | 24.40 | 2.98 | 40.13 |
| **Totals both Boilers (tpy) :** | 6.76 | 17.54 | 1.66 | 106.87 | 13.03 | 175.77 |

**Methodology**
Pollutant (lb/hr) = [NG emission factor (lb/MMBtu) * NG burned (MMBtu/hr)] + [Heads and Oils emission factor * Heads and Oils burned (MMBtu/hr)
Pollutant (tpy) = Pollutant (lb/hr) * 8760 hrs/yr * 1/2000 lbs/ton

Natural Gas Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04
(AP-42 Supplement D 3/98)

| Stack ID | Control ID | Description of Control | Emission Unit | VOC (tpy) | VOC (lb/hr) |
|---|---|---|---|---|---|
| SP47 | SP47 | none | Hydrochloric Acid Storage Tank | 0.16 | 0.04 |
| AP84 | APC84 | Internal Floating Roof | Heads Tank (denaturant) | 0.13 | 0.03 |
| AP85 | APC85 | Internal Floating Roof | Denaturant | 0.87 | 0.20 |
| AP86 | APC86 | Internal Floating Roof | Denaturant | 0.87 | 0.20 |
| AP87 | APC87 | Internal Floating Roof | Denaturant | 1.14 | 0.26 |
| AP88 | APC88 | Internal Floating Roof | Denaturant | 0.55 | 0.13 |
| AP89 | APC89 | Internal Floating Roof | Denaturant | 0.67 | 0.15 |
| AP90 | APC90 | Internal Floating Roof | Denaturant | 0.67 | 0.15 |
| AP91 | APC91 | Internal Floating Roof | Denaturant | 0.91 | 0.21 |
| AP94 | APC94 | Internal Floating Roof | Denaturant | 0.09 | 0.02 |
| | | | | | 1.30 |

**1. Emission Factors: AP-42**

Denatured ethanol will be shipped by either truck or railcar loading via the ethanol loading rack. Railcars will be dedicated fleets, but the trucks may be used to carry gasoline prior to filling with ethanol. Both railcars and trucks will be filled by submerged loading process. The ethanol loading rack will be controlled by one of scrubber APC35a

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 x (SPM)/T
where:
L = loading loss (lbs/kgal)
S = a saturation factor (see AP-42, Table 5.2-1)
P = true vapor pressure of the liquid loaded (psia)
M = molecular weight of vapors
T = temperature of the bulk liquid loaded (degree R)

| Previous Stored Liquid | *S | P (psia) | M (lbs/mole lbs) | T (degree R) | L (lbs/kgal) |
|---|---|---|---|---|---|
| Gasoline (normal) | 1.0 | 4.9722 | 66 | 515.72 | 7.93 |
| Gasoline (clean cargo) | 0.5 | 4.9722 | 66 | 515.72 | 3.96 |
| Denatured Ethanol (normal) | 0.6 | 0.72 | 49.6 | 515.72 | 0.52 |
| Denatured Ethanol (clean cargo) | 0.5 | 0.72 | 49.6 | 515.72 | 0.43 |

Therefore, the emission factor for loading denatured ethanol to the trucks which stored gasoline previously
= L (gasoline, normal) - L (gasoline, clean cargo) + L (denatured ethanol, clean cargo) = 4.40 (lbs/kgal)

**2. Potential to Emit VOC Before Control (APC35a):**

(1) Assume all ethanol loaded out via truck:
Loading rate for trucks: 83.0 MMgal/yr
PTE of VOC before Control (tons/yr) = 83 MMgal/yr x 4.40 lbs/kgal x 1 ton/2000 lbs = 182 tons/yr

(2) Assume all ethanol loaded out via rail:
Loading rate for rail: 83.0 MMgal/yr
PTE of VOC before Control (tons/yr) = 83 MMgal/yr x 0.52 lbs/kgal x 1 ton/2000 lbs = 21.6 tons/yr

**3. Limited Potential to Emit (APC35a):**

Annual Production Limit: 83,000 kgal/yr (total)
Scrubber APC35a Control Efficiency: 98%

(1) Assume all ethanol loaded out via truck (controlled by APC35a):
PTE of VOC from truck loading (tons/yr) = 4.40 lbs/kgal x 83,000 kgal/yr x (1-98%) x 1 ton/2000 lbs = 3.65 tons/yr

(2) Assume all denatured ethanol is loaded to railcars (controlled by APC35a):
PTE of VOC (tons/yr) = 0.52 lbs/kgal x 83,000 kgal/yr x (1-98%) x 1 ton/2000 lbs = 0.43 tons/yr

**Worst case scenario is when loading 83 MMgal/yr denatured ethanol to trucks = 3.65 tons/yr**

**4. Uncontrolled VOC emissions from spills (APC35b):**

| | | |
|---|---|---|
| Estimated annual railcar loadout (28,500 gallons each) | = | 1200 |
| Estimated annual truck loadout (8000 gallons each) | = | 6100 |
| An allowance for spills per railcar (gallons) | = | 1.25 |
| An allowance for spills per truck (gallons) | = | 0.75 |
| Alcohol Density (lb/gallon) | = | 6.8 |

| | | |
|---|---|---|
| gallons spilled/year = # of railcars loaded x allowance/railcars + # of railcars loaded x allowance/railcar | = | 6075 |
| VOC (lb/yr) = gallons spilled/year * alcohol density (lb/gal) | = | 41310 |
| **VOC emitted from spills (tpy) = VOC(lb/yr) x 1/2000 (ton/lb)** | **=** | **20.655** |

**1. Emission Factors: AP-42**

According to AP-42, Chapter 13.2.1 - Paved Roads (12/03), the PM/PM10 emission factors for paved roads can be estimated from the following equation:

$$E = (k \times (sL/2)^a \times (w/3)^b - C) \times (1 - p/(4 \times 365))$$

where:

| | | |
|---|---|---|
| E = | emission factor (lb/vehicle mile traveled) | |
| sL (non-Winter) = | road surface silt loading ($g/m^2$) = | 0.6 ($g/m^2$) (AP-42, Table 13.2.1-3) |
| sL (Winter) = | sL (non-Winter) x 4 ($g/m^2$) = | 2.4 ($g/m^2$) (AP-42, Table 13.2.1-3) |
| w = | mean vehicle weight (tons) = | 29.0 tons |
| k = | empirical constant = | 0.082 for PM and 0.016 for PM10 |
| a = | empirical constant = | 0.65 |
| b = | empirical constant = | 1.5 |
| C = | emission factor for exhaust, brake and tire wear | 0.00047 for PM and PM10 |
| p = | number of days per year with 0.01 inches precipitation | 117 |

PM Emission Factor (non-Winter) = $(0.082 \times (0.6/2)^{0.65} \times (29/3)^{1.5} - 0.00047) \times (1 - 117/1460)$ = **1.04** lbs/mile
PM10 Emission Factor (non-Winter) = $(0.016 \times (0.6/2)^{0.65} \times (29/3)^{1.5} - 0.00047) \times (1 - 117/1460)$ = **0.20** lbs/mile

PM Emission Factor (Winter) = $(0.082 \times (2.4/2)^{0.65} \times (29/3)^{1.5} - 0.00047) \times (1 - 117/1460)$ = **2.55** lbs/mile
PM10 Emission Factor (Winter) = $(0.016 \times (2.4/2)^{0.65} \times (29/3)^{1.5} - 0.00047) \times (1 - 117/1460)$ = **0.50** lbs/mile

PM Emission Factor (Average Annual) = ((PM Emission Factor (non-Winter) x 9) + (PM Emission Factor (Winter) x 3))/12
PM Emission Factor (Average Annual) = **1.42** lbs/mile
PM10 Emission Factor (Average Annual) = ((PM10 Emission Factor (non-Winter) x 9) + (PM10 Emission Factor (Winter) x 3))/12
PM10 Emission Factor (Average Annual) = **0.28** lbs/mile

**2. Potential to Emit (PTE) of PM/PM10 from Paved Roads:**

| Vehicle Type | Ave Weight of Vehicles* (tons) | Maximum Trip Number* (trips/yr) | Round Trip Distance* (mile/trip) | Vehicle Mile Traveled (VMT) (miles/yr) | Traffic Component (%) | Component Vehicle Weight (tons) | PTE of PM (tons/yr) | PTE of PM10 (tons/yr) |
|---|---|---|---|---|---|---|---|---|
| Corn Trucks | 25.0 | 36,865 | 1.65 | 60,680 | 76.6% | 19.14 | 42.9 | 8.35 |
| Alcohol Trucks | 18.0 | 5,110 | 1.01 | 5,136 | 6.5% | 1.17 | 3.63 | 0.71 |
| Maltrodextrin Trucks | 23.0 | 2,628 | 1.67 | 4,386 | 5.5% | 1.27 | 3.10 | 0.60 |
| Meal Trucks | 25.0 | 365 | 1.13 | 412 | 0.52% | 0.13 | 0.29 | 0.06 |
| Feed Trucks | 25.0 | 7,665 | 1.13 | 8,654 | 10.92% | 2.73 | 6.12 | 1.19 |
| **Total **** | | | | **79,267** | **100%** | **24.4** | **50.0** | **9.7** |

* This information based on trucks per day (provided by the source) and 365 day/yr.
** Includes travel on facility roads (inside gate) and entrance road (outside gate).

**Methodology**

Vehicle Mile Traveled (miles/yr) = Trip Number (trips/yr) x Round Trip Distance (mile/trip)
Traffic Component (%) = VMT / Total VMT
Component Vehicle Weight = Ave. Weight of Vehicles (tons) x Traffic Component (%)
PTE of PM/PM10 before Control (tons/yr) = VMT (miles/yr) x PM/PM10 Emission Factors (Average Annual) x 1 ton/2000 lbs

**3. Potential to Emit (PTE) of PM/PM10 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 = 50.0 tons/yr x (1-50%) = **24.98 tons/yr**

PTE of PM10 after Control = 9.71 tons/yr x (1-50%) = **4.86 tons/yr**

**4. Unpaved Road 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:

lbs/VMT Equation: $E = k (s/12)^a (W/3)^b [(365 - P)/365]$

| Where: | | 0 | 0 | | |
|---|---|---|---|---|---|
| Particle size multiplier | k | 4.9 | dimensionless (PM-30 or TSP) | 1.5 | dimensionless PM-10 |
| surface material silt content (%) | s | 8.5 | Table 13.2.2-1 | | |
| mean vehicle weight | W | 5.00 | tons | | |
| Equation constants | a | 0.7 | PM-30 or TSP Table 13.2.2-2 | 0.9 | PM-10 Table 13.2.2-2 |
| | b | 0.45 | PM-30 or TSP Table 13.2.2-2 | 0.45 | PM-10 Table 13.2.2-2 |
| days with at least 0.01" precipitation | P | 117 | | | |

PM Emission Factor = $(4.9) \times (8.5/12)^{0.7} \times (5/3)^{0.45} [(365-117)/365]$ = **3.29** lbs/mile
PM10 Emission Factor = $(1.5) \times (8.5/12)^{0.9} \times (5/3)^{0.45} [(365-117)/365]$ = **0.94** lbs/mile

**5. Potential to Emit (PTE) of PM/PM10 from unpaved Roads:**

| | Vehicle Weight (tons) | Unpaved Total VMT | Total Vehicle Emissions (lb/yr) | Total Vehicle Emissions (tpy) |
|---|---|---|---|---|
| Alcohol Trucks | 18.00 | 200 | 657 | **0.33** |

**Methodology**

Total Vehicle Emissions (tons/yr) = Unpaved Total VMT (miles/yr) x PM/PM10 Emission Factors x 1 ton/2000 lbs

# APPENDIX B - BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION

**Source Information and Description of Modification**

| | |
|---|---|
| Source Name: | Grain Processing Corporation |
| Source Location: | 1443 South 300 West, Washington, Indiana 47501 |
| County: | Daviess |
| SIC Code: | 2046, 2048, 2085, 2099 |
| PSD/SSM No.: | 027-24380-00046 |
| Part 70 Permit No.: | T027-14200-00046 |
| Permit Reviewer: | Jenny Acker |

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed a federal BACT (Best Available Control Technology) review for a major modification relating to a corn wet milling plant owned and operated by Grain Processing Corporation (GPC) located in Washington, Indiana.

This plant has several operations that process corn to produce corn based products, such as, animal feed products, starches, and ethyl alcohol for beverage and industrial use. Plant operations also include support operations, including fossil fuel-fired boilers and an anaerobic wastewater treatment process.

GPC has proposed to increase the nominal capacity of the grinding operations from 26,280,00 bushels per year to 49,275,000 bushels per year. GPC has proposed several modifications related to the grind expansion project as follows:

- addition of two (2) steep tanks to the corn steeping process, requiring an increase in SO2 input to the system, which will increase SO2 emissions from the corn steeping, milling and germ separation, and starch and gluten separation areas
- addition of a new gluten tank and filter press at the milling and germ separation area
- addition of two (2) new gluten filters and a new starch tank at starch and gluten separation area
- the addition of a second gluten dryer
- the addition of a feed loadout vacuum system, with emissions controlled by a new baghouse FPC33
- addition of a caustic wet scrubber to control SO2 emissions from the combustion of biogas, prior to combustion at the germ dryer, the gluten dryers, the, starch dryer, thermal oxidizers FPC34a and FPC34b, the biogas flare, and/or the biogas emergency flare
- allowing the combustion of biogas in addition to natural gas at the germ dryer, the gluten dryers, thermal oxidizers FPC34a and FPC34b, and the starch dryer
- addition of an emergency biogas flare (UPC56)

GPC has also proposed to restart the Maltrodextrin line as part of the grind expansion project. The Maltrodextrin line was previously permitted under PSD CP 027-7239-00046 issued June 10th, 1997, but has not been in operation since April 2000. The filter aid storage bin associated with the Maltrodextrin line remained in use as a lime storage bin for the WWT system. The existing storage bin will revert to its original designation as a filter aid storage bin for the Maltodextin line and a new storage bin will be constructed as a lime storage bin for the WWT system.

**BACT Description**

This source is located in Daviess County which is designated as attainment or unclassifiable in Indiana for all criteria pollutants.

BACT is defined as "an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under the CAA emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of 'best available control technology' result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 111 or 112 of this Act."

According to the "Top-Down" Best Available Control Technology Guidance Document outlined in the 1990 draft USEPA New Source Review Workshop Manual, BACT analyses are conducted with a 'top-down' approach which consists of the following steps:

(1) Identify all potentially available control options;

(2) Eliminate technically infeasible control options;

(3) Rank remaining control technologies by control effectiveness;

(4) Evaluate control options; and

(5) Select BACT.

Also in accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, BACT analyses (specifically step 4) must take into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, and/or operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute to air pollution, thereby protecting public health and the environment. This BACT determination is based on the following information:

(1) The EPA RACT/BACT/LAER (RBLC) Clearinghouse;

(2) EPA and State air quality permits;

(3) Communications with control device equipment manufacturers;

(4) The EPA New Source Review website;

(5) Technical books and articles; and

(6) Guidance documents from, and communications with, state agencies.

## PM and PM10 BACT

The following units are subject to BACT requirements, because they are new emissions units, modified units subject to an existing BACT, or existing units proposing the revise the existing BACT:

New Units

- second gluten dryer, with PM/PM10 emissions controlled by wet scrubber FPC13 in series with thermal oxidizers FPC34a and FPC34b (in parallel)
- rotary germ cooler and exiting discharge conveyor, with PM/PM10 emissions controlled by scrubber FPC12 in series with thermal oxidizers FPC34a and FPC34b (in parallel)
- feed loadout vacuum system, with emissions controlled by new baghouse FPC33
- lime bin for WWT facility, with PM/PM10 emissions controlled by bin vent filter UPC52
- emergency biogas flare UPC56

Physically Modified Processes

- milling and germ separation system (Mill Area), with PM/PM10 emissions controlled by scrubber FPC07. A new gluten tank and filter will be added to the milling and germ separation process as a part of this modification.
- starch and gluten separation area (Feed Area), with PM/PM10 emissions controlled by scrubber FPC27. Two (2) new gluten filters and a new starch tank will be added to the starch and gluten separation process as a part of this modification.

Units Revising Existing BACT

- grain unloading, with PM/PM10 emissions controlled by baghouse CPC01
- Corn storage and cleaning systems, with PM/PM10 emissions controlled by baghouse FPC05
- corn gluten feed (CGF) transport system, with PM/PM10 emissions controlled by baghouse FPC18
- CGF final cage mill, with PM/PM10 emissions controlled by baghouse FPC19
- pellet storage bin, with PM/PM10 emissions controlled by bin vent filter FPC25
- starch loadout system, with PM/PM10 non-fugitive emissions controlled by baghouse SPC44a and fugitive emissions controlled by dust collector FPC44b
- starch spray dryer, with PM/PM10 emissions controlled by scrubber SPC49

The IDEM, OAQ has information that indicates that the PM/PM10 emissions from the following units have contributed to a violation of 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore, BACT will be re-evaluated for the following units:

- corn storage process supplemental gluten feed system, with PM/PM10 emissions controlled by baghouse FPC20
- existing gluten dryer, with PM/PM10 emissions controlled by scrubber FPC13 with emissions exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- corn gluten feed dryer, with PM/PM10 emissions controlled by condenser FPC17 with emissions exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- gluten transport system, with PM/PM10 emissions controlled by FPC14
- germ, gluten, gluten feed and gluten feed pellet loadout system, with PM/PM10 emissions controlled by baghouse FPC26

Pursuant PSD CP 027-7239-00046, issued on June 10, 1997, the maltodextrin production process is subject to the requirements of PSD BACT under 326 IAC 2-2. However, the maltodextrin production process has not been in operation since April 2000. As a result, the following units will be re-evaluated for BACT under 326 IAC 2-2 (Prevention of Significant Deterioration).

- maltrodextrin packaging system/screener, with PM/PM10 emissions controlled by dust collector MPC41

- maltrodextrin transfer conveyor, with PM/PM10 emissions controlled by baghouse MPC42
- maltrodextrin central vacuum system for the control of fugitive emissions generated by the maltrodextrin production process, with PM/PM10 emissions controlled by dust collector MPC43
- maltrodextrin storage system, consisting of four (4) storage bins, with PM/PM10 emissions controlled by four (4) identical bin vent filters, collectively identified as MPC44
- dry carbon storage bin, with PM/PM10 emissions controlled by bin vent filter MPC61
- maltrodextrin spray dryer, with PM/PM10 emissions controlled by scrubber MPC39

<u>Step 1: Identify Potential Control Technologies</u>

PM and $PM_{10}$ emissions are generally controlled through the use of add-on control equipment designed to capture the emissions prior to the time they are exhausted to the atmosphere. In cases where the material being emitted is organic, particulate matter may be controlled through a combustion process. Generally, PM and $PM_{10}$ emissions are controlled through one of the following mechanisms:

(1) Mechanical collectors (such as cyclones or multiclones)

(2) Electrostatic precipitators

(3) Fabric filter dust collectors

(4) Wet scrubbers

The choice of which technology is most appropriate for a specific application depends upon several factors, including particle size to be collected, particle loading, stack gas flow rate, stack gas physical characteristics (e.g., temperature, moisture content, presence of reactive materials), and desired collection efficiency.

<u>Step 2: Eliminate Technically Infeasible Options</u>

(1) Mechanical collectors (such as cyclones or multiclones) - Mechanical collectors are used whenever the particle size distributions generated by the process are relatively large (greater than 5 micrometers) and if the control efficiency requirements are in the low-to-moderate range of 50 to 90%, since these systems have a lower control efficiencies. They are also used as the pre-collector of large discard materials generated in some processes. Removal of this material is necessary to protect high-efficiency particulate control systems downstream from the mechanical collectors.

Mechanical collectors are not applicable to industrial sources that generate sticky and/or wet particulate matter, as in parts of GPC's operation. These materials can accumulate on the cyclone body wall or the inlet spinner vanes of conventional multi-cyclone collectors. Therefore, this technology is not technically feasible and no further evaluation will be made.

(2) Electrostatic Precipitators – An electrostatic precipitator (ESP) uses nonuniform, high-voltage fields to apply large electrical charges to particles moving through the field. The charged particles move toward an oppositely charged collection surface, where they accumulate. Electrostatic precipitators can have very high efficiencies due to the strong electrical forces applied to the small particles. These types of collectors can be used when the gas stream is not explosive and does not contain entrained droplets or other sticky material. The composition of the particulate matter is very important because it influences the electrical conductivity within the dust layers on the collection plate. This technology is not technically feasible for corn wet milling industry since the gas stream may contain entrained droplets and sticky material. In addition, the combustible dusts

(starch, corn dust, fiber, feed, etc.) present in the gas stream can be ignited by a spark and spread fire to the system and the plant. Therefore, this technology is not technically feasible and no further evaluation will be made.

(3) Fabric filter dust collectors – This control technology is technically feasible on certain operations. However, it is not a technically feasible option, to control particulate matter emissions from the feed hammermills/grinding due to fire and dust explosion concerns associated with the feed hammermills/grinding (potential metal to metal sparks from small pieces of metal entering the feed mill). Although the RACT/BACT/LAER Clearinghouse shows Cargill, Inc. as using a baghouse, the source employs sifters and screens prior to hammermilling. However, pieces of metal still get into the system and cause fires. GPC has the same concerns. A baghouse also increases the potential to spread the fire to other parts of the process downstream from the hammermills/grinding operations. Therefore, a baghouse is not technically feasible as a method of controlling PM/PM10 emissions from wet hammermill/grinding operations. This control option will be further evaluated for control of PM, and PM10 from other operations.

(4) Wet Scrubbers – All particulate wet scrubber designs utilize particle and/or droplet inertia as the fundamental force to transfer particles from the gas stream to the liquid stream. Within the scrubber, particle-laden air is forced to contact the liquid droplets, sheets of liquid on a packing material, or jets of liquid from a plate. Particles with too much inertia impact on the water droplet, water sheet, or water jet instead of passing around the "target" with the gas stream. Very often wet scrubbers are used as an alternative for Fabric Filters when there are potentially combustible or explosive particulate matter, gases, or vapors in the gas stream being treated. This control option is technically feasible for Grain Processing Corporation's operation. This control option will be further evaluated for control of PM/PM10.

Step 3: Rank The Remaining Control Technologies By Control Effectiveness

(a) Corn Receiving, Cleaning, and Conveying Operations:

The following technologies were identified as potentially available options that could be used to control PM/PM10 emissions from the corn receiving, cleaning and conveying operations. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| **Company Location (County)** | **RBLC / Permit # (Issuance Date)** | **Process Description** | **Control Technology** | **Basis: BACT/LAER** |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Grain Unloading | Baghouse (CPC01) $PM/PM_{10}$ 0.004 gr/dscf, 1.03 lbs/hr, 3% Opacity | BACT |
| | | Grain Storage and Cleaning | Baghouse (FPC05) $PM/PM_{10}$ 0.005 gr/dscf, 0.17 lbs/hr, 3% Opacity | |
| Grain Processing Corporation Daviess County | IN-0075 (06-10-1997) | Grain Receiving | Baghouse $PM_{10}$ 0.005 gr/dscf, 2.57 lbs/hr | BACT |
| | | Receiving Transfer Dust Collector | Baghouse $PM_{10}$ 0.005 gr/dscf, 0.17 lbs/hr | BACT |
| | | Reclaim Drag Conveyor, Transfer Bucket Elevator | Baghouse $PM_{10}$ 0.005 gr/dscf, 0.13 lbs/hr | BACT |
| | | Corn Cleaning, Scalping | Baghouse $PM_{10}$ 0.005 gr/dscf, 0.045 lbs/hr | BACT |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Cargill, Inc. Washington County | NE-0037 (09-08-2006) | Truck Unloading | Baghouse $PM/PM_{10}$ 0.003 gr/dscf 3-hr average | BACT |
| Red Trail Energy, LLC Stark County, ND | | Grain Receiving | Baghouse, 99.8% efficiency $PM/PM_{10}$ 0.004 gr/dscf 3-hr Average, | BACT |
| Ace Ethanol, LLC Stanley, Wisconsin | WI-0207 (01-21-04) | Corn Dump Pit, Auger, Corn Elevator | Baghouse PM 0.004 gr/dscf, 0.17 lbs/hr | BACT |
| Tate and Lyle Tippecanoe, County | Indiana Permit # 157-18832-00003 | Corn Receiving and Pneumatic Transfer | Baghouse $PM/PM_{10}$ 0.005 gr/dscf, 3% opacity | BACT |
| Cargill - Eddyville Monroe County | Iowa Permit: 06-TV-006 (07-22-2005) | Corn Receiving | Baghouse $PM_{10}$ 0.005 gr/dscf | BACT |
| Cargill - Eddyville Monroe County | | Feed House Conveyor | Baghouse PM 0.005 gr/dscf | BACT |
| Cargill - Eddyville Monroe County | | Material Handling Corn Receiving II | PM 0.005 gr/dscf | BACT |
| MN Corn Processors (now ADM) Lyon County | MN-Permit: 08300038-007 (05-25-2006) | Corn Silo | Fabric Filter Baghouse $PM/PM_{10}$ 0.01 gr/dcsf, 0.18 lb/hr | BACT |

Cargill, Inc., Washington County, Nebraska, has the most stringent BACT for the grain receiving operation, which is the use of a baghouse with a limit of 0.003 gr/dscf of PM/PM10 on a 3-hr average. However, this plant has not yet demonstrated compliance. Therefore, the most stringent BACT for PM for grain receiving is from Ace Ethanol, LLC, Stanley, Wisconsin, with a baghouse to control PM, limited at 0.004 gr/dscf. The most stringent BACT for PM10 is from Tate and Lyle, Tippecanoe County, Indiana, with a baghouse to control PM10, limited at 0.005 gr/dscf and a 3% opacity limit. Grain Processing Corporation has proposed a baghouse as control for the grain unloading limited at 0.004 gr/dscf of PM/PM10 and 3% opacity. The proposed BACT for the corn unloading operations meets the most stringent BACT for PM and exceeds the most stringent BACT for PM10. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

(b) Milling and Separation (Mill Area), and Starch and Gluten Separation (Feed Area)

The following technologies were identified as potentially available options that could be used to control PM/PM10 emissions from the Mill Area and the Feed Area operations. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | | Mill Area (wet milling) | Wet Caustic Scrubber (FPC07) $PM/PM_{10}$ 0.017 gr/dscf, 2.36 lb/hr | BACT |
| | | Feed Area (starch/gluten separation and dewatering) | Wet Caustic Scrubber (FPC27) $PM/PM_{10}$ 0.017 gr/dscf, 3.52 lbs/hr | BACT |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Tate and Lyle | Indiana Permit # 157-22808-00003 | Fiber Hammermill Aspiration 1 | Fabric Filter $PM/PM_{10}$ 0.005 gr/dscf, 0.466 lb/hr | BACT |
| Red Trail Energy, LLC Stark County | ND-0020 (8-4-2004) | Hammer milling | Baghouse $PM/PM_{10}$ 0.004 gr/dscf | BACT |
| Cargill - Eddyville Monroe County | Iowa Permit: 06-TV-006 (07-22-2005) | Fiber Hammermill | Baghouse PM 0.004 gr/dscf | BACT |
| MN Corn Processors (now ADM) Lyon County | MN-Permit: 08300038-007 (05-25-2006) | Corn Wet Milling and Steeping | Wet Scrubber $PM/PM_{10}$ 0.017 gr/acf, 6 lb/hr | BACT |
| MN Corn Processors (now ADM) Lyon County | | Millhouse Equipment | Scrubber $PM/PM_{10}$ 0.014 gr/acf, 6.00 lbs/hr | BACT |
| MN Corn Processors (now ADM) Lyon County | | Feedhouse Equipment | Scrubber $PM/PM_{10}$ 0.014 gr/acf 6.00 lbs/hr | BACT |

Baghouses are not technically feasible to control particulate matter emissions from the feed grinding mills due to safety concerns from fire and explosion, caused by sparks from small pieces of metal that gets into the feed mill. Due to this safety concern, the industry is slowly replacing baghouse controls with wet scrubbers for feed hammermills and grinding mills. Therefore, use of a baghouse to control PM/PM10 emissions from the hammermills will not be considered BACT.

*Mill Area*
ADM (formerly Minnesota Corn Processors), Lyon County, Minnesota has the most stringent BACT for PM/PM10 for wet corn millhouse operations, with a scrubber to control PM/PM10, limited at 0.014 gr/acf. Grain Processing Corporation has proposed a scrubber as control for the wet corn millhouse operations with a limit of 0.017 gr/dscf of PM/PM10, which is equivalent to ADM's BACT limitation of 0.014 gr/acf. The equivalent grain loading is based on the following:

The scrubber controlling the mill area has an exhaust flow rate of 20,100 acfm at $120^0$F. We can assume the scrubber exhaust is saturated, and therefore, the moisture content of the exhaust stream is 0.115 $ft^3$ of $H_20$ per $ft^3$ of wet air. Therefore:

dscfm = 20,100 acfm * $528^0R/580^0R$ * (1-.115) = 16,194 dscfm
gr/dscf = 0.014 gr/acf * 20,100 acfm/16,194 dscfm = 0.017 gr/dscf

The proposed BACT for the wet corn millhouse operations meets the most stringent BACT for PM/PM10. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

*Feed Area*
ADM (formerly Minnesota Corn Processors), Lyon County, Minnesota has the most stringent BACT for PM/PM10 for the feed area operations, with a scrubber to control PM/PM10, limited at 0.014 gr/scf. Grain Processing Corporation has proposed a scrubber as control for the feed area operations with a limit of 0.017 gr/scf of PM/PM10, which is equivalent to ADM's BACT limitation of 0.014 gr/acf. The equivalent grain loading is based on the following:

The scrubber controlling the mill area has an exhaust flow rate of 30,000 acfm at $120^0$F. We can assume the scrubber exhaust is saturated, and therefore, the moisture content of the exhaust stream is 0.115 $ft^3$ of $H_20$ per $ft^3$ of wet air. Based on the operating parameters of the scrubber and a limit of 0.014 gr/acfm, the equivalent grain loading of PM/PM10 in gr/dscf is calculated as follows:

dscfm = 30,000 acfm * $528^0$R/$580^0$R * (1-.115) = 24,170 dscfm
gr/dscf = 0.014 gr/acf * 30,000 acfm/24,170 dscfm = 0.017 gr/dscf

The proposed BACT for the feed operations meets the most stringent BACT for PM/PM10. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

(c) Germ Cooler and Drying System, Gluten, CGF, Starch and Maltrodextrin Dryers, and Pellet Milling and Cooling

The following technologies were identified as potentially available options that could be used to control PM/PM10 emissions from the Germ Cooling and Drying System, Gluten, CGF, Starch and Maltrodextrin Dryers, and Pellet Milling and Cooling operations. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| **Company Location (County)** | **RBLC / Permit # (Issuance Date)** | **Process Description** | **Control Technology** | **Basis: BACT/LAER** |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | CGF dryer, two (2) gulten dryers, germ dryer, germ cooling system, germ cooler discharge conveyor | CGF controlled by a condensing tower (FPC17),<br>gluten dryers controlled by one wet caustic scrubber (FPC13)<br>germ dryer controlled by one wet caustic scrubber (FPC12),<br>germ cooler controlled by a baghouse, which vents to the germ dryer<br>all in series with 2 thermal oxidizers (in parallel) (FPC34a & FPC34b)<br>$PM/PM_{10}$ 0.01 gr/dscf , 11.38 lbs/hr, and an 8% opacity | BACT |
| | | starch flash dryer | Wet Scrubber (SPC49)<br>$PM/PM_{10}$ 0.0092 gr/dscf, 4.96 lb/hr | BACT |
| | | maltrodextrin spray dryer | Wet Caustic Scrubber (MPC39)<br>$PM/PM_{10}$ 0.01 gr/dscf, 9.58 lbs/hr | BACT |
| Grain Processing Corporation Daviess County | IN-0075 (06-10-1997) | germ dryer and discharge conveyor | 50% Caustic Scrubber<br>PM 0.01 gr/dscf, 1.37 lb/hr | BACT |
| | | dry gluten discharge conveyor, gluten feed dryer scrubber, thermal oxidizer, CGF final dryer, gluten dryer | 50% Caustic Scrubber<br>PM 0.01 gr/dscf, 3.65 lb/hr | BACT |
| | | Starch flash dryer | Water Scrubber<br>PM 0.01 gr/dscf, 10.80 lb/hr | BACT |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| | | maltrodextrin spray dryer and maltrodextrin product cyclone | Water Scrubber<br>PM 0.01 gr/dscf, 13.50 lb/hr | BACT |
| Tate & Lyle – Sagamore Plant, Lafayette, Indiana | 157-22808-00003 (12-20-2006) | Germ, feed, fiber, and meal dryers | All units are controlled by a Scrubber in series with 2 thermal oxidizers<br>0.031 gr/dscf PM/PM10 after each RTO, 7.38 lbs/hr PM/PM10, and 8% opacity. | BACT |
| Tate & Lyle – Sagamore Plant, Lafayette, Indiana | 157-18832-00003 (09-13-2005) | Starch Spray Dryers | Scrubbers<br>$PM/PM_{10}$ 0.008 gr/acf, which is equivalent to 0.0092 gr/dscf, 8% opacity | BACT |
| ADM<br>Macon County | IL-0098<br>(10-27-2003) | Gluten Dryer | Cyclone<br>$PM_{10}$ 0.01 gr/dscf | BACT |
| Cargill, Inc. - Blair Washington County | NE-0016<br>(04-25-1996) | Meal Dryer and Cooler, Germ Extraction Plant | Cyclones/Wet Scrubber<br>PM 0.5 lb/hr<br>$PM_{10}$ 0.38 lb/hr | BACT |
| Cargill, Inc. - Blair Washington County | NE-0016<br>(04-25-1996) | Germ Dryer | Cyclone/Wet Scrubber<br>PM 2.5 lb/hr<br>(0.5 lb/MMBtu)<br>$PM_{10}$ 1.53 lb/hr<br>(0.31 lb/MMBtu) | BACT |
| Cargill - Eddyville Monroe County, | Iowa Permit: 06-TV-006 (07-22-2005) | Corn Germ Dryers & Coolers | Wet Scrubber with Caustic<br>$PM/PM_{10}$ 0.01 gr/dscf, 0.36 lb/hr | BACT |
| | | Meal Dryer/Cooler | Cyclone Scrubber<br>PM 0.01 gr/dscf, 1.377 lb/hr | BACT |
| | | Pellet Cooler | Baghouse<br>$PM/PM_{10}$ 0.018 gr/dscf, 3.24 lb/hr | BACT |
| MN Corn Processors (now ADM) Lyon County | MN-Permit: 08300038-007 (05-25-2006) | Corn gluten dryer (30 MMBtu/hr) | Wet Scrubber<br>$PM/PM_{10}$ 0.016 gr/dscf<br>11.8 lbs/hr | BACT |
| MN Corn Processors Platte County | NE-0014<br>(07-12-1995) | Germ Dryers | PM 7.81 lb/hr<br>$PM_{10}$ 3.82 lb/hr<br>Grain loading NA | BACT |
| MN Corn Processors Platte County | NE-0014<br>(07-12-1995) | Starch Dryer | Wet Scrubber<br>PM 24.33 lb/hr<br>$PM_{10}$ 11.92 lb/hr<br>Grain Loading NA | BACT |
| MN Corn Processors Platte County | NE-0014<br>(07-12-1995) | Fluidized Bed Germ Dryer | Spray Tower<br>PM 1.6 lb/hr<br>0.01 gr/scf (0.044 lb/MMBtu) | BACT |
| MN Corn Processors Platte County | NE-0014<br>(07-12-1995) | Gluten Meal Flash Dryer #2 | Cyclone/Scrubber<br>PM 0.01 gr/scf<br>3.94 lbs lbs/hr | BACT |

*Spray Starch Dryer*

Tate and Lyle - Sagamore Plant, Lafayette, Indiana has the most stringent BACT for PM/PM10 for starch spray dryers with a limit of 0.008 gr/acf of PM/PM10, which is equivalent to 0.0092 gr/dscf of PM/PM10.

The scrubber controlling the spray starch dryer has an exhaust flow rate of 89,000 acfm at $140^0$F. We can assume the exhaust is saturated, and therefore, the moisture content of the exhaust stream is 0.1962 $ft^3$ of $H_20$ per $ft^3$ of wet air. Based on the operating parameters of the scrubber and a limit of 0.008 gr/acfm, the equivalent grain loading of PM/PM10 in gr/dscf is calculated as follows:

dscfm = 89,000 acf * $528^0$R/$600^0$R * (1-.1962) = 62,954 dscf
gr/dscf = 0.008 gr/acf * 89,000 acf/62,954 dscf = 0.011 gr/dscf

Since a grain loading of 0.011 gr/dscf is greater than 0.0092 gr/dscf, a limit of 0.008 gr/acf is not equivalent to the most stringent BACT of 0.0092 gr/dsc. Grain Processing Corporation's (GPC) proposed BACT for the starch spray dryers is the use of a scrubber to control PM/PM10 with a limit of 0.0092 gr/dscf of PM/PM10. GPC's proposal of a scrubber with a limit of 0.0092 gr/dscf of PM and PM10 meets the most stringent BACT for the starch spray dryers. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

*Maltrodextrin Spray Dryer*
GPC's current BACT for PM for the maltodextrin spray dryers with a limit of 0.01 gr/dscf is the most stringent BACT for PM for the maltodextrin spray dryers. No other sources were located with a BACT for maltrodextrin dryers. GPC's proposal for the maltrodextrin spray drying is the continued use of a scrubber with a limit of 0.01 gr/dscf. No further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

*Germ Dryer and Cooler, Gluten Dryers, and CGF Dryer*
Grain Processing Corporation's proposed BACT for the germ dryer and germ cooler, gluten dryers, and CGF dryer is a scrubber controlling emissions from the germ dryer and cooler, a scrubber controlling emissions for the gluten dryers, and a condensing tower controlling emissions from the CGF dryer, with the two (2) scrubbers and condensing tower (in parallel) exhausting to two (2) thermal oxidizers (in parallel), with outlet limits for the thermal oxidizer of 0.01 gr/dscf of PM/PM10, 11.38 lb/hr of PM/PM10, and an opacity of 8%. The most stringent BACT for multiple units controlled by a scrubber/thermal oxidizer combination is Tate and Lyle - Sagamore Plant, Lafayette, Indiana with a limit of 0.031 gr/dscf and an opacity of 8%. The Tate and Lyle operation consists of multiple units controlled by one scrubber and the grain loading of 0.031 gr/dscf is based on each dryer's flow rate to the scrubber at 0.01 gr/dscf. GPC's proposed BACT of 2 scrubbers and 1 condensing tower exhausting to 2 thermal oxidizers (in parallel), with outlet limits for each thermal oxidizer of 0.01 gr/dscf PM/PM10 and an opacity of 8% exceeds the most stringent BACT limit. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

(d) Conveyance, Handling, Storage, and Loadout of Germ, Corn Gluten Feed (CGF), Gluten, and Gluten Pellet Products

The following technologies were identified as potentially available options that could be used to control PM/PM10 emissions from the Conveyance, Handling, Storage, and Loadout of Germ, Corn Gluten Feed (CGF), Gluten, and Gluten Pellet Products operations. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Gluten Pneumatic Transfer System, Note: emissions are 1st vented through a cyclone for product recovery | Baghouse (FPC14) $PM/PM_{10}$ 0.005 gr/dscf, 0.43 lb/hr, 3% Opacity | BACT |
| | | CGF Pneumatic Transfer System, Note: emissions are 1st vented through a cyclone for product recovery | Baghouse (FPC18) $PM/PM_{10}$ 0.005 gr/dscf, 1.61 lb/hr, 3% Opacity | BACT |
| | | Corn storage process supplemental gluten feed system | Baghouse (FPC20) $PM/PM_{10}$ 0.005 gr/dscf, 0.09 lb/hr, 3% opacity | BACT |
| | | CGF Final Cage Mill | Baghouse (FCP19) $PM/PM_{10}$ 0.005 gr/dscf, 0.13 lb/hr, 3% Opacity | BACT |
| | | Pellet Mill Storage Bin | Bin Vent Filter (FPC25) $PM/PM_{10}$ 0.005 gr/dscf, 0.004 lb/hr, 3% Opacity | BACT |
| | | Germ/Gluten/CGF/Pellets Pneumatic Transfer & Loadout | Baghouse (FCP26) $PM/PM_{10}$ 0.005 gr/dscf, 1.50 lb/hr, 3% Opacity | BACT |
| | | Feed Loadout Vacuum System | Baghouse (FCP33) $PM/PM_{10}$ 0.005 gr/dscf, 0.01 lb/hr, 3% Opacity | BACT |
| Grain Processing Corporation Daviess County | IN-0075 (06-10-1997) | Germ Transport | Baghouse $PM_{10}$ 0.005 gr/dscf 0.105 lbs/hr | BACT |
| | | Germ Storage Bin | Baghouse $PM_{10}$ 0.005 gr/dscf 0.005 lbs/hr | BACT |
| | | Dry Gluten Transport | Baghouse $PM_{10}$ 0.005 gr/dscf 0.085 lbs/hr | BACT |
| | | Gluten Storage Bin | Baghouse $PM_{10}$ 0.005 gr/dscf 0.005 lbs/hr | BACT |
| | | CGF Transport | Baghouse $PM_{10}$ 0.005 gr/dscf 2.15 lbs/hr | BACT |
| | | CGF Cage Mill | Baghouse $PM_{10}$ 0.005 gr/dscf 0.17 lbs/hr | BACT |
| | | CGF Fiber Storage Bin | Baghouse $PM_{10}$ 0.005 gr/dscf 0.005 lbs/hr | BACT |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| | | Pellet Storage Bin<br>Pellet Scalper | Baghouse<br>$PM_{10}$ 0.005 gr/dscf<br>0.13 lbs/hr | BACT |
| | | Germ/Gluten/CGF/Pellets Pneumatic Transfer & Loadout | Baghouse<br>$PM_{10}$ 0.005 gr/dscf<br>0.17 lb/hr | BACT |
| Tate and Lyle | Indiana Permit # 157-22808-00003 | Corn Cleaning, transfer silos to steeps | Baghouse<br>$PM/PM_{10}$ 0.004 gr/dscf<br>1.18 lbs/hr, 3% opacity | BACT |
| Tate and Lyle | | Gluten Meal Transfer receiver | Baghouse<br>0.005 gr/dscf PM/PM10<br>0.40 lb/hr<br>3% opacity | BACT |
| Tate and Lyle | | Storage Bin<br>Truck and rail loadouts | Baghouse<br>0.005 gr/dscf, 0.17 lb/hr<br>$PM/PM_{10}$<br>3% opacity | BACT |
| Tate and Lyle | Indiana Permit # 157-18832-00003 | Storage Bins, Dry Material Pneumatic Transfer | Baghouse<br>0.005 gr/dscf $PM/PM_{10}$<br>3% opacity | BACT |
| Cargill, Inc. Washington County | NE-0037 (09-08-2006) | Fiber Storage Bin Filter | Baghouse<br>$PM/PM_{10}$ 0.005 gr/dscf | BACT |
| | | Gluten Storage Bin Filter | Baghouse<br>PM 0.005 gr/dscf | BACT |
| | | Dry Germ Conveying | Baghouse<br>PM 0.005 gr/dscf | BACT |
| Red Trail Energy, LLC Stark County | ND-0020 (8-4-2004) | Hammer milling | Baghouse<br>PM 0.004 gr/dscf<br>$PM_{10}$ 0.004 gr/dscf | BACT |
| Cargill - Eddyville Monroe County | Iowa Permit: 06-TV-006 (07-22-2005) | Feed Loadout-Truck System | Baghouse<br>$PM_{10}$ 0.005 gr/dscf<br>0.186 lb/hr | BACT |
| Cargill - Eddyville Monroe County | | Gluten Loadout Conveying I | $PM/PM_{10}$ 0.007 gr/dscf<br>0.219 lb/hr | BACT |
| Cargill - Eddyville Monroe County | | Gluten Flash Dryer Conveying | Fabric Filter<br>PM 0.005 gr/dscf | BACT |
| Cargill - Eddyville Monroe County | | Gluten Flash Dryer Conveying II | PM 0.005 gr/dscf | BACT |
| MN Corn Processors Platte County | NE-0014 (07-12-1995) | Gluten Transfer Conveyor | PM 0.005 gr/dscf | BACT |
| MN Corn Processors Lyon County | MN-0038 (12-12-1997) | Gluten Transfer Conveyor | Fabric Filter<br>Baghouse<br>PM/PM10<br>0.17 lb/hr<br>0.005 gr/dcsf | BACT |

The RACT/BACT/LAER Clearinghouse listed several sources with a BACT for transfer, storage, and loadout of germ, CGF, gluten, and gluten pellets with a limit of 0.005 gr/dscf of PM/PM10. However, Tate and Lyle, Tippecanoe County, IN has the most stringent BACT for PM/PM10 for the handling and storage of dry products, which is the use of a baghouse to control PM/PM10 with a limit of 0.005 gr/dscf of PM/PM10 and a 3% opacity. Grain Processing Corporation has proposed the use of a baghouses, fabric filters, or bin vent filters as control for the dry product handling and storage grain unloading with a limit of 0.005 gr/dscf of PM/PM10 and a 3% opacity, which meets the most stringent BACT for these operations. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

(e) Starch and Maltrin Handling, Storage, and Packing/Loadout Processes and Lime Storage Bin for WWT System

The following technologies were identified as potentially available options that could be used to control PM/PM10 emissions from the Starch and Maltrin Handling, Storage, and Packing/Loadout Processes and Lime Storage Bin for WWT System operations. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Starch Loadout Receiver and Conveyance | Baghouse (SPC44a) $PM/PM_{10}$ 0.005 gr/dscf, 0.15 lb/hr, 3% opacity | BACT |
| | | Starch Loadout Dust Collection System | Baghouse (SPC44b) $PM/PM_{10}$ 0.005 gr/dscf, 0.29 lb/hr, 3% opacity | BACT |
| | | Carbon Storage for Maltrin Filtration | Bin Vent Filter (MPC61) $PM/PM_{10}$ 0.005 gr/dscf, 0.03 lb/hr, 3% opacity | BACT |
| | | Maltrin Loadout Receiver and Conveyance | Baghouse (MPC42) $PM/PM_{10}$ 0.005 gr/dscf, 0.34 lb/hr, 3% opacity | BACT |
| | | Maltrin Storage Bins | Bin Vent Filter (MPC44) $PM/PM_{10}$ 0.005 gr/dscf, 0.009 lb/hr, 3% opacity | BACT |
| | | Maltrin Screening, Packaging and Loadout | Baghouse (MPC41) $PM/PM_{10}$ 0.005 gr/dscf, 0.34 lb/hr, 3% opacity | BACT |
| | | Maltrin Central Vacuum System | Fabric Filter (MPC43) $PM/PM_{10}$ 0.005 gr/dscf, 0.02 lb/hr, 3% opacity | BACT |
| | | Lime Storage Bin for WWT Plant | Bin Vent Filter (UPC52) $PM/PM_{10}$ 0.005 gr/dscf, 0.05 lb/hr, 3% opacity | BACT |
| Grain Processing Corporation Daviess County | IN-0075 (06-10-1997) | Starch Reactor Soda Ash Storage Bin | Scrubber $PM_{10}$ 0.01 gr/dscf 0.17 lb/hr | BACT |
| | | Starch Reactor Brine Storage Bin | None (SPC65) $PM_{10}$ 0.17 lb/hr | BACT |
| | | Filter Aid Storage for Maltrin Filtration | Bin Vent Filter (MPC60) $PM_{10}$ 0.005 gr/dscf 0.03 lb/hr | BACT |
| | | Carbon Storage for Maltrin Filtration | Bin Vent Filter (MPC61) $PM_{10}$ 0.005 gr/dscf 0.03 lb/hr | BACT |
| | | Maltrin Central Vacuum System | Fabric Filter (MPC43) $PM_{10}$ 0.005 gr/dscf 0.1 lb/hr | BACT |
| Tate and Lyle | Indiana Permit # 157-22808-00003 | Starch Related Product Transfer to Bins | Baghouse $PM/PM_{10}$ 0.005 gr/dscf, 0.08 lbs/hr, 3% Opacity | BACT |
| | | Starch Related Product Transfer from Dryers | Baghouse $PM/PM_{10}$ 0.005 gr/dscf, 0.08 lbs/hr, 3% Opacity | BACT |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| | | Starch Storage Bins | Baghouse<br>$PM/PM_{10}$ 0.005 gr/dscf, 0.05 lbs/hr, 3% Opacity | BACT |
| | | Starch Related Product Transfer to Bag Packager | Baghouse<br>$PM/PM_{10}$ 0.005 gr/dscf, 0.11 lbs/hr, 3% Opacity | BACT |
| | | Starch Related Packer House Dust Collector | Baghouse<br>$PM/PM_{10}$ 0.005 gr/dscf, 0.65 lbs/hr, 3% Opacity | BACT |
| Tate and Lyle | Indiana Permit # 157-18832-00003 | Dextrin Blending and Storage | Baghouse<br>$PM/PM_{10}$ 0.005 gr/dscf, 0.13 lbs/hr, 3% Opacity | BACT |
| | | Dextrin Product Screening Receiver | Baghouse<br>$PM/PM_{10}$ 0.005 gr/dscf, 0.07 lbs/hr, 3% Opacity | BACT |

Tate and Lyle, Tippecanoe County, IN has the most stringent BACT for PM/PM10 for the starch and maltrodextrin handling, storage, and packing/loadout operations, which is the use of a baghouse to control PM/PM10 with a limit of 0.005 gr/dscf of PM/PM10 and 3% opacity. Grain Processing Corporation has proposed the use of baghouses, fabric filters, or bin vent filters as control for the starch and maltrodextrin dry product operations with a limit of 0.005 gr/dscf of PM/PM10 and 3% opacity, which meets the most stringent BACT for these operations. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

(f) Emergency Biogas Flare

The following technologies were identified as potentially available options that could be used to control PM/PM10 emissions from the emergency biogas flare. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Emergency Biogas Flare | no control<br>$PM/PM_{10}$ 0.0019 lb/MMBtu | Proposed |
| Homeland Energy Solutions Chicksaw County | Iowa Permit # 07-A-955P to 07-A-982P (08/08/2007) | Biomethanator Flare | no control<br>PM/PM10 0.0019 lb/MMBtu<br>0% opacity on a 6-min ave | BACT |
| United Wisconsin Grain Producers Columbia County | Wisconsin Permit # 03-DCF-048 (08/14/2003) | Biomethanator By-Pass Flare | no control<br>PM 0.009 lb/MMBtu | BACT |

Homeland Energy Solutions, Chicksaw County, IA has the most stringent BACT determination for PM/PM10 for flaring biogas generated by an ethanol facility, which is a limit of 0.0019 lb PM/PM10/MMBtu and 0% opacity on a 6-min average. The state of Iowa no longer requires 0% opacity. Since Homeland Energy Solutions is still under construction, the condition will be removed during a later permitting action. Grain Processing Corporation has proposed a limit of 0.0019 lb PM/PM10/MMBtu, which meets the most stringent BACT for this type of operation. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

**BACT Conclusion for PM/PM10**

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (BACT) for PM/PM10 emissions shall be as follows:

(a) The truck and rail car unloading process, and the corn cleaning process, and storage and conveyance system shall be limited as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Process (Control Device) | Stack | PM/PM10 Limit (gr/dscf) | PM/PM10 Limit (lb/hr) | Opacity |
|---|---|---|---|---|
| Truck and Railcar Corn Unloading Process (Baghouse CPC01) | CP01 | 0.004 | 1.03 | 3% |
| Corn Cleaning Process , Corn Storage System, and Corn Conveyance System (Baghouse FPC05) | FP05 | 0.005 | 0.17 | 3% |

(b) The milling area and feed area processes shall be limited as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Process | Control Device | Stack | PM/PM10 Limit (gr/dscf) | PM/PM10 Limit (lb/hr) |
|---|---|---|---|---|
| Primary Milling System<br>Germ Separation System<br>Secondary Milling System<br>(Milling Area) | Wet Caustic Scrubber (FPC07) | FP07 | 0.017 | 2.36 |
| Separation System<br>Starch and Gluten Separation System<br>(Feed Area) | Wet Caustic Scrubber (FPC27) | FP27 | 0.017 | 3.52 |

(c) The units of the germ production, corn gluten feed production, and gluten production, processes shall be limited as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table**:**

| Facility (Control) | Stack | PM Limit (gr/dscf) | PM10 Limit (lb/hr) | Opacity |
|---|---|---|---|---|
| corn gluten feed transport system (baghouse FPC18) | FP18 | 0.005 gr/dscf<br>1.61 lb/hr | 0.005 gr/dscf<br>1.61 lb/hr | 3% |

| Facility (Control) | Stack | PM Limit (gr/dscf) | PM10 Limit (lb/hr) | Opacity |
|---|---|---|---|---|
| corn gluten feed storage system (bin vent filter FPC22) | FP22 | 0.005 gr/dscf 0.005 lb/hr | 0.005 gr/dscf 0.005 lb/hr | N/A |
| corn gluten feed final mill system (baghouse FPC19) | FP19 | 0.005 gr/dscf 0.13 b/hr | 0.005 gr/dscf 0.13 b/hr | 3% |
| gluten transport system (baghouse FPC14) | FP14 | 0.005 gr/dscf 0.43 lb/hr | 0.005 gr/dscf 0.43 lb/hr | 3% |
| corn storage process supplemental gluten feed system (baghouse FPC20) | FP20 | 0.005 gr/dscf 0.09 lb/hr | 0.005 gr/dscf 0.09 lb/hr | 3% |
| germ dryer and discharge conveyor, and germ cooler (wet scrubber FPC12) CGF dryer (condensing tower FPC17) gluten dryers (wet scrubber FPC13) FPC12, FPC17, and FPC13 exhaust to thermal oxidizers (in parallel) FPC34a & FPC34b | FP34 | 0.01 gr/dscf 4.38 lbs/hr | 0.01 gr/dscf 4.38 lbs/hr | 8% |

(d) The corn gluten feed pellet production process shall be limited as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility (Control Device) | Stack | PM Limit | PM10 Limit | Opacity |
|---|---|---|---|---|
| pellet storage bin (bin vent filter FPC25) | FP25 | 0.005 gr/dscf 0.004 lb/hr | 0.005 gr/dscf 0.004 lb/hr | 3% |

(e) The germ, gluten, gluten feed, and gluten feed pellet loadout system, and the feed loadout vacuum system shall be limited as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility (Control) | Stack | PM/PM10 Limit | Opacity |
|---|---|---|---|
| Germ, gluten, gluten feed, and gluten feed pellet loadout system (baghouse FPC26) | FP26 | 0.005 gr/dscf 1.50 lb/hr | 3% |
| Feed loadout vacuum system (baghouse FPC33) | FP33 | 0.005 gr/dscf 0.01 lb/hr | 3% |

(f) The units associated with the starch production system shall be limited as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility (Control) | Stack | PM Limit | PM10 Limit | Opacity |
|---|---|---|---|---|
| starch dryer (scrubber SPC49) | SP49 | 0.092 gr/dscf 4.96 lb/hr | 0.092 gr/dscf 4.96 lb/hr | N/A |
| loadout system non-fugitive control (baghouse SPC44a) | SP44a | 0.005 gr/dscf 0.15 lb/hr | 0.005 gr/dscf 0.15 lb/hr | 3% |
| loadout system fugitive control (dust collector SPC44b) | SP44b | 0.005 gr/dscf 0.29 lb/hr | 0.005 gr/dscf 0.29 lb/hr | 3% |

(g) The units associated with the maltrodextrin production system shall be limited as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility (Control) | Stack | PM Limit | PM10 Limit | Opacity |
|---|---|---|---|---|
| dry carbon storage bin (bin vent filter MPC61) | MP61 | 0.005 gr/dscf 0.03 lb/hr | 0.005 gr/dscf 0.03 lb/hr | 3% |
| maltrodextrin drying system ( scrubber MPC39) | MP39 | 0.01 gr/dscf 9.58 lb/hr | 0.01 gr/dscf 9.58 lb/hr | N/A |
| Filter Aid Storage for Maltrin Filtration | MP60 | 0.005 gr/dscf 0.03 lb/hr | 0.005 gr/dscf 0.03 lb/hr | 3% |
| maltrodextrin transfer system (baghouse MPC42) | MP42 | 0.005 gr/dscf 0.34 lb/hr | 0.005 gr/dscf 0.34 lb/hr | 3% |
| maltrodextrin storage bins (bin vent filters MPC44) | MP44 | 0.005 gr/dscf 0.009 lb/hr | 0.005 gr/dscf 0.009 lb/hr | 3% |
| maltrodextin loadout and screening process (dust collector MPC41) | MP41 | 0.005 gr/dscf 0.34 lb/hr | 0.005 gr/dscf 0.34 lb/hr | 3% |
| maltrodextrin central vacuum system (dust collector MPC43) | MP43 | 0.005 gr/dscf 0.02 lb/hr | 0.005 gr/dscf 0.02 lb/hr | 3% |

(h) The units associated with the waste water treatment plant shall not exceed the emission limits listed in the table below:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table**:**

| Facility (Control) | Stack | PM Limit (gr/dscf) | PM10 Limit (lb/hr) | Opacity |
|---|---|---|---|---|
| lime storage bin (bin vent filter UPC52) | UP52 | 0.005 gr/dscf 0.05 b/hr | 0.005 gr/dscf 0.05 b/hr | 3% |
| emergency biogas flare | UP56 | 0.0019 lb/MMBtu | 0.0019 lb/MMBtu | N/A |

Compliance with these limits will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) with respect to PM and PM10 for the affected units.

## Hydrogen Sulfide (H2S) BACT

Biogas, which contains hydrogen sulfide (H2S), is produced by anaerobic digestion in the wastewater treatment plant. Pursuant to CP 027-7239-00046 and 326 IAC 2-2-3 (Prevention of Significant Deterioration – Best Available Control Technology (PSD-BACT)), PSD - BACT for H2S contained in the biogas produced by the anaerobic wastewater treatment plant is the use of a flare. H2S forms sulfur dioxide (SO2) when combusted in accordance with the following chemical reaction:

2 H2S + 3 02 yields 2 SO2 + 2 H2O

Combustion of biogas is, therefore, equivalent to 100% destruction of H2S. In order to utilize the heat content of the biogas and reduce natural gas usage, Grain Processing Corporation is proposing the option of combusting the biogas in numerous dryers throughout the plant and at RTOs FPC34a and FPC34b. Grain Processing Corporation will retain the existing flare for the purpose of flaring the biogas whenever biogas production exceeds the demand from the dryers and the RTOs. Grain Processing Corporation's proposal results in 100% destruction of H2S and the reduction in natural gas usage is both economically and environmentally beneficial. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

### BACT Conclusion for H2S

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (BACT) for H2S produced in the biogas from the wastewater treatment plant is the following:

(a) All biogas from the wastewater treatment plant shall be destructed by combustion.

All biogas shall be combusted in one or more of the following combustion units:

(1) one 18 MMBtu/hr flare (UPC54)
(2) one (1) emergency flare (UPC56)
(3) one (1) germ dryer
(4) two (2) gluten dryers
(5) one (1) starch dryer
(6) thermal oxidizers FPC34a and FPC34b

(b) Pursuant to PSD BACT for SO2, upon installation of the biogas gas scrubber, all biogas generated from anaerobic digestion at the waste water treatment plant will be scrubbed prior to combustion.

Compliance with these limits will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) with respect to H2S for the biogas generated anaerobic digestion at the waste water treatment plant.

## SO2 BACT

The following units are subject to BACT review, because they are new emissions units.

- second gluten dryer, with SO2 emissions controlled by scrubber FPC13 with emissions exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- rotary germ cooler and existing discharge conveyor, exhausting to the germ dryer, with SO2 emissions controlled by scrubber FPC12 with emissions exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)

The following units were not subject to PSD review for SO2 as part of the PSD CP 027-7239-00046 permitting process. Instead these units were permitted with limits that were meant to ensure the emissions of SO2 from the entire plant remained below 40 tons of SO2 per year. Although these units are not being physically modified, they will no longer be able to comply with the minor limits, and therefore, are subject to PSD review, including a BACT analysis, as part of the grind expansion:

- corn steeping process, with SO2 emissions controlled by wet scrubber FPC06 - two (2) additional steep tanks will be added as part of this modification
- milling and germ separation system, with SO2 emissions controlled by wet scrubber FPC07
- starch and gluten separation area, with SO2 emissions controlled by wet scrubber FPC27
- existing gluten dryer, with SO2 emissions controlled by scrubber FPC13 with emissions exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- corn gluten feed dryer, with SO2 emissions controlled by condenser FPC17 with emissions exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- starch spray dryer, with SO2 emissions uncontrolled
- germ dryer, with SO2 emissions controlled by scrubber FPC12 with emissions exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- maltrodextrin spray dryer, with SO2 emissions uncontrolled
- anaerobic WWT processes - GPC can not comply with the biogas generation limit
- boiler 1 and boiler 2, each capable of burning natural, alcohol heads, or fuel oil

<u>Step 1: Identify Potential Control Technologies</u>

The primary $SO_2$ sources are various combustion emissions, including product dryers and boilers, from wet milling operations, where sulfur dioxide is added as part of the steeping process, and from the biogas stream produced at the anaerobic digester, where the primary form of sulfur is in the form of H2S.

Add-on control methods are generally based upon exposure of sulfur dioxide molecules to reagents that react with sulfur dioxide to form a sulfate molecule that can then be captured as particulate. Sulfur dioxide control systems vary in reagent utilized to react with sulfur dioxide, the manner which the reagent is exposed to sulfur dioxide, and the manner in which sulfate molecules are captured.

(1) Flue Gas Desulfurization System (Wet or Dry Scrubber) – A flue gas desulfurization system (FGD) is comprised of a spray dryer that uses lime as a reagent followed by particulate control or wet scrubber that uses limestone as a reagent. FGD is an established technology. FGD typically operates at an inlet temperature of approximately $400^0$F to $500^0$F. The concentration of $SO_2$ in the exhaust gas is the driving force for the reaction between $SO_2$ and the reagent. Therefore, removal efficiencies are significantly reduced with lower inlet concentrations of $SO_2$. FGD systems are listed in the RBLC as BACT for sources high in $SO_2$ emissions.

(2) Caustic Wet Scrubber - The caustic scrubbing system that controls emissions by 90% at a higher concentration is a proven system and operates at or below $250^0$F. This control

option is technically feasible for GPC's operation and will be further evaluated for control of $SO_2$.

Step 2: Eliminate Technically Infeasible Options

The FGD system is not technically feasible as GPC's temperature of operations are less than 400$^oF$.

Step 3: Rank The Remaining Control Technologies By Control Effectiveness

(a) Combustion of WWT plant biogas

The following technologies were identified as potentially available options that could be used to control SO2 emissions from the combustion of biogas. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Anaerobic Digestion | Caustic wet scrubber - minimum control efficiency of 90% or SO2 < 550 ppm, and an outlet limit of 2.44 lbs H2S/hr, which is equivalent to 4.58 lbs SO2/hr | BACT |
| Tate and Lyle | Indiana Permit # 157-22808-00003 | Anaerobic Digestion | Caustic scrubber system –At >1.1% $H_2S$ by volume inlet concentration to the scrubber, the scrubber shall have a control efficiency of 90%, and outlet limit of 9.0 lbs/hr $SO_2$ (equivalent to 4.78 lbs/hr $H_2S$)<br><br>At ≤ 1.1% $H_2S$ by volume inlet concentration, the scrubber shall have an outlet concentration of < 0.11% $H_2S$ by volume and shall not exceed 9.0 lbs/hr $SO_2$ (equivalent to 4.78 lbs/hr $H_2S$) | BACT |

PSD BACT for H2S has been determined to be combustion of the biogas produced by the anaerobic wastewater treatment plant. Combustion of H2S produces SO2, which is a pollutant undergoing PSD review as part of this modification. Therefore, SO2 produced as a result of the combustion of biogas, which contains H2S, will be reviewed pursuant to the PSD-BACT. Control measures are the use of add-on controls to reduce H2S concentration in the gas stream, prior to combustion.

The most stringent BACT in the clearinghouse for control of SO2 from an anaerobic digestor is Tate and Lyle with the use of a caustic wet scrubber with a minimum 90% control efficiency for SO2, or SO2 < 0.11% H2S. The outlet concentration limit is based on 10% of the normal inlet loading and is necessary to supplement the 90% control requirement because at low SO2 inlet concentrations 90% control is not necessarily achievable.

Combustion of the biogas in the germ dryer and gluten dryers will meet the most stringent BACT, since the combustion emissions are vented to a wet caustic dryer with a minimum 90% control efficiency for SO2. However, Grain Processing Corporation has also proposed to combust the biogas in the following units with combustion emissions uncontrolled: RTOs FPC34a and FPC3b, spray starch dryer, and the biogas flare. In order to ensure a minimum 90% reduction in SO2 emissions at all times, Grain Processing Corporation's proposed BACT for SO2 emissions from biogas is the use of a wet caustic scrubber with a minimum control efficiency of 90% for H2S or H2S < 550 ppmvw, which is equivalent to 0.055%, and an outlet limit of 2.44 lb H2S/hr, which is equivalent to 4.58 lb SO2/hr. The H2S ppmvw limitation is based on an anticipated inlet loading of 5500 ppmvw H2S, and an outlet H2S loading not to exceed 550 ppmvw. The equivalent SO2 lb/hr limitation is calculated as follows:

4.58 lb SO2/hr = (550 mole H2S/1E+06 mole Biogas ) x (2 mole SO2/2 mole H2S) x (64.06 g SO2/mole SO2) x (1lb/453.59 g) x (1 mole Biogas/24.0 liter Biogas) x (28.31 liter/cuft) x (50,000 MMcf biogas/hr)

Grain Processing Corporation's proposed BACT for SO2 emissions from biogas meets the most stringent BACT. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

(b) Corn Steeping (Steep Area), Milling and Separation (Mill Area), and Starch and Gluten Separation (Feed Area)

The following technologies were identified as potentially available options that could be used to control SO2 emissions from the Corn Steeping (Steep Area), Milling and Separation (Mill Area), and Starch and Gluten Separation (Feed Area) operations. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| **Company Location (County)** | **RBLC / Permit # (Issuance Date)** | **Process Description** | **Control Technology** | **Basis: BACT LAER** |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Steep Area | Caustic Wet Scrubber (FPC06) The scrubber, the scrubber shall have a minimum control efficiency of 90% or SO2 <15 ppmvw, and an outlet limit of 4.70 lb/hr | BACT |
| | | Mill Area | Caustic Wet Scrubber (FPC07) The scrubber shall have a minimum control efficiency of 90% or SO2 < 15 ppmvw, and an outlet limit of 4.70 lb/hr | BACT |
| | | Feed Area | Caustic Wet Scrubber (FPC27) The scrubber shall have a minimum control efficiency of 90% or SO2 < 15 ppmvw, and an outlet limit of 7.52 lb/hr | BACT |
| Tate and Lyle | Indiana Permit # 157-22808-00003 | Wet Mill Aspiration System | Caustic Wet scrubber system The scrubber shall have a control efficiency of 90%, and outlet limit of 8.17 lb/hr , or an outlet concentration of < 15ppmvw | |
| MN Corn Processors (now ADM) Lyon County | MN-Permit: 08300038-007 (05-25-2006) | Wet Milling and Aspiration | Packed Tower Scrubber 90% control efficiency and 14.96 lb $SO_2$/hr | |
| Cargill, Eddyville, Iowa | | Millhouse aspiration | Packed Tower Scrubber 2.210 lb $SO_2$/hr | |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT LAER |
|---|---|---|---|---|
| Cargill, Eddyville, Iowa | | Millhouse aspiration II | Packed Tower Scrubber<br>1.4 lb $SO_2$/hr | |
| MN Corn Processors (now ADM) Lyon County | MN-Permit: 08300038-007 (05-25-2006) | Feedhouse operations | Wet Scrubber<br>8.98 lb $SO_2$/hr, greater than 70% control efficiency | |
| MN Corn Processors Platte County | | Wet Corn Milling | Wet Scrubber<br>5.64 lb $SO_2$/hr | |
| Cargill, Inc. - Blair Washington, Nebraska | | Millhouse/Feedhouse operations | Wet Scrubber<br>2.85 lb $SO_2$/hr | |
| Cargill, Inc. - Blair Washington, Nebraska | 6/22/04 | Steephouse aspiration | Scrubber<br>$SO_2$ limit – 0.83 lb/hr | |

The most stringent BACT in the clearinghouse for wet milling is Tate and Lyle with the use of a caustic wet scrubber with a minimum 90% control efficiency for SO2, or SO2 < 15 ppmvw. The outlet ppmvw limit is necessary to supplement the 90% control requirement because at low SO2 inlet concentrations 90% control is not necessarily achievable. Tate and Lyle's wet mill aspiration system controls SO2 emissions from steeping, milling, feed operations.

GPC's proposed BACT for SO2 for the steeping area is a caustic wet scrubber with a minimum overall efficiency of 90%, or SO2 < 15 ppmvw, and 4.70 lb SO2/hr.

GPC's proposed BACT for the milling area, is a caustic scrubber with a minimum overall efficiency of 90%, or SO2 < 15 ppmvw and 4.70 lb SO2/hr.

GPC's proposed BACT for the feed area is a caustic scrubber with a minimum overall efficiency of 90%, or SO2 < 15 ppmvw and 7.52 lb SO2/hr.

GPC's proposed BACT for the steeping area, the milling area, and the feed area meets the most stringent BACT. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

(c) Germ Dryer, Gluten Dryers, CGF Dryer, Germ Dryer and Cooler, Maltrodextrin Dryer, and Starch Dryer

The following technologies were identified as potentially available options that could be used to control SO2 emissions from the gluten dryers, the germ cooling and drying process, the CGF dryer, the maltodextrin dryer, and the starch dryer. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Gluten Dryers | Gluten Dryers controlled by caustic wet scrubber (FP13). The minimum overall control efficiency of the scrubber shall be 90%, or SO2 < 10 ppmvw, and an outlet limit of 13.07 lb/hr SO2. | BACT |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| | | CGF Dryer | CGF Dryer controlled by condenser (FP17). The minimum overall control efficiency of the condenser shall be 90%, or SO2 < 10 ppmvw, and an outlet limit of 7.52 lb/hr SO2. | BACT |
| | | Germ Dryer and Cooler | Germ Dryer and Cooler controlled by caustic wet scrubber (FP12). The minimum overall control efficiency of the scrubber shall be 90%, or SO2 < 10 ppmvw, and an outlet limit of 3.19 lb/hr SO2. | BACT |
| | | Maltrodextrin Spray Dryer | No Control, and 0.0006 lb $SO_2$/MMBtu (combustion emission limit) | |
| | | Starch Spray Dryer | No Control SO2 shall not exceed 91.63 lb SO2/MMcf, and 4.58 lbs/hr when combusting biogas,and 0.6 lb SO2/MMcf and 0.02 lb/hr when combusting natural gas (combustion emission limit) | |
| Tate and Lyle | Indiana Permit # 157-22808-00003 | Feed, Meal, Germ Production Dryers | Caustic Scrubber At >100 ppmvw inlet SO2 concentration, the scrubber shall have a 90% control efficiency, and 4.4 lb/hr SO2 emission rate. At ≤ 100 ppmvw inlet SO2 concentration, the scrubber shall have an outlet SO2 concentration of 10 ppmvw or less, and 4.4 lb/hr SO2 emission rate. | |
| Cargill, Eddyville, Iowa | | Gluten Dryer (NG) 40 MMBtu/hr rated | Clean Gas Scrubber 25.0 lb $SO_2$/hr | |
| MN Corn Processors (now ADM) Lyon County | | Gluten Dryer when burning biogas | Wet Scrubber 11.0 lb $SO_2$/hr 3-hr ave, > 90% control efficiency | |
| MN Corn Processors Platte County | NE-0014 (07/12/1995) | Gluten Dryer (26 MMBtu/hr) | Wet Scrubber 2.10 lb $SO_2$/hr 0.081 lb $SO_2$/MMBtu | |
| Cargill, Inc. - Blair Washington, Nebraska | 6/22/04 | Gluten Flash Dryer (45 MMBtu/hr) Germ Dryer (50 MMBtu/hr) | No Control on all units $SO_2$ limit – 7 lb/hr $SO_2$ limit – 2.1 lb/hr | BACT |
| Cargill, Inc. - Blair Washington, Nebraska | 8/27/98 | Germ Dryer | No Control Limit -0.03 lbs/hr, 0.0006 lb $SO_2$/MMBtu (combustion emission limit) | BACT |

*Maltrodextrin Dryer*

$SO_2$ emissions from the maltrodextrin dryer are from the combustion of natural gas and are not vented through the scrubber. The most stringent BACT in the clearinghouse for an indirect fired dryer is Cargill, Inc. - Blair's BACT with no controls and an emission limit of 0.0006 lb $SO_2$/MMBtu. GPC's proposed BACT for the maltrodextrin dryer of no control and an emission limit of 0.0006 lb $SO_2$/MMBtu meets the most stringent BACT. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

*Starch Spray Dryer*

$SO_2$ emissions from the starch spray dryer are from combustion of natural gas and/or scrubbed biogas and are uncontrolled. The most stringent BACT in the clearinghouse for a direct fired dryer when combusting biogas is ADM - Lyon County for a gluten dryer with a minimum control efficiency of 90%. Grain Processing Corporation's proposed BACT for $SO_2$ for biogas generated by anaerobic digestion is the use of a caustic wet scrubber prior to combustion throughout the facility and 90% control efficiency, which is equivalent to ADM's 90% control efficiency after combustion. Therefore, Grain Processing Corporation's proposed BACT of no additional controls after combustion of biogas, $SO_2$ not to exceed 91.63 lbs $SO_2$/MMCF of gas combusted, and 4.58 lb $SO_2$/hr meets the most stringent BACT. Additionally, Grain Processing Corporation's proposed BACT for the combustion of natural gas, which is 0.6 lb $SO_2$/MMCF and 0.02 lb/hr is equivalent to the maltrodextrin dryer BACT for the combustion of natural gas, which is 0.0006 lb $SO_2$/MMBtu. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

*Germ Dryers and Cooler, Gluten Dryers, and CGF Dryer*

$SO_2$ emissions from the germ dryers and cooler, gluten dryer, and CGF dryer are generated from drying the product and from fuel combustion. The most stringent BACT for these processes is Tate and Lyle, Indiana with a scrubber, a minimum overall control efficiency of 90% and a maximum ppmvw outlet $SO_2$ loading of 10 ppmvw. The outlet ppmvw limit is necessary to supplement the 90% control requirement because at low $SO_2$ inlet concentrations 90% control is not necessarily achievable.

Grain Processing Corporation's proposed BACT for the germ dryers and cooler is the use of a caustic wet scrubber with a minimum control efficiency of 90% or $SO_2 < 10$ ppmvw. The outlet ppmvw limit is necessary to supplement the 90% control requirement because at low $SO_2$ inlet concentrations 90% control is not necessarily achievable.

Grain Processing Corporation's proposed BACT for the gluten dryers is the use of a caustic wet scrubber with a minimum control efficiency of 90% or $SO_2 < 10$ ppmvw. The outlet ppmvw limit is necessary to supplement the 90% control requirement because at low $SO_2$ inlet concentrations 90% control is not necessarily achievable.

Grain Processing Corporation's proposed BACT for the CGF dryer is the use of a condensing tower with a minimum control efficiency of 90% or $SO_2 < 10$ ppmvw. The outlet ppmvw limit is necessary to supplement the 90% control requirement because at low $SO_2$ inlet concentrations 90% control is not necessarily achievable.

Grain Processing Corporation's proposed BACT for the germ dryers and cooler, the gluten dryer, and the CGF dryer meets the most stringent BACT. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

(d) Flash Cooler

The following technologies were identified as potentially available options that could be used to control SO2 emissions from the flash cooler condenser. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and did not identified any similar sources.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Flash Cooler, receiving sugars from the starch cooker, steep water stillage | Condenser (APC31) The condenser shall have a minimum control efficiency of 90% or SO2 < 15 ppmvw, and an outlet limit of 0.53 lbs/hr | Proposed |
| Tate and Lyle | Indiana Permit # 157-22808-00003 | Wet Mill Aspiration System | Caustic Wet scrubber system The scrubber shall have a control efficiency of 90%, and outlet limit of 8.17 lb/hr , or an outlet concentration of < 15ppmvw | BACT |

*Flash Cooler*
A search of the clearinghouse did not yield any BACT for control of a flash cooling processes. However, the flash cooling process utilizes a condensing tower as part of the process, which functions in a manner similar to a scrubber. The most stringent BACT in the clearinghouse using a scrubber to control SO2 emissions from a stream at ambient temperature is Tate and Lyle's BACT with the use of a caustic wet scrubber with a minimum 90% control efficiency for SO2, or SO2 < 15 ppmvw. The outlet ppmvw limit is necessary to supplement the 90% control requirement because at low SO2 inlet concentrations 90% control is not necessarily achievable.

GPC's proposed BACT of a condenser with a minimum control efficiency of 90% or SO2 < 15 ppmvw, meets the most stringent BACT for SO2 removal from a gas stream were heat is not required to drive off SO2. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

(e) Boiler 1 and Boiler 2

The following technologies were identified as potentially available options that could be used to control SO2 emissions from the combustion of natural gas, alcohol heads, by-product waste oil. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Boiler 1 and Boiler 2 | no control, 0.0006 lb/MMBtu when combusting natural gas, SO2 content not to exceed 6.9 ppmv, and 600 gallons per hour when combusting alcohol heads and by-product waste oil | BACT |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Cargill Oilseeds Division - Shelby County | OH Permit 05-12183 (11/28/2003) | Crush Plant Boiler w/fuel oil/soybean oil | no control<br>very low sulfur fuel oil 0.5% by weight, when combusting fuel oil<br>0.0006 lb/mmbtu when combusting natural gas | BACT |
| Archer Daniels Midland - Northern Sun Ransom County | ND Permit PTC06004 (02/01/2006) | Auxillary Boiler | no control<br>very low sulfur fuel oil 0.5% by weight, when combusting fuel oil | BACT |
| Proctor & Gamble Madison County | TN Permit 9252983P | Utility Boiler #2 | no control<br>very low sulfur fuel oil 0.2% by weight, when combusting fuel oil | |

A search of RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources failed to yield any BACT determinations for the combustion of oils produced through wet milling of corn. However, the most stringent BACT for combustion of fuel oil is Proctor & Gamble's with a limit of 0.2% by weight of sulfur. Grain Processing Corporation's proposed BACT when combusting alcohol heads and by-product waste is a limit of 6.9 ppmv SO2, which is equivalent to 0.00069 % sulfur by weight.

Grain Processing Corporation's proposed BACT, which is a limit of 0.0006 lb SO2/MMBtu of natural gas combusted, SO2 not to exceed 6.9 ppmv for the alcohol heads and by-product waste oil, and a limit of 600 gallons of alcohol heads and by-product waste oil combusted per hour, exceeds the most stringent BACT for combustion of natural gas and oil. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

**BACT Conclusion for $SO_2$**

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (BACT) for SO2 emissions shall be as follows:

(a) Biogas generated by anaerobic digestion at the waste water treatment plant shall be limited as follows:

(1) All biogas shall be controlled by wet caustic scrubber UPC55.

(2) The overall control efficiency for scrubber UPC55 (including the capture efficiency and adsorption efficiency) shall be at least 90% or the H2S outlet concentration shall not exceed 550 ppmvw.

(3) The H2S emissions from scrubber UPC55 shall not exceed 2.44 lbs/hr, which is equivalent to 4.58 lbs/hr of SO2 generated during combustion of biogas.

(4) The hydrogen sulfide content of the untreated biogas, the hydrogen sulfide content of the biogas treated by the biogas scrubber (UPC55), the temperature of the biogas at the time of testing, and the total amount of biogas treated by the scrubber (UPC55) shall be measured on a daily basis and used to calculate an average hourly sulfur dioxide emission rate and scrubber removal efficiency. If the biogas is directed to the emergency flare (UPC56) the hydrogen sulfide content of the untreated biogas, the temperature of the untreated biogas at the

time of testing, and the total amount of untreated biogas burned by the emergency flare (UPC56) shall be measured on a daily basis and used to calculate a daily sulfur dioxide emission rate.

(b) SO2 emissions from the corn steeping process shall be limited as follows:

(1) The emissions from the corn steeping process shall be controlled by wet caustic wet scrubber FPC06.

(2) The overall control efficiency for the caustic wet scrubber FPC06 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppmvw.

(3) The SO2 emissions from stack FP06 shall not exceed 4.70 lbs/hr.

(c) SO2 emissions from the primary milling system, the germ separation system, and the secondary milling system (mill area) shall be limited as follows:

(1) The emissions from the primary milling system, the germ separation system, and the secondary milling system shall be controlled by wet caustic wet scrubber FPC07.

(2) The overall control efficiency for the caustic wet scrubber FPC07 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppmvw.

(3) The SO2 emissions from stack FP07 shall not exceed 4.70 lbs/hr.

(d) SO2 emissions from the fiber separation system, and the starch and gluten separation system (feed area) shall be limited as follows:

(1) The emissions from the fiber separation system, and the starch and gluten separation system shall be controlled by wet caustic wet scrubber FPC27.

(2) The overall control efficiency for the caustic wet scrubber FPC27 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppmvw.

(3) The SO2 emissions from stack FP27 shall not exceed 7.52 lbs/hr.

(e) SO2 emissions from the germ production, corn gluten feed production, and gluten production processes shall be limited as follows:

(1) The SO2 emissions from the germ cooler and dryer shall be controlled by scrubber FPC12.

(2) The overall control efficiency for scrubber FPC12 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 10 ppmvw.

(3) The SO2 emissions from scrubber FPC12 shall not exceed 3.19 pounds per hour.

(4) The SO2 emissions from the CGF dryer shall be controlled by condenser FPC17.

(5) The overall control efficiency for condenser FPC17 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 10 ppmvw.

(6) The SO2 emissions from condenser FPC17 shall not exceed 7.52 pounds per hour.

(7) The SO2 emissions from the gluten dryers shall be controlled by scrubber FPC13.

(8) The overall control efficiency for scrubber FPC13 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 10 ppmvw.

(9) The SO2 emissions from scrubber FPC13 shall not exceed 13.07 pounds per hour.

(f) SO2 emissions from the maltrodextrin spray dryer (MP39) shall be shall be no control and SO2 emissions shall not exceed 0.0006 lb/MMBtu.

(g) SO2 emissions from the starch spray dryer (SPC49) shall be limited as follows:

(1) The SO2 emissions, when combusting biogas, shall not exceed 91.63 lb/MMCF and 4.58 lb/hr.

(2) The SO2 emissions, when combusting natural gas, shall not exceed 0.6 lb/MMCF and 0.02 lb/hr.

(h) SO2 emissions from the flash vent condenser system (APC31) shall be limited as follows:

(1) The SO2 emissions from the fermentable sugar cooling, steep water, and stillage shall be controlled by condenser APC31.

(2) The overall control efficiency for the condenser (APC31) (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppmvw.

(3) The SO2 emissions from condenser (APC31) shall not exceed 0.53 lb/hr.

(i) SO2 emissions from boiler 1 and boiler 2 shall be limited as follows:

(1) The SO2 emissions from each boiler shall not exceed 0.0006 lb/MMbtu when combusting natural gas.

(2) The Sulfur (S) content of the alcohol heads and by-product waste oil shall not exceed 6.9 ppmv.

(3) The amount of alcohol heads and by-product waste oil combusted shall not exceed six hundred (600) gallons per hour.

Compliance with these limits will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) with respect to SO2 for the affected units.

## NOx BACT:

The following units are subject to BACT requirement, because they are new emissions units or modified units:

New Units:

- second gluten dryer, with NOx emissions controlled by a water quench system, exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- rotary germ cooler and existing discharge conveyor, with NOx emissions controlled by a water quench system, exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- emergency biogas flare UPC56

Units Revising Existing BACT

- CGF dryer, with NOx emissions controlled by a flue gas recirculation system, exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- existing gluten dryer, with NOx emissions controlled by a water quench system, exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- germ dryer, with NOx emissions controlled by a water quench system, exhausting through thermal oxidizers FPC34a and FPC34b (in parallel)
- starch spray dryer, with NOx emissions uncontrolled

Pursuant PSD CP 027-7239-00046, issued on June 10, 1997, the maltodextrin production process is subject to the requirements of PSD BACT under 326 IAC 2-2. However, the maltodextrin production process has not been in operation since 2002. As a result, the following units will be re-evaluated for BACT under 326 IAC 2-2 (Prevention of Significant Deterioration).

- maltrodextrin spray dryer with NOx emissions uncontrolled

Step 1: Identify Potential Control Technologies

The following nitrous oxide (NOx) control technologies were considered for this analysis:

(1) Selective Catalytic Reduction (SCR)

(2) Selective Non-Catalytic Reduction (SCR)

(3) Combustion Controls

A description of the control technologies is provided below:

Selective Catalytic Reduction (SCR)
In the selective catalytic reduction (SCR) process, reduces the $NO_x$ molecule into molecular nitrogen and water vapor. Anhydrous ammonia is injected into the flue gas upstream of the catalyst bed, where mixing between ammonia and $NO_x$. The mixture passes through the catalyst bed so that NO is reduced to $N_2$. The function of the catalyst is to lower the activation energy of the NO decomposition to $N_2$ reaction. SCR is capable of $NO_x$ reduction efficiencies in the range of 70% to 90%. The optimum temperature required for NO reduction is between 530 and 800 °F. The catalyst is comprised of base metals, such as vanadium, titanium, molybdenum, and platinum. Catalyst activity is a measure of the $NO_x$ reduction reaction rate. Catalyst deactivation is cause by: poisoning of active sites by flue gas constituents; thermal sintering of active sites due to high temperatures within reactor; blinding/plugging/fouling of active sites by ammonia-sulfur salts and particulate matter; and erosion due to high gas velocities. When a catalyst activity decreases, the $NO_x$ removal decreases and ammonia slip increases. When the ammonia slip reaches the maximum design or permitted level, new catalyst must be installed.

Selective Non-Catalytic Reduction (SCR)
Selective non-catalytic reduction (SNCR) is a chemical reduction of the $NO_x$ molecule into molecular nitrogen ($N_2$) and water vapor. A nitrogen based reducing agent (reagent), like ammonia or urea, is injected into the post combustion flue gas. The reduction reaction with $NO_x$ is has a temperature range of between 1,600 °F and 2,100 °F. In the SNCR process, the combustion unit acts as the reaction chamber. The reagent is injected within the boiler superheater and reheater radiant and convective regions, where the combustion gas temperature is at the required temperature range. The injection system is designed to promote mixing of the reagent with flue gas. $NO_x$ reduction levels range from 30% to 50%. If the SNCR is applied along with combustion controls (i.e. low $NO_x$ burners) reduction of 65% to 75% is possible.

Combustion Controls
Combustion controls establish the appropriate conditions for the complete combustion of the fuel. Requirements for this process is the presence of sufficient excess air, thorough mixing of fuel and air, and adequate furnace residence time. These conditions are met by the design of the fuel delivery system to the furnace, the operation of the fuel burners and size and configuration of the furnace geometry. Maintenance of the low emission levels can be provided for by the inclusion of combustion controls on each combustion unit that regulate and monitor the flow of air and fuel to the furnace area. Automated combustion controls to regulate air/fuel ratios and provide for sufficient air at all times, especially during periods of changing boiler/dryer load conditions is essential to maintain tight control over all combustion operations. Furnace design, fuel selection, design and operation are all components of combustion control. Low-NOx burners are one such design control that allows more complete combustion of the fuel and offers lower NOx emissions.

Additional methods of combustion control, include controlling the combustion temperature. The basic technique is to reduce the temperature of combustion products with an excess of fuel, air, flue gas (flue gas recirculation), or steam (water quench). This effectively prevents the majority of nitrogen from becoming ionized. Low-NOx burners are partially based on this principle.

Step 2: Eliminate Technically Infeasible Options

Selective Catalytic Reduction (SCR)
Selective Catalytic Reduction (SCR) process involves the mixing of anhydrous or aqueous ammonia vapor with flue gas and passing the mixture through a catalytic reactor to reduce NOX to N2. Under optimal conditions, SCR can have a removal efficiency up to 90% when used on steady state processes. The efficiency of removal will be reduced for processes that are not stable or require frequent changes in the mode of operation. The most important factor affecting SCR efficiency is temperature. SCR can operate in a flue gas window ranging from 500°F to 1100°F, although the optimum range for SCR to be effective is 625°F to 700°F.

SCR was determined to be technologically infeasible for the dryers because they operate at much lower temperature than 500°F.

Selective Non-Catalytic Reduction
With selective non-catalytic reduction (SNCR), NOX is selectively removed by the injection of ammonia or urea into the flue gas at an appropriate temperature window of 1600°F to 2000°F and without employing a catalyst. Similar to SCR without a catalyst bed, the injected chemicals selectively reduce the NOX to molecular nitrogen and water. This approach avoids the problem related to catalyst fouling but the temperature window and reagent mixing residence time is critical for conducting the necessary chemical reaction. At the proper temperature, urea decomposes to produce ammonia which is responsible for NOX reduction. At a lower temperature, the rates of NOX reduction reactions become too slow resulting in urea slip (i.e., emissions of unreacted urea).

SNCR was determined to be technologically infeasible for the dryers because they operate at much lower temperature than 1600°F.

Step 3: Rank The Remaining Control Technologies By Control Effectiveness

(a) Feed Processing Dryers

The following technologies were identified as potentially available options that could be used to control NOx emissions from combustion at the gluten dryers, the CGF dryer, the germ dryer, the starch spray dryer, and the maltrodextrin spray dryer. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| **Company Location (County)** | **RBLC / Permit # (Issuance Date)** | **Process Description** | **Control Technology** | **Basis: BACT/LAER** |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Gluten Dryers, CGF Dryer, Germ Dryer | Gluten Dryers controlled by a water quench system, NOx shall not exceed 0.06 lb/MMBtu when burning natural gas and/or biogas<br>CGF Dryer controlled a flue gas recirculation system, NOx shall not exceed 0.047 lb/MMBtu when burning natural gas<br>Germ Dryer controlled by a water quench system, NOx shall not exceed 0.06 lb/MMBtu when burning natural gas and/or biogas | BACT |
| | | Starch Spray Dyer | NOx shall not exceed 0.075 lb/MMBtu when burning natural gas and/or biogas | BACT |
| | | Maltrodextrin Spray Dyer | NOx shall not exceed 0.075 lb/MMBtu when burning natural gas | BACT |
| Grain Processing Corporation Daviess County | IN-0075 (06-10-1997) | Gluten Dryers, CGF Dryer, Germ Dryer when combusting natural gas | CGF Dryer flue gas recirculation & NOx < 0.047<br>Gluten Dryer and Germ Dryer water quench systems & NOx < 0.06 lb/MMBtu | BACT |
| | | Starch Spray Dyer | No control<br>NOx < 0.075 lb/MMBtu | BACT |
| | | Maltrodextrin Spray Dyer | No control<br>NOx < 0.075 lb/MMBtu | BACT |
| Golden Grain Energy | IA-0082 4/19/2006 | DDGS Dryer | Low NOx burners, flue gas recirculation<br>90% control efficiency | BACT |
| Ace Ethanol – Stanley | WI-0207 01/21/2004 | DDGS Dryer, Cooling Cyclone | Low/Ultra Low NOx Burners<br>8.6 lb/hr NOx | BACT |
| Cargill - Eddyville | | Fiber Dryer | 11.20 lb/hr NOx,<br>Equivalent to 0.14 lb/MMBtu | |
| Bunge Corporation | IA-0054 05/20/1997 | Grain Dryer #1 D1A<br>Grain Dryer #1 D1B<br>Grain Dryer #2 D2A<br>Grain Dryer #2 D2B | Natural Gas or #2 Fuel Oil<br>3.41 lb/hr NOx, each dryer equivalent to 0.11 lb/MMBtu average | BACT |
| Tate and Lyle Sagamore Planty | Indiana Permit # 157-22808-00003 12/20/06 | Fiber flash dryer furnace, gluten meal flash dryer, feed dryers, regenerative thermal oxidizers | 0.06 lb/MMBtu, when burning natural gas and/or biogas | BACT |

*Germ Dryer, and Gluten Dryers*
Grain Processing Corporation's (GPC) current BACT for NOx for the combustion of natural gas at the germ dryer and gluten dryers, which is a limit of 0.06 lb/MMBtu, is the most stringent BACT for these operations. However, as part of this modification GPC has requested the option to combustion either natural gas or biogas generated at the wastewater treatment plant at the germ and gluten dryers. Tate and Lyle - Sagamore Plant has the most stringent BACT for NOx for the combustion of natural gas and/or biogas at a feed dryer, which is a limit of 0.06 lb NOx/MMBtu when combusting natural gas and/or biogas. GPC's proposed BACT for NOx for combustion of natural gas and/or biogas at the germ dryer and the gluten dryers with the use of water quench systems and a limit of 0.06 lb NOx/MMBtu meets the most stringent BACT for this type of operation. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

*CGF Dryer*
Grain Processing Corporation's (GPC) current BACT for NOx for the combustion of natural gas at the CGF dryer, which is a limit of 0.047 lb/MMBtu, is the most stringent BACT for this type of operation. However, as part of this modification GPC has requested the option to combustion either natural gas or biogas generated at the wastewater treatment plant at the CGF dryer. A search of the RBLC failed to yield a BACT for NOx from combustion of biogas at a similiar unit. However, Tate and Lyle - Sagamore Plant has several BACT determinations from combustion of natural gas and/or biogas at dryers, which imply that NOx emissions from combustion of biogas is the same as NOx emissions from the combustion of natural gas. GPC's proposed BACT for NOx for combustion of natural gas and/or biogas at the CGF dryer with the use of flue gas recirculation system and a limit of 0.047 lb NOx/MMBtu meets the most stringent BACT for this type of operation. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

*Starch Spray Dryer*
Grain Processing Corporation's (GPC) current BACT for NOx for the starch spray dryer is a limit of 0.075 lb/MMBtu when combusting natural gas. As part of this modification, GPC has requested the option to combustion either natural gas or biogas generated at the wastewater treatment plant at the starch spray dryer. Since a physical modification is not necessary to achieve combustion of biogas, a re-evaluation of BACT when combusting natural gas is not required. Therefore, a BACT evaluation is necessary for the combustion of biogas. A search of the RBLC failed to yield a BACT for NOx from combustion of biogas at a similiar unit. However, Tate and Lyle - Sagamore Plant has several BACT from combustion of natural gas and/or biogas at dryers, which imply that NOx emissions from combustion of biogas is the same as NOx emissions from the combustion of natural gas. GPC's current BACT for NOx for the combustion of natural gas at the starch spray dryer will be BACT for the combustion of biogas at the starch spray dryer. Grain Processing Corporation's proposed BACT for NOx for combustion of natural gas and/or biogas at the starch spray dryer with a limit of 0.075 lb NOx/MMBtu is the most stringent BACT for this type of operation. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

*Maltrodextrin Spray Dryer*
Grain Processing Corporation's (GPC) current BACT for NOx for the combustion of natural gas at the maltrodextrin spray dryer, which is a limit of 0.06 lb/MMBtu, is the most stringent BACT for these operations. GPC's proposed BACT for NOx for combustion of natural gas at the maltrodextrin spray dryer with a limit of 0.06 lb NOx/MMBtu is the most stringent BACT for this type of operation. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

(b) Flare

The following technologies were identified as potentially available options that could be used to control NOx emissions from combustion of biogas by a flare. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Emergency Biogas Flare | | Proposed |
| Homeland Energy Solutions Chicksaw County | Iowa Permit # 07-A-955P to 07-A-982P (08/08/2007) | Biomethanator Flare | 0.07 lb NOx/MMBtu | Proposed |

The only BACT for NOx emissions from combustion of biogas at a flare is from Homeland Energy Solutions, Chicksaw County, IA with a limit of 0.07 lb NOx/MMBtu. Grain Processing Corporation's proposed BACT for the emergency biogas flare for NOx is a limit of 0.07 lb NOx/MMBtu, which meets most stringent BACT. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

**BACT Conclusion for $NO_X$**

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (BACT) for NOx emissions shall be as follows:

(a) The germ production, corn gluten feed production, gluten production processes shall be limited as follows:

NOx emissions shall be controlled by the following methods and shall not exceed the emission limits listed in the following table:

| Facility | Control Device | NOx Limit (lb/MMBtu) |
|---|---|---|
| germ dryer and germ cooler | water quench system | 0.06 lb/MMBtu |
| CGF dryer | flue gas recirculation system | 0.047 lb/MMBtu |
| gluten dryers | water quench system | 0.06 lb/MMBtu |

(b) Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the starch spray dryer shall be no control and the NOx emissions from the starch dryer shall not exceed 0.075 lb/MMBtu.

(c) Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the maltrodextrin spray dryer (MP39) shall be no control and NOx emissions shall not exceed 0.06 lb/MMBtu.

(d) Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (PSD BACT) for NOx for the emergency biogas flare (UPC56) shall be no control and NOx emissions shall not exceed 0.07 lb/MMBtu.

Compliance with these limits will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) with respect to NOx for the affected units.

## VOC BACT
## Excluding Pre-Fermentation & Fermentation

The following units are subject to BACT requirement, because they are new emissions units or existing units proposing the revise existing BACT limits:

New Units:

- second gluten dryer, with VOC, exhausting to wet caustic scrubber FPC13 with emissions exhausting through thermal oxidizers FPC34a and FPC34b (in parallel) for VOC control
- rotary germ cooler and existing discharge conveyor, exhausting to the germ dryer, with emissions vented to wet caustic scrubber FPC12 and exhausting through thermal oxidizers FPC34a and FPC34b (in parallel) for VOC control
- emergency biogas flare UPC56

Units with existing BACT limits that require revised limits:

- CGF dryer, with emissions exhausting to a condensing tower, which exhaust to thermal oxidizers FPC34a and FPC34b (in parallel)
- germ dryer with emissions exhausting to a wet caustic scrubber, which exhaust to thermal oxidizers FPC34a and FPC34b (in parallel)
- alcohol distillation system, with VOC emissions controlled by wet scrubber APC32
- one (1) alcohol storage system (AP95/AP96), with VOC emissions controlled by two (2) wet scrubbers APC95/APC96
- one (1) denaturant tank storage system, consisting of tanks AP85, AP86, AP87, AP88, AP89, AP90, and AP91, each utilizing an internal floating roof for VOC control

The IDEM, OAQ has information that indicates that VOC emissions have contributed to a violation of 326 IAC 2-2 (Prevention of Significant Deterioration). Therefore, BACT will be evaluated for the following units:

- one (1) corn steep and alcohol stillage evaporation system, with VOC emissions controlled by condenser/evaporator APC40

Step 1: Identify Potential Control Technologies

The following volatile organic compound (VOC) control technologies were considered for this analysis:

(1) Adsorption

(2) Condensation

(3) Absorption

(4) Incineration

A description of the control technologies is provided below:

Adsorption

Adsorption is used as an air pollution control strategy to remove VOCs from a gaseous stream by passing the stream through a bed of porous solid particles with high surface-to-volume ratios. The gas molecules (adsorbate) are selectively held on the surface of the solid adsorbent through physical or chemical bonds. The most commonly used adsorbent for VOC control in gas streams is activated carbon. Organic vapors retained in the solid can then be desorbed in order to recover both the adsorbent and adsorbate by increasing the temperature of the system or decreasing the pressure. The system's efficiency decreases as the adsorbent becomes saturated; therefore, the adsorbent must be replaced or regenerated before the efficiency is affected.

The two most common adsorption systems used in air pollution control are fixed beds and canisters. A fixed bed system is the most versatile type and can be sized for a wide range of flow rates or organic concentrations. It can also be operated in either intermittent or continuous modes. A continuous system requires two or more carbon beds in order to allow cycling between adsorption and desorption for continuous operation. A canister system is usually used for low-volume or intermittent flows and is not meant for on-site desorption. The canister is replaced when the adsorbent reaches a specified VOC content. Canisters can also be installed in series in order to prevent breakthrough to the atmosphere from a saturated carbon canister.
Adsorption of VOCs is controlled by both the conditions of the exhaust stream and properties of the adsorbent and adsorbate. In addition, the following factors must be taken into consideration for the design of the system:
Temperature – The adsorption capacity of the adsorbent is directly related to the temperature of the gas stream. In general adsorption decreases with increasing temperatures (high temperatures are used for desorption)
Humidity – A relative humidity of greater than 50% can reduce carbon capacity.
Entrained liquids – Entrained liquid can cause operating problems and should be removed from the stream prior to entering the carbon bed.
Particulate Matter – Flow through the carbon bed can be inhibited by the presence of particulate in the exhaust stream.
Other organics – Organics with a higher vapor pressure will be readily collected by the carbon; however, will be more difficult to remove during desorption and may limit adsorption capacity of the carbon and increase replacement frequency of the adsorbent.

Condensation
Condensation is a technique used to separate one or more volatile components of a gaseous stream through saturation and a phase change (gas to liquid). Condensation can be accomplished by lowering the temperature or increasing the temperature of the system until the partial pressure of the condensable component is equal to its vapor pressure. Condensation is most often used in air pollution control as a preliminary VOC removal technique prior to another VOC control device.

Condenser performance is dependent on the concentration and vapor pressure of the VOC to be removed and the coolant used for refrigeration. Possible coolants include chilled water, brine solutions, ammonia, or chlorofluorocarbons. The condensed VOC can be easily recovered from non-contact systems; however, contact systems will require either disposal of the coolant stream or recovery of the VOC from the coolant.

Absorption
Absorption is a VOC control technique where soluble components of a gaseous stream are transferred to a low volatile liquid solvent. This process can be either a physical (gas dissolves in the liquid) or chemical (gas reacts with the liquid). Commonly used solvents include water, mineral oils, nonvolatile hydrocarbon oils, and aqueous solutions. Absorption involves direct contact between the gas and liquid streams in wet scrubbers. The scrubbing liquid will contain the dissolved VOC and therefore must be properly disposed of or treated.

The performance of an absorption process is dependent on the surface area exposed, time of contact, and solubility of the gas in the solvent or degree of the chemical reaction. Packed tower scrubber designs will increase the available surface area and contact time and, therefore, will increase removal efficiency. Lower temperatures, higher liquid-gas ratios, and higher inlet VOC concentrations can also increase absorption. The solvent chosen for the system should have a high solubility for the gas, low vapor pressure, low viscosity, and should be relatively inexpensive. Other factors that need to be considered when evaluating an absorption system include:

availability of the solvent; required removal efficiency and capacity of the system; pollutant concentration in the gas stream; and, recovery value of the solute or disposal cost of the solvent.

Incineration
Incineration is a method of controlling VOCs emitted to the atmosphere through combustion of the VOC to carbon dioxide and water; therefore, VOCs cannot be recovered in this control option. Lower VOC concentrations or oxygen deficient inlet streams will require the use of an auxiliary fuel (i.e.: natural gas, excess air) in order to facilitate combustion. The two types of incinerators include thermal and catalytic.

A thermal incinerator relies on the residence time and gas velocities to ensure that the inlet gas is heated to a high enough temperature to completely combust the VOCs. Most units operate at a residence time less than 1.0 seconds and a temperature between 1,200 and 2,000°F. Types of thermal incinerators include direct flame incinerators with no energy recovery, flame incinerators with a recuperative heat exchanger, or regenerative incinerators that operate in a cyclic mode to achieve higher energy recovery. The latter two designs utilize the gas stream exiting the incinerator to pre-heat the inlet gas stream or combustion air. Thermal systems require higher temperatures and, therefore, more auxiliary fuel for combustion.

A catalytic incinerator utilizes a catalyst bed to facilitate the combustion reaction enabling conversion of the VOCs at a lower temperature. The inlet gas stream must still be pre-heated between 300 and 900°F to initiate the oxidation. Catalysts consist of metal or metal oxides on an inert substrate. Types of catalytic incinerators include fixed-bed and fluid-bed systems. Fixed-bed systems exhibit a lower pressure drop but are less tolerant of particulates in the gas stream that can block catalytic receptors. In general, catalysts are susceptible to fouling that can hinder the systems performance.

Step 2: Eliminate Technically Infeasible Options

Adsorption
Carbon adsorption uses van der Waals forces to bond organic molecules to the adsorbent. Van der Waals forces increase with larger molecules (MW=50 to 60 au) due to the amount of bonds available. The ethanol molecules emitted from the processes are small (MW=46) and will have weak interactions with the adsorbent. Carbon adsorption is not a feasible control method for the processes at GPC.

Step 3: Rank The Remaining Control Technologies By Control Effectiveness

The following technologies were identified as potentially available options that could be used to control VOC emissions. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Gluten Dryers, CGF Dryer, Germ Dryer and Cooler | Gluten, CGF Dryer, and Germ Dryer and Cooler all controlled by thermal oxidizers FPC34a & FPC34b (oxidizers in parallel)<br>98% overall control efficiency or VOC < 10 ppmv, and an outlet limit of 3.02 lbs/hr. | Proposed |
| | | Alcohol Distillation System | Wet Scrubber (APC32)<br>98% overall control efficiency or VOC < 20 ppmv, and an outlet limit of 0.70 lbs/hr. | Proposed |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| | | Alcohol Storage Area (beverage) | Wet Scrubber (APC95)<br>98% overall control efficiency or VOC < 20 ppmv, and an outlet limit of 0.16 lbs/hr. | Proposed |
| | | Alcohol Storage Area (fuel) | Wet Scrubber (APC96)<br>98% overall control efficiency or VOC < 20 ppmv, and an outlet limit of 0.08 lbs/hr. | Proposed |
| | | Distillation Heads Storage Tank (AP84) | Internal Floating Roof<br>0.03 lb VOC/hr | Proposed |
| | | Vertical Burn Tank (AP94) | Internal Floating Roof<br>0.02 lb VOC/hr | Proposed |
| | | Denaturant Tank Storage System (AP85 -AP91) | Internal Floating Roofs<br>AP85 < 0.20 lb VOC/hr<br>AP86 < 0.20 lb VOC/hr<br>AP87 < 0.26 lb VOC/hr<br>AP88 < 0.13 lb VOC/hr<br>AP89 < 0.15 lb VOC/hr<br>AP90 < 0.15 lb VOC/hr<br>AP81 < 0.21 lb VOC/hr | Proposed |
| | | Corn Steep and Alcohol Stillage Evaporation System | Condense/Scrubber APC40<br>98% overall control efficiency or VOC < 20 ppmv, and an outlet limit of 0.11 lbs/hr. | Proposed |
| Grain Processing Corporation Daviess County | IN-0075 (06-10-1997) | Alcohol Distillation System | Wet Scrubber (APC32)<br>1.14 lbs/hr | BACT |
| | | Alcohol Storage Area | Scrubber APC95<br>0.8 lb/hr | BACT |
| Iroquois Bio-Energy | IN 7/22/2005 | Distillation & Dehydration | RTO 98%<br>5.50 lbs/hr | BACT |
| Abengoa Bioenergy Corporation - York | NE-0029 1/21/2004 | Fermentation And Distillation | Wet Scrubbers<br>98% | BACT |
| ACE Ethanol – Stanley | WI-0207 1/21/2004 | Distillation Molecular Sieves, Evap | Wet Scrubber (Packed Tower)<br>98% | BACT |
| | | Distillation; Molecular Sieves, Evap | Wet Scrubber (Packed Tower)<br>98% | BACT |
| UWGP – Fuel Grade Ethanol Plant | WI-0204 8/14/2003 | Boiler/Oxidizer (Dryer/Distillation) | Boiler/Oxidizer<br>98% | BACT |
| Archer Daniels Midland Company | IL-0098 10/27/2003 | Gluten Dryer | Internal Thermal Oxidation<br>VOC 0.1 lbs/MMBtu | BACT |
| ACE Ethanol – Stanley | WI-0207 1/21/2004 | Storage Tanks | Fixed Roof Tanks with Internal Floating Roof<br>No Emission Rate Limits | BACT |
| UWGP – Fuel Grade Ethanol Plant | WI-0204 8/14/2003 | Large Storage Tanks | Internal Floating Roof Storage Tanks<br>No Emission Rate Limits | BACT |

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Tate and Lyle | Indiana Permit # 157-22808-00003 12/20/06 | Germ Cooler Rotary Airlock values formerly Germ Dryer, Gluten Vacuum Pump and Gluten Vacuum filter | Wet Scrubber 25% 27 lbVOC/hr | BACT |
| Tate and Lyle | Indiana Permit # 157-22808-00003 12/20/06 | New Feed, Meal, Germ Production Dryers | Scrubber followed by thermal oxidizers 95% or VOC < 10 ppmv 3.16 lbs/hr | BACT |

Absorption by a wet scrubber and thermal oxidization both provided 98% VOC control while condensation provided 90% control for the fermentation process; therefore, condensation will not be considered further for BACT. The above search results indicate that a wet scrubber is the most widely used control device for fermentation processes. These processes had control efficiencies ranging from 95% to 98%. There is one case in the RBLC data that indicates a wet scrubber with a BACT control efficiency limit of 98.7% for UWGP located in Wisconsin. According to the Wisconsin Department of Natural Resources, this efficiency was permitted in order to limit emissions to comply with the synthetic minor threshold and the Wisconsin state requirement of Latest Available Control Technology (LACT). The most recent PSD BACT determination in Wisconsin was 98%.

The permitting authority has discretion to base the emission limitation on control efficiency on a control technology somewhat lower than the optimal level. There are several reasons why a permitting authority might choose to do this. One reason is that the control efficiency achievable through the use of the technology may fluctuate, so that it would not always achieve its optimal control efficiency. In that case, setting the emission limitation to reflect the highest control efficiency would make permit violations unavoidable. Therefore, BACT is considered to be the 98% control efficiency and an outlet loading limit of 10 ppmv for thermal oxidizers and 20 ppmv for scrubbers.

*Germ Dryer and Cooler, Gluten Dryers, and CGF Dryer*
Grain Processing Corporation's proposed BACT for the germ dryer and germ cooler, gluten dryers, CGF dryer is two (2) thermal oxidizers (in parallel) controlling emissions from the germ dryer and cooler, the gluten dryers, and the CGF dryer with a minimum 98% control efficiency for VOC, or VOC < 10 ppmv, and an outlet VOC limit of 3.02 lbs/hr of VOC. The most stringent BACT for multiple units controlled by a thermal oxidizer combination is Premier Ethanol, LLC with a limit of 98% control efficiency of VOC or VOC < 10 ppmv and an emission rate of 10.5 lb VOC/hr. GPC's proposed BACT of two thermal oxidizers (in parallel) with a minimum 98% control efficiency of VOC, or VOC < 10 ppmv and an outlet meets the most stringent BACT limit. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

*Alcohol Distillation System and Alcohol Storage Area*
Grain Processing Corporation's proposed BACT for the alcohol distillation system and the alcohol storage area, is the use of wet scrubbers with a minimum control efficiency of 98% or VOC < 20 ppmv. The most stringent BACT for distillation is the use of a wet scrubber with a minimum 98% control efficiency or VOC < 20 ppmv. Wet scrubbers provide a control efficiency of 98% or a VOC outlet < 20 ppmv. GPC's proposed BACT with a wet scrubber controlling VOC emissions from the alcohol distillation system and two (2) wet scrubbers controlling VOC emissions from the alcohol storage area meets the most stringent BACT. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

*Corn Steep and Alcohol Stillage Evaporation System*
No existing BACT requirements for the control of VOC emissions from a similar were found. However, a wet scrubber can typically provide 98% control of VOC emissions from similar exhaust streams. GPC's proposed BACT for the corn steep and alcohol stillage evaporation system which is a condenser followed by a wet scrubber with a minimum control efficiency of 98% or VOC < 20 ppmv meets the provides the highest level of control of the available technologies. No further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

*Miscellaneous Storage Tanks*
GPC's proposed BACT for control of storage tanks which the use of internal floating roofs is consistent with numerous BACTs for similar storage tanks. Therefore, no further evaluation of these operations is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for these operations.

The following technologies were identified as potentially available options that could be used to control VOC emissions from flares. IDEM and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and reviewed permits of nearly identical sources to produce this list.

| Company Location (County) | RBLC / Permit # (Issuance Date) | Process Description | Control Technology | Basis: BACT/LAER |
|---|---|---|---|---|
| Grain Processing Corporation Daviess County | Proposed | Emergency Biogas Flare | 98% reduction of VOC in biogas flared | Proposed |
| Homeland Energy Solutions Chicksaw County | Iowa Permit # 07-A-955P to 07-A-982P (08/08/2007) | Biomethanator Flare | 98% reduction of VOC in biogas flared | Proposed |
| United Wisconsin Grain Producers Columbia County | Wisconsin Permit # 03-DCF-048 (08/14/2003) | Biomethanator By-Pass Flare | 94% reduction of VOC in biogas flared | BACT |

The most stringent BACT for reduction of VOC for biogas flared is proposed from Homeland Energy Solution, Chicksaw County, IA, with a limit of 98% VOC reduction. Grain Processing Corporation's proposed BACT for the emergency biogas flare for VOC is 98% reduction of VOC in the biogas flared, which meets most stringent BACT. Therefore, no further evaluation of this operation is required under the EPA's top-down BACT approach, and an economic, energy, or environmental impact analysis is not required as part of this BACT evaluation for this operation.

**BACT Conclusion for VOC**

Pursuant to 326 IAC 2-2-3, the Best Available Control Technology (BACT) for VOC emissions shall be as follows:

(a) The germ production, corn gluten feed production, and gluten production processes shall be limited as follows:

(1) Regenerative thermal oxidizers, identified as FPC34a and FPC34b and exhausting to stack FP34, shall control VOC emissions from the one (1) corn gluten feed dryer, two (2) gluten dryers, and one (1) germ dryer, and achieve a

minimum average overall (including capture and destruction) efficiency of ninety-eight percent (98%), or the VOC outlet concentration shall not exceed 10 ppmv.

(2) When only one (1) of the two (2) thermal oxidizers is in operation only one (1) of the (2) gluten dryers shall be in operation. The thermal oxidizer in operation shall control VOC emissions from the one (1) corn gluten dryer, one (1) gluten dryer, and one (1) germ dryer, and achieve a minimum average overall (including capture and destruction) efficiency of ninety-eight percent (98%), or the VOC outlet concentration shall not exceed 10 ppmv.

(3) VOC emissions shall not exceed 3.02 lbs/hr for stack FP34.

(b) The corn steep and alcohol stillage evaporation system shall be limited as follows:

(1) The emissions from the corn steep and alcohol stillage evaporation system shall be controlled by the condenser/scrubber system APC40.

(2) The overall control efficiency for the condenser/scrubber system APC40 (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

(3) The VOC emissions from condenser/scrubber system APC40 shall not exceed 0.11 lb/hr.

(c) The alcohol distillation system, loadout area, and storage tanks shall be limited as follows:

VOC emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

| Facility | Control Device | Stack | VOC Limit |
|---|---|---|---|
| Alcohol Distillation System | wet scrubber (APC32) | AP32 | 98% control efficiency or VOC < 20 ppmv, and the VOC emissions shall not exceed 0.7 lbs/hr |
| Alcohol Storage System (beverage) | wet scrubber (APC95) | AP95 | 98% control efficiency or VOC < 20 ppmv, and the VOC emissions shall not exceed 0.16 lb VOC/hr |
| Alcohol Storage System (fuel) | wet scrubber (APC96) | AP96 | 98% control efficiency or VOC < 20 ppmv, and the VOC emissions shall not exceed 0.08 lb VOC/hr |
| Alcohol and Distillation Heads Loadout Area | Scubber (APC35) | AP35 | 2.3 lb/hr |
| Storage Tank | Internal Floating Roof | AP84 | 0.03 lb /hr |
| Storage Tank | Internal Floating Roof | AP94 | 0.02 lb/hr |

| Facility | Control Device | Stack | VOC Limit |
|---|---|---|---|
| Storage Tank | Internal Floating Roof | AP85 | 0.20 lb/hr |
| Storage Tank | Internal Floating Roof | AP86 | 0.20 lb/hr |
| Storage Tank | Internal Floating Roof | AP87 | 0.26 lb/hr |
| Storage Tank | Internal Floating Roof | AP88 | 0.13 lb/hr |
| Storage Tank | Internal Floating Roof | AP89 | 0.15 b/hr |
| Storage Tank | Internal Floating Roof | AP90 | 0.15 lb/hr |
| Storage Tank | Internal Floating Roof | AP91 | 0.21 lb/hr |
| Alcohol Production Process Fugitive Emissions | | None | 10.40 lb/hr |

To ensure that the fugitive VOC emissions from the alcohol production process are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program for the equipment of the alcohol production process.

(d) The overall control efficiency for VOC for the emergency biogas flare (UPC56) shall be at least 98%.

Compliance with these limits will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) with respect to VOC for the affected units, and satisfy the requirements of 326 IAC 8-1-6 (General Facilities - Best Available Control Technology) for the following units:

- germ dryer, gluten dryers, and CGF dryers, all controlled by thermal oxidizers FPC34a and FPC34b
- alcohol distillation, loadout area and storage system

**VOC BACT**
**Alcohol Pre-Fermentation & Fermentation**

### Introduction

Grain Processing Corporation (GPC) was issued PSD/CP 027-7239-00046 on June 10, 1997, for the construction and operation of a corn wet milling ethanol plant. An application for a PSD/Part 70 Operating Permit (No. T027-14200-00046) was received by IDEM, OAQ on March 15, 2001. As part of the application, GPC requested the BACT for VOC for the fermentation process be re-evaluated. GPC underestimated the concentration of ethanol that would be produced during the fermentation process and could not comply with the existing VOC BACT for the fermentation process established in PSD/CP 027-7239-00046. Additionally, IDEM, identified a wet scrubber (AP28), constructed for the purpose of controlling VOC emissions from the pre-fermentation tanks, which was not permitted in PSD/CP 027-7239-00046. The pre-fermentation process would need to be evaluated for BACT for VOC as part of the Part 70 permitting process.

In 2002 the U.S. EPA acknowledged that industry representatives and regulatory agencies were unaware that drying operations at corn wet milling plants generated VOC emission and began an industry-specific initiative to properly permit corn wet milling operations with regards to VOC emissions. This initiative resulted in agreements between the U.S. EPA and owners of numerous corn wet milling plants. As part of the agreements, BACT for pre-fermentation and fermentation was to be 95% reduction and 20 ppm for plants using a wet scrubber to achieve compliance and 10 ppm for plants using a thermal oxidizer to achieve compliance. Additionally, sources were required to submit permit applications to the proper authorities to address the VOC emissions from the drying operations.

On November 17, 2003, the Office of Air Quality (OAQ) had a notice published in the Washington Times Herald, Washington, Indiana, stating that Grain Processing Corporation had applied for a PSD/Part 70 Operating permit (T027-14200-00046) for a stationary corn wet milling plant. Included in the documents available for public comment was BACT for VOC for the pre-fermentation and fermentation systems. For the pre-fermentation system, BACT was the use of a scrubber (APC28), 95% control, and less than 9.75 lbs VOC/hour. For the fermentation system, BACT was the use of a scrubber (APC29), 95% control, and less than 16.83 lbs VOC/hour.

Prior to the October 17, 2007 issuance of PSD/Part 70 Operating Permit No. 027-14200-00046, GPC submitted an application for a significant modification (PSD/SSM 027-24380-00046) requesting to increase the grind capacity of the plant, construct new emissions units, and re-evaluate BACT for many existing units. The requested modification also addressed many of the VOC violations related to the Ethanol Plant Clean Air Act Enforcement Initiative. For units which would be affected by the grind expansion project, BACT for VOC was not included in the issued PSD/Part 70 Operating Permit No. 027-14200-00046. This decision was based on the fact that BACT for the units affected by the grind expansion project would be promptly re-evaluated as part of the PSD/SSM No. 027-24380-00046 permitting action.

The pre-fermentation and fermentation systems are not affected units under the grind expansion project, since they will not be physically modified or experience an increase in emissions beyond the BACT limitations, as public noticed on November 17, 2003. Therefore, BACT for these systems would not require re-evaluation of part of the PSD/SSM No. 027-24380-00046 permitting action. However, the PSD/Part 70 Operating Permit No. 027-14200-00046 failed to establish BACT for these systems.

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) conducts BACT analyses in accordance with the "*Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft U.S. EPA *New Source Review Workshop Manual*, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below:

(a) Identify all potentially available control options;

(b) Eliminate technically feasible control options;

(c) Rank remaining control technologies by control effectiveness;

(d) Evaluate the most effective controls and document the results; and

(e) Select BACT.

Also, in accordance with the "Top-Down" Best Available Control Technology Guidance Document outlined in the 1990 draft U.S. EPA New Source Review Workshop Manual, BACT analyses take into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, and/or operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute to air pollution thereby protecting public health and the environment.

**BACT Analysis**

Step One - Identify all potentially available control options:

IDEM, OAQ searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and Indian's Air Permits to identify sources with emissions similar to this source. The search identified the following control options for similar processes (and similar size vent stream):

(a) Thermal Oxidation
(b) Catalytic Oxidation
(c) Wet Scrubbing
(d) Carbon Adsorption
(e) Refrigeration Condenser
(f) Flaring

Step Two - Eliminate technically infeasible control options

Thermal Oxidation:
An efficient thermal oxidizer design must provide adequate residence time for complete combustion, sufficiently high temperatures for VOC destruction, and adequate velocities to ensure proper mixing without quenching combustion. The type of burners and their arrangement affect combustion rates and residence time. The more thorough the contact between the flame and VOC, the shorter the time required for complete combustion. Natural gas is required to ignite the flue gas mixtures and maintain combustion temperatures. Typically, a heat exchanger upstream of the oxidizer uses the heat content of the oxidizer flue gas to preheat the incoming VOC-laden stream to improve the efficiency of the oxidizer.

Of all the VOC control technologies evaluated, thermal oxidization is least affected by waste stream characteristics. A properly designed thermal oxidizer can handle almost all solvent mixtures (except for fluorinated or chlorinated solvents) and concentrations, and therefore meet all regulatory standards. In addition to the energy penalty associated with thermal oxidization, NOx emissions will be generated from the combustion of natural gas used to fuel the oxidizer. A thermal oxidizer normally provides a VOC destruction efficiency of at least 98%.

Catalytic Oxidation:
In a catalytic oxidizer, a catalyst is used to lower the activation energy for oxidation. When a preheated gas stream is passed through a catalytic oxidizer, the catalyst bed initiates and

promotes the oxidation of VOCs without being permanently altered itself. In catalytic oxidization, combustion occurs at significantly lower temperatures than that of direct flame units and can also achieve a destruction efficiency of 95%. However, steps must be taken to ensure complete combustion. The types of catalysts used include platinum, platinum alloys, copper chromate, copper oxide, chromium, manganese, and nickel. These catalysts are deposited in thin layers on an inert substrate, usually a honeycomb shaped ceramic.

Wet Scrubbing:
A wet scrubber is an absorption system in which the waste stream is dissolved in a solvent by passing it through a medium containing the solvent. Water is the most commonly used solvent. Other solvents may be used depending on the components of the waste stream. Wet scrubbers are typically capable of achieving 98% control efficiency.

GPC has researched the feasibility of achieving 98% control through modifications to the current scrubbers. Based on conversations with technical representatives of scrubber manufacturers, GPC has concluded that 98% control is not achievable with the current scrubbers.

Carbon Adsorption:
Carbon adsorption uses intermolecular forces to accumulate organic material at the surface of an adsorbent (typically activated carbon). These intermolecular forces include the small momentary dipoles that result from the movement of electrons within molecular bonds (van der Waals interactions). The incidence of van der Waals interactions increases with larger molecules because there are more bonds within each molecule. For this reason, carbon adsorption is most effective for larger molecules. The VOC compounds emitted from the fermentation system include several small molecules, such as ethanol (MW = 46), acetaldehyde (MW = 44), and formaldehyde (MW = 30). Due to the small size of these molecules, the van der Waals interactions are weak. Since carbon adsorption typically requires a VOC concentration of at least 200 to 1,000 ppmv and average VOC molecular weights of at least 50 to 60 atomic units, this technology is considered infeasible for controlling the VOC emissions from the fermentation system.

Refrigeration Condenser:
Condensation is the process by which the temperature of the waste stream is lowered to below the boiling points of the waste constituents. A refrigeration condenser normally provides VOC control efficiency greater than 90%.

Flares:
Flares are similar to thermal oxidation in that a VOC laden stream is oxidized at high temperatures, but in the case of a flare, the heat of combustion is released to the atmosphere. Flares can be enclosed, with the flame contained in an exhaust stack, or open, with the flame visible at the end of a burner pipe. A typical operational issue associated with flares is the ability to maintain a lit flame, along with opacity concerns. Flares are most commonly used as a safety device in chemical and petroleum industries for burning intermittent or emergency releases of VOCs.

Step Three - Rank remaining control technologies by control effectiveness

The control technologies considered technically feasible are a RTO, a wet scrubber, and a refrigeration condenser. Control efficiencies for RTOs in alcohol production processes can vary based on design and typically range up to 98% destruction efficiency. 98% control is considered because it has been determined as BACT for similar alcohol production operations in Indiana. New wet scrubbers are considered the second level of control since they could potentially provide close to 98% control. Grain Processing Corporation's current wet scrubbers are operating at a base case of 95% VOC control, as determined by testing, and thus it is the third level of control considered. A refrigeration condenser with a control efficiency equal to or greater than 90% is the fourth level of control considered.

| Rank | Control Option | Control Efficiency (%) |
|---|---|---|
| 1 | RTO - 98 | |
| 2 | New Wet Scrubbers - < 98 | |
| 3 | Existing Wet Scrubbers - ≥ 95 | |
| 4 | Refrigeration Condenser - ≥ 90 | |

Step Four - Evaluate the most effective controls and document the results

Of the technically feasible options, the RTO yields the greatest reduction in VOC emissions at 98%, with the installation of new scrubbers IDEM is aware that recent corn processing expansions at comparable facilities have resulted in VOC BACT determinations for pre-fermentation and fermentation systems that exceed 95% control. However, GPC has conducted multiple control efficiency tests on the existing wet scrubbers, has contacted technical representatives of wet scrubber manufacturers, and has determined that it is technically infeasible for the existing wet scrubbers to be modified to achieve 98% control efficiency.

Given the history associated with this industry and the facts that this source had installed the wet scrubbers prior to 2001 and requested that BACT for VOC be evaluated as part of the PSD/Part 70 Operating Permit application, received on March 15, 2001, consideration was given to GPC with regard to BACT. Had IDEM, OAQ issued PSD/Part 70 Operating Permit No. 147-14200-00046 in a timely manner, BACT for the pre-fermentation and fermentation systems would have been established as public noticed on November 17, 2003. The 95% control of VOC was chosen based on presumptive BACT for VOCs that would have been consistent with the Ethanol Plant Clean Air Initiative and comparable BACT for VOC sources in 2001-2003.

Step Five - Select BACT

Control technology options considered in this analysis were limited because GPC is in the unique situation of already owning and operating an effective control device. Constructed prior to 2000, as part of the original plant, the wet scrubbers were re-evaluated for BACT during the 2001-2003 time period and BACT for VOC was considered to be 95% control efficiency. Per *Step Four - Evaluate the most effective controls and document the results*, GPC has shown that it is economically feasible to control VOCs from the pre-fermentation and fermentation systems at the 95% control rate. Thus, support for the 95% VOC control efficiency BACT determination is established by:

- 95% control would have met BACT in 2001-2003.
- 95% control has been achieved since construction of the existing wet scrubbers

98% control has been deemed BACT in comparable cases where physical modifications have occurred post 2005. However, the grind expansion project will not result in a change in the method of operation or increase emissions beyond the limitations submitted for evaluation as part of the PSD/Part 70 Operating permit application No. T147-14200-00046, received on March 15, 2001, with regards to the pre-fermentation and fermentation systems.

Based on this analysis, it is not appropriate to establish BACT at GPC at 98% VOC control since only comparable facilities with changes in the method of operation or emissions increases post 2005, have had to meet this level of control.

Therefore, 95% control efficiency, the BACT determination, as public noticed on November 17, 2003, has been determined to be BACT under 326 IAC 2-2 and 326 IAC 8-1-6 for the pre-fermentation and fermentation systems.

IDEM, OAQ has determined that the following requirements represent BACT for the pre-fermentation and fermentation systems at the source:

(a) The pre-fermentation system shall be limited as follows:

(1) The emissions from the pre-fermentation system shall be controlled by wet scrubber AP28.

(2) The overall control efficiency for the wet scrubber AP28 (including the capture efficiency and adsorption efficiency) shall be at least 95%, or the VOC outlet concentration shall not exceed 20 ppmv.

(3) The VOC emissions from the wet scrubber AP28 shall not exceed 9.75 lb/hr.

(b) The fermentation system shall be limited as follows:

(1) The emissions from the fermentation system shall be controlled by wet scrubber AP29.

(2) The overall control efficiency for the wet scrubber AP29 (including the capture efficiency and adsorption efficiency) shall be at least 95%, or the VOC outlet concentration shall not exceed 20 ppmv.

(3) The VOC emissions from the wet scrubber AP29 shall not exceed 16.83 lb/hr.

# Air Quality Analysis

# Grain Processing Corporation

# Washington, Indiana (Daviess County)

## Proposed Project

Grain Processing Corporation submitted a PSD application on February 28, 2007, to expand the grinding operations at their corn wet milling facility in Washington, Indiana. The grind expansion will take the maximum potential for the facility to 49,275,000 bushels per year.

GPC has proposed several modifications related to the grind expansion project as follows:

- addition of two (2) steep tanks to the corn steeping process, requiring an increase in SO2 input to the system, which will increase SO2 emissions from the corn steeping, milling and germ separation, and starch and gluten separation areas
- addition of a new gluten tank and filter press at the milling and germ separation area
- addition of two (2) new gluten filters and a new starch tank at starch and gluten separation area
- the addition of a second gluten dryer
- the addition of a feed loadout vacuum system, with emissions controlled by a new baghouse FPC33
- addition of a caustic wet scrubber to control SO2 emissions from the combustion of biogas at the germ dryer, the gluten dryers, the starch dryer, thermal oxidizers FPC34a and FPC34b, the biogas flare, and/or the biogas emergency flare
- allowing the combustion of biogas in addition to natural gas at the germ dryer, the gluten dryers, thermal oxidizers FPC34a and FPC34b, and the starch dryer
- revising the existing BACT for numerous emission units

GPC has also proposed to restart the Maltrodextrin line as part of the grind expansion project. The Maltrodextrin line was previously permitted under PSD CP 027-7239-00046 issued June 10th, 1997, but has not been in operation since April 2000. The filter aid storage bin associated with the Maltrodextrin line remained in use as a lime storage bin for the WWT system. The existing storage bin will revert to its original designation as a filter aid storage bin for the Maltodextin line and a new storage bin will be constructed as a lime storage bin for the WWT system.

August Mack Environmental prepared the modeling portion of the permit application for Grain Processing Corporation. This technical support document provides the air quality analysis review of the submitted modeling by August Mack.

## Analysis Summary

Based on the potential emissions after controls, a PSD air quality analysis was triggered for $SO_2$, $PM_{10}$, and NOx. For VOCs, no analysis is required. The significant impact analysis for NOx, $SO_2$ and $PM_{10}$ determined that modeling concentrations exceeded the significant impact levels. A refined analysis was required and showed no violation of the NAAQS. The PSD increment was consumed for the 24 hour $PM_{10}$ and $SO_2$. A culpability study shows that GPC did not contribute to the increment violations. (Pre-construction monitoring requirements are not necessary since nearby monitoring was available from Gibson, Pike and Dubois Counties.) An additional impact analysis was conducted and showed no significant impact. A Hazardous Air Pollutant (HAP) analysis was not performed since emissions of HAPs were not greater than 10 tons per year for a single HAP or 25 tons total HAPs.

## Air Quality Impact Objectives

The purpose of the air quality impact analysis in the permit application is to accomplish the following objectives. Each objective is individually addressed in this document in each section outlined below.

A. Establish which pollutants require an air quality analysis based on PSD significant emission rates.

B. Provide analyses of actual stack heights with respect to Good Engineering Practice (GEP), the meteorological data used, a description of the model used in the analysis, and the receptor grid utilized for the analyses.

C. Determine the significant impact level, the area impacted by the source's emissions and background air quality levels.

D. Demonstrate that the source will not cause or contribute to a violation of the National Ambient Air Quality Standard (NAAQS) or PSD increment if the applicant exceeds significant impact levels.

E. Perform a qualitative analysis of the source's impact on general growth, soils, vegetation and visibility in the impact area with emphasis on any Class I areas. The nearest Class I area is Kentucky's Mammoth Cave National Park.

F. Summarize the Air Quality Analysis.

## Section A - Pollutants Analyzed for Air Quality Impact

**Applicability**

The PSD requirements, 326 IAC 2-2, apply in attainment and unclassifiable areas and require an air quality impact analysis of each regulated pollutant emitted in significant amounts by a major stationary source or modification. Significant emission levels for each pollutant are defined in 326 IAC 2-2-1 and in the Code of Federal Regulations (CFR) 52.21(b) (23) (i).

**Proposed Project Emissions**

VOCs, $PM_{10}$, NOx, and $SO_2$, are the pollutants that will be emitted from Grain Processing Corporation and are summarized below in Table 1. $PM_{10}$, NOx, and $SO_2$, potential emissions after controls exceed the PSD significant emission rates and will require an air quality analysis.

**TABLE 1**
**Significant Emission Rates for PSD**

| POLLUTANT | SOURCE EMISSION RATE (Facility totals in tons/year) | SIGNIFICANT EMISSION RATE (tons/year) | PRELIMINARY AQ ANALYSIS REQUIRED |
|---|---|---|---|
| VOC[1] | 217.24 | 40 | No[1] |
| $PM_{10}$ | 232.33 | 15 | Yes |
| NOx | 221.43 | 40 | Yes |
| SO2 | 201.37 | 40 | Yes |

[1] An air quality analysis is not performed for VOCs because they are photochemically reactive Photochemical models like UAM-V are used in regulatory or policy assessments to stimulate the impacts from all sources by estimating pollutant concentrations and deposition of both inert and chemically reactive pollutants over large spatial scales. Currently, U.S. EPA has no regulatory photochemical models which can take into account small spatial scales or single source PSD modeling for ozone.

These are permitted emission rates calculated by IDEM. These are also the emission rates that were modeled.

## Section B – Good Engineering Practice (GEP), Met Data, Model Used, Receptor Grid and Terrain

### Stack Height Compliance with Good Engineering Practice (GEP)

#### Applicability

Stacks should comply with GEP requirements established in 326 IAC 1-7-4. If stacks are lower than GEP, excessive ambient concentrations due to aerodynamic downwash may occur. Dispersion modeling credit for stacks taller than 65 meters (213 feet) are limited to GEP for the purpose of establishing emission limitations. The GEP stack height takes into account the distance and dimensions of nearby structures, which would affect the downwind wake of the stack. The downwind wake is considered to extend five times the lesser of the structure's height or width. A GEP stack height is determined for each nearby structure by the following formula:

$$Hg = H + 1.5L$$

Where: Hg is the GEP stack height
H is the structure height
L is the structure's lesser dimension (height or width)

### New Stacks

Since the new stack heights for Grain Processing Corporation are below GEP stack height, the effect of aerodynamic downwash will be accounted for in the air quality analysis for the project.

### Meteorological Data

The meteorological data used in AERMOD consisted of 1986 through 1990 surface data from the Evansville, Indiana and upper air measurements taken at Peoria, Illinois. The meteorological data was downloaded from Lakes Environmental and preprocessed using AERMET.

### Model Description

August Mack used AERMOD, Version 07026. OAQ used the updated AERMOD version to determine maximum off-property concentrations or impacts for each pollutant. All regulatory default options were utilized in the U.S. EPA approved model, as listed in the 40 Code of Federal Register Part 51, Appendix W "Guideline on Air Quality Models".

### Receptor Grid

OAQ modeling used the same receptor grids generated by August Mack. The receptor grid contains over 3100 individual receptors.

- 100 meter spacing along the facility's property boundary,
- 100 meter spacing from 0 to 1,000 meters from the facility,
- 250 meters spacing from 1,000 to 3,000 meters from the facility,
- 500 meters spacing from 3,000 to 10,000 meters from the facility.

### Treatment of Terrain

Receptor terrain elevation inputs were interpolated from DEM (Digital Elevation Model) data obtained from the USGS. DEM terrain data was preprocessed using AERMAP. The terrain files that were used in the terrain analysis can be found on the CD-ROM of the air quality technical support document provided by August Mack.

## Section C - Significant Impact Level/Area (SIA) and Background Air Quality Levels

A significant impact analysis was conducted to determine if the source would exceed the PSD significant impact levels (concentrations). If the source's concentrations would exceed these levels, further air quality analysis is required. Refined modeling for $PM_{10}$, $SO_2$, and NOx was required because the results did exceed significant impact levels. Significant impact levels are defined by the following time periods in Table 2 below with all maximum-modeled concentrations from the worst case operating scenarios.

**TABLE 2**
**Significant Impact Analysis**

| POLLUTANT | TIME AVERAGING PERIOD | MAXIMUM MODELED IMPACTS (ug/m$^3$) | SIGNIFICANT IMPACT LEVEL (ug/m$^3$) | REFINED AQ ANALYSIS REQUIRED |
|---|---|---|---|---|
| NOx | Annual* | 2.8 | 1 | Yes |
| $PM_{10}$ | Annual* | 4.2 | 1 | Yes |
| $PM_{10}$ | 24 hour* | 25.7 | 5 | Yes |
| $SO_2$ | 3 hour* | 99.4 | 25 | Yes |

| POLLUTANT | TIME AVERAGING PERIOD | MAXIMUM MODELED IMPACTS (ug/m$^3$) | SIGNIFICANT IMPACT LEVEL (ug/m$^3$) | REFINED AQ ANALYSIS REQUIRED |
|---|---|---|---|---|
| $SO_2$ | 24 hour* | 37.2 | 5 | Yes |
| $SO_2$ | Annual* | 6.2 | 1 | Yes |

*First highest values per EPA NSR manual October 1990. Impacts are from the Grain Processing Corporation only.

## Pre-construction Monitoring Analysis

### Applicability

The PSD rule, 326 IAC 2-2-4, requires an air quality analysis of the new source or the major modification to determine if the pre-construction monitoring threshold is triggered. In most cases, monitoring data taken from a similar geographic location can satisfy this requirement if the pre-construction monitoring threshold has been exceeded. Also, post construction monitoring could be required if the air quality in that area could be adversely impacted by applicant's emissions.

### Modeling Results

A comparison of the modeling results was compared to the PSD preconstruction monitoring thresholds. The results are shown in the table below.

**TABLE 3**
**Preconstruction Monitoring Analysis**

| POLLUTANT | TIME AVERAGING PERIOD | MAXIMUM MODELED IMPACTS (ug/m$^3$) | DEMINIMIS LEVEL (ug/m3) | ABOVE DE MINIMIS LEVEL |
|---|---|---|---|---|
| NOx | Annual* | 2.8 | 14 | No |
| $PM_{10}$ | 24 hour* | 25.7 | 10 | Yes |
| $SO_2$ | 24 hour* | 99.4 | 13 | Yes |

***First highest values per EPA NSR manual October 1990. Maximum modeled impacts are from Grain Processing Corporation only.

$PM_{10}$ and $SO_2$ did trigger the preconstruction monitoring threshold level. Grain Processing Corporation can satisfy the preconstruction monitoring requirement since there is air quality monitoring data representative of the area in Dubois and Pike Counties.

## Background Concentrations

### Applicability

EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration" (EPA-450/4-87-007) Section 2.4.1 is cited for approval of the monitoring sites for this area.

### Background Monitors

Background data was taken from the closest monitoring stations from Grain Processing Corporation. The closest NOx monitoring location is located in Gibson County. The closest $SO_2$ station is located in Pike County. The closest $PM_{10}$ monitoring station is located in Dubois County. Using background data from monitors located around industrialized areas represents a conservative approach since actual background values from rural Daviess County would likely be lower. It was agreed between Grain Processing Corporation and IDEM that this approach be taken in place of the preconstruction monitoring requirement.

For all 24-hour background concentrations, the averaged second highest monitoring values were used. Annual background concentrations were taken from the maximum annual values.

**TABLE 4**
**Existing Monitoring Data Used For Background Concentrations ***

| Pollutant | Monitoring Site | Averaging Period | Concentration (ug/m3) |
|---|---|---|---|
| NOx | 18-51-0010 | Annual | 17.1 |
| $PM_{10}$ | 18-037-2001 | Annual | 26 |
| $PM_{10}$ | 18-037-2001 | 24 hour | 46.3 |
| $SO_2$ | 18-125-0002 | 3 hour | 272.5 |
| $SO_2$ | 18-125-0002 | 24 hour | 98.8 |
| $SO_2$ | 18-125-0002 | Annual | 19.9 |

*OAQ used the most conservative values for the air quality analysis. It is standard policy to use the latest 3 years of data.

## Section D - NAAQS and PSD Increment

### NAAQS Compliance Analysis and Results

OAQ supplied emission inventories of all point sources within a 50-kilometer radius of Grain Processing Corporation. The NAAQS inventories are generated from I-STEPS (State Emission Processing System) in accordance with 326 IAC 2-6. The PSD increment inventories include sources that affect the increment and are compiled from permits issued by IDEM.

NAAQs modeling for the appropriate time-averaging periods for NOx, $PM_{10}$ and $SO_2$ was conducted and compared to the respective NAAQs limit. OAQ modeling results are shown in Table 5. All maximum-modeled concentrations were compared to the respective NAAQS limit. All maximum-modeled concentrations during the five years were below the NAAQS limits and further modeling was not required.

**TABLE 5[3]**
**NAAQS Analysis**

| Pollutant | Year | Time-Averaging Period | Maximum Concentration ug/m3 | Background Concentration ug/m3 | Total ug/m3 | NAAQS Limit ug/m3 | NAAQS Violation |
|---|---|---|---|---|---|---|---|
| NOx | 1987 | Annual[1] | 6.5 | 17.1 | 23.6 | 100 | NO |
| $PM_{10}$ | 1987 | Annual[1] | 4.4 | 26 | 30.4 | 50 | NO |

| Pollutant | Year | Time-Averaging Period | Maximum Concentration ug/m3 | Background Concentration ug/m3 | Total ug/m3 | NAAQS Limit ug/m3 | NAAQS Violation |
|---|---|---|---|---|---|---|---|
| $PM_{10}$ | 1986 | 24 hour | 22.3 | 46.3 | 68.6 | 150 | NO |
| $SO_2$ | 1988 | 3 Hour[2] | 277.3 | 272.5 | 549.8 | 1300 | NO |
| $SO_2$ | 1987 | 24 hour[2] | 85.4 | 184.2 | 90.8 | 365 | NO |
| $SO_2$ | 1986 | Annual[1] | 12.5 | 19.9 | 32.4 | 80 | NO |

[1] First highest values per EPA NSR manual October 1990.
[2] High 2nd high values per EPA NSR manual October 1990.
[3] Any differences between the maximum concentration numbers in Tables 5 and 6 are due to different sources used for the NAAQS and the increment inventories. Table 3 maximum concentrations are from Grain Processing Corporation only.

### Analysis and Results of Source Impact on the PSD Increment

**Applicability**

Maximum allowable increases (PSD increments) are established by 326 IAC 2-2 for NOx, $SO_2$, and $PM_{10}$. This rule also limits a source to no more than 80 percent of the available PSD increment to allow for future growth.

**Source Impact**

Since the impact for NOx, $SO_2$, and $PM_{10}$ modeled above significant impact levels, a PSD increment analysis for Grain Processing Corporation and surrounding sources was required. Results of the increment modeling are summarized in Table 6 below.

**TABLE 6[3]**
**Increment Analysis**

| Pollutant | Year | Time-Averaging Period | Maximum Concentration ug/m3 | PSD Increment Ug/m3 | Percent Impact on the PSD Increment | Increment Violation |
|---|---|---|---|---|---|---|
| NOx | 1987 | Annual[1] | 6.5 | 25 | 26.0% | NO |
| $PM_{10}$ | 1987 | Annual[1] | 4.4 | 17 | 25.9% | NO |
| $PM_{10}$ | 1986 | 24 hour[2] | 27.2 | 30 | 90.7% | YES |
| $SO_2$ | 1986 | Annual[1] | 12.5 | 20 | 62.5% | NO |
| $SO_2$ | 1988 | 3 hour[2] | 277.3 | 512 | 54.2% | NO |
| $SO_2$ | 1987 | 24 hour[2] | 85.3 | 91 | 93.7% | YES |

**[1]** First highest value per EPA NSR manual October 1990.
**[2]** Highest second high per EPA NSR manual October 1990.
[3] Any differences between the maximum concentration numbers in Tables 5 and 6 are due to different sources used for the NAAQS and the increment inventories. Table 3 maximum concentrations are from Grain Processing Corporation only.

The 24 hour $PM_{10}$ and $SO_2$ increment consumed over 80 percent remaining PSD increment. A culpability study was conducted for the receptor and the days for both pollutants and GPC was not culpable for the increment violations. The results of the culpability study are shown in Tables 7 and 8.

**TABLE 7**
**PSD $PM_{10}$ Increment Culpability Results**

| Date | UTM East | UTM North | Concentration (ug/m3) | GPC Contribution (ug/m3) | Percent remaining increment consumed | Increment violation |
|---|---|---|---|---|---|---|
| 12/27/1986 | 482166 | 4277796 | 27.2 | 0.02 | 0.7% | NO |

**TABLE 8**
**PSD $SO_2$ Increment Culpability Results**

| Date | UTM East | UTM North | Concentration (ug/m3) | GPC Contribution (ug/m3) | Percent remaining increment consumed | Increment violation |
|---|---|---|---|---|---|---|
| 3/6/1986 | 477166 | 4264796 | 84.1 | 0 | 0% | NO |
| 3/22/1986 | 477166 | 4264796 | 71.6 | 0 | 0% | NO |
| 6/4/1986 | 477166 | 4264796 | 82.8 | 0 | 0% | NO |
| 6/5/1986 | 477166 | 4264796 | 77.6 | 0 | 0% | NO |
| 10/19/1987 | 480166 | 4260796 | 85.4 | 0 | 0% | NO |
| 11/22/1988 | 477166 | 4260796 | 80.5 | 0 | 0% | NO |
| 7/18/1989 | 477166 | 4264796 | 76.9 | 0 | 0% | NO |

## Part E – Qualitative Analysis

### Additional Impact Analysis

All PSD permit applicants must prepare additional impacts analysis for each pollutant subject to regulation under the Act. This analysis assesses the impacts on growth, soils and vegetation, endangered species and visibility caused by any increase in emissions of any regulated pollutant from the source. The Grain Processing Corporation modeling submittal provided an additional impact analysis performed by August Mack.

### Economic Growth

The purpose of the growth analysis is to quantify project associated growth and estimate the air quality impacts from this growth either quantitatively or qualitatively.

The proposed expansion will not create a significant need for new housing or increased commercial growth. Any new employees will be drawn from existing workforces. Since the area is predominately rural, it is not expected the growth impacts will cause a violation of the NAAQs or the PSD increment.

### Soils and Vegetation Analysis

A list of soil types present in the general area was determined. Soil types include the following: Sandy and Loamy Lacustrine deposits and Eolian sand, Alluvial and Outwash deposits, Eolian sand deposits.

Due to the agricultural nature of the land, crops in the Daviess County area consist mainly of corn, wheat, soybeans, and oats (2002 Agricultural Census for Daviess County). The maximum modeled concentrations for Grain Processing Corporation are well below the threshold limits necessary to have adverse impacts on the surrounding vegetation such as autumn bent, nimblewill, barnyard grass, bishopscap and horsetail, and milkweed (Flora of Indiana – Charles Deam). Livestock in Daviess County consist mainly of hogs, cattle, chickens, and sheep (2002 Agricultural Census for Daviess County) and will not be adversely impacted from the facility. Trees in the area are mainly hardwoods. These are hardy trees and no significant adverse impacts are expected due to modeled concentrations.

**Federal and State Endangered Species Analysis**

Federal and state endangered or threatened species are listed by the U.S. Fish and Wildlife Service; Division of Endangered Species for Indiana and includes 5 amphibians, 27 birds, 10 fishes, 7 mammals, 15 mollusks, and 15 reptiles. Of the federal and state endangered species on the list, 2 amphibians, 7 reptiles, 16 mollusks, 7 fish, 18 birds, and 4 mammals have habitat within Daviess County. The mollusks, fish, amphibians and certain species of birds and mammals are found along rivers and lakes while the other species of birds and mammals are found in forested areas. The facility is not expected to have any additional adverse effects on the habitats of the species than what has already occurred from the industrial, farming, and residential activities in the area.

Federal and state endangered or threatened plants are listed by the U.S. Fish and Wildlife Service, Division of Endangered Species for Indiana. They list 22 state significant species of plants. At this time no federally endangered plant species are found in Daviess County. The endangered plants do not thrive in industrialized and residential areas. The facility is not expected to adversely affect any plant on the endangered species list.

**Visibility Analysis**

The VISCREEN model is designed as a screening model to determine the visual impact parameters from a single source plume. It is used basically to determine whether or not a plume is visible as an object itself. The visibility impairment analysis considers the impacts that occur within the impact area of the source as defined by the user distances. The user distances are determined by the nearest interstate or airport. EPA has defined these locations in guidance to the state.

The $PM_{10}$ and NOx emissions limits were used to run a local visibility Level 1 and a Level 2 analysis. VISCREEN Version 1.01 was used to determine if the color difference parameter (Delta-E) or the plume (green) contrast limits were exceeded. The Delta-E was developed to specify the perceived magnitude of color and brightness changes and is used as the primary basis for determining the perceptibility of plume visual impacts. The plume constant can be defined at any wavelength as the relative difference in the intensity (called spectral radiance) between the viewed object and its background. This is used to determine how the human eye responds differently to different wavelengths of light. The Delta-E of 2.0 and the plume contrast of 0.05 were not exceeded at the nearest interstate location along the proposed I-69.

Potential visibility impacts to Mammoth Cave National Park (about 170 km from Grain Processing Corporation) would be insignificant. This is due to the distance from the Class 1 area and magnitude and characteristics of emission sources at Grain Processing Corporation.

**Additional Analysis Conclusions**

Finally, the results of the additional impact analysis conclude the operation of the facility will have no significant impact on economic growth, soils, vegetation or visibility in the immediate vicinity or on any Class I area.

## Part F - Summary of Air Quality Analysis

August Mack prepared the modeling portion of the PSD application. Daviess County is designated as attainment for all criteria pollutants. VOCs, $PM_{10}$, NOx, and $SO_2$ emission rates associated with the proposed facility exceeded the respective significant emission rates. Modeling results taken from the latest version of the AERMOD model showed $PM_{10}$, $SO_2$, NOx impacts were predicted to be greater than the significant impact levels. Grain Processing Corporation did trigger the preconstruction monitoring threshold level for $PM_{10}$ and $SO_2$ but can satisfy the preconstruction monitoring requirement since there is existing air quality monitoring data representative of the area. The NAAQS modeling for $PM_{10}$, NOx, and $SO_2$ showed no violations of the standards. The PSD increment was consumed for the 24 hour $PM_{10}$ and $SO_2$. A culpability study shows that GPC did not contribute to the increment violations. The nearest Class I area is Mammoth Cave National Park in Kentucky about 170 kilometers away from the source. An additional impact analysis was required but the operation of the proposed facility will have no significant impact.