



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
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Ken Doellman
Archer Daniels Midland Company
2100 Gardner Expressway
Quincy, IL 62305

May 7, 2008

Re: 023-25870-00011
Significant Permit Modification to:
Part 70 Permit No.: T023-6066-00011

Dear Mr. Doellman:

Archer Daniels Midland Company was issued Part 70 Operating Permit T023-6066-00011 on June 13, 2004 for operation of a stationary soybean processing and oil refining plant in Frankfort, IN. An application to modify the source was received on May 30, 2007. Pursuant to the provisions of 326 IAC 2-7-12, a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The following emission units are approved for operation at this source:

- (a) A steam-heated soybean heater (EU44) (also called a vertical seed conditioner). Emissions will be controlled by a cyclone (CE-44) and will exhaust to stack EP44.
- (b) A DTDC (desolventizer-toaster-dryer-cooler) – Deck #1 (EU23), Deck #2 (EU24), Deck #3 (EU24A) and cooler deck (EU25). Specifically, ADM is permitted to replace the existing DTDC with a new larger DTDC system equipped with three dryer decks (EU23, EU24, and EU24A), one cooler deck (EU25), and larger cyclones (CE-9, CE-10, CE-10A, and CE-11). Emissions will exhaust to stacks EP08, EP09, EP09A and EP10, respectively.
- (c) A cooling tower (EU45), with a design recirculation rate of 1,500 gal/min.
- (d) A natural gas, No. 2 fuel oil and vegetable oil-fired boiler (Boiler #4, EU46). Specifically, ADM is permitted to relocate the ~140 to 145 MMBtu/hr (depending on fuel) boiler currently located at ADM's North Kansas City, Missouri plant to the Frankfort, IN plant. Once relocated, the boiler will exhaust to new stack EP46.

In addition, operations regarding the following modifications are approved:

- (a) Increase the capacity of the conveying system (EU04) from the grain elevator to the grain storage building.
- (b) Increase the capacity of the conveying system (EU07) from the grain storage building to the grain cleaner increase its capacity.
- (c) Increase the capacity of the grain cleaner (EU09).
- (d) Increase the capacity of the existing soybean conditioning/de-hulling system to increase its capacity. Specifically:

- (1) Six (6) existing cracking rolls (EU11) will be replaced with four (4) larger cracking rolls (EU11).
- (2) An increase in the capacity of the conditioner (EU13).
- (3) Add a bag filter (BH-06A) to control emissions from the existing bean dryer (EU10), cracking rolls (EU11) and conditioner (EU13).
- (e) Increase the capacity of the hull separation system (EU12) by replacing the primary aspirators with larger units.
- (f) Increase the capacity of the flaking operation (EU14) by modifying the cyclones and fan systems. Four new flaking rolls will be added.
- (g) Increase the capacity of the hull screening operation (EU16) by adding secondary aspirators that will be controlled by two new cyclones (CE-19B and CE-19C).
- (h) Increase the capacity of the hull grinder (EU17) and add a baghouse (CE-20A) to control emissions.
- (i) Increase the capacity of the hull conveyor (EU19).
- (j) Replace the meal conveyor (EU26) with a new one with a larger capacity.
- (k) Increase the capacity of the meal sifter (EU27) and meal grinder (EU28) and replace the baghouse (BH-2) with a larger unit (BH-2A).
- (l) Increase the capacity of the meal storage conveyor (EU29).
- (m) Increase the capacity of the meal storage unit (EU30) by adding a Laidig unloader.
- (n) Increase the capacity of the two (2) meal surge tanks (EU31).
- (o) Increase the capacity of the oil extraction process (EU38). The capacity increase will cause an increase in emissions from the solvent extractor, the solvent recovery system, the desolventizer and toaster sections of the DTDC, meal processing and equipment leaks. The main vent of the extraction process exhausts to stack EP25.

All other conditions of the permit shall remain unchanged and in effect. Please find attached a copy of the revised permit.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Bob Sidner, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (703) 633-1701 to speak directly to Mr. Sidner. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, or call (800) 451-6027 and ask for Duane Van Laningham or extension 3-6878, or dial (317) 233-6878.

Sincerely/Original Signed By:

Matthew Stuckey, Chief
Permits Branch
Office of Air Quality

Attachments
ERG/BS

cc: File - Clinton County

Clinton County Health Department
Air Compliance Section Inspector
Compliance Data Section
Administrative and Development
Technical Support and Modeling
Billing, Licensing, and Training Section



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PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Archer Daniels Midland Company
2191 West County Road 0 N/S
Frankfort, Indiana 46041**

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

The Permittee must comply with all conditions of this permit. Noncompliance with any 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 permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 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. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.

Operation Permit No.: T023-6066-00011	
Issued by: Original Signed by Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: July 13, 2004 Expiration Date: July 13, 2009
1st Minor Source Modification 023-20324-00011	Issuance Date: December 20, 2004
1st Minor Permit Modification: 023-19883-00011	Issuance Date: February 17, 2005
1st Administrative Amendment 023-21789-00011	Issuance Date: December 16, 2005
1st Significant Source Modification 023-21838-00011	Issuance Date: December 22, 2005
1st Significant Permit Modification 023-21909-00011	Issuance Date: January 19, 2006
2nd Significant Permit Modification 023-25870-00011	Pages Affected: Entire Permit
Issued by/Original Signed By: Matthew Stuckey, Chief Permits Branch Office of Air Quality	Issuance Date: May 7, 2008 Expiration Date: July 13, 2009

TABLE OF CONTENTS

A	SOURCE SUMMARY	6
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	11
B.1	Definitions [326 IAC 2-7-1]	
B.2	Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5]	
B.3	Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]	
B.4	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.5	Term of Conditions [326 IAC 2-1.1-9.5]	
B.6	Enforceability [326 IAC 2-7-7]	
B.7	Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]	
B.8	Severability [326 IAC 2-7-5(5)]	
B.9	Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]	
B.10	Duty to Provide Information [326 IAC 2-7-5(6)(E)]	
B.11	Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]	
B.12	Annual Compliance Certification [326 IAC 2-7-6(5)]	
B.13	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.14	Emergency Provisions [326 IAC 2-7-16]	
B.15	Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]	
B.16	Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]	
B.17	Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]	
B.18	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.19	Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]	
B.20	Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]	
B.21	Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]	
B.22	Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]	
B.23	Source Modification Requirement [326 IAC 2-7-10.5]	
B.24	Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]	
B.25	Transfer of Ownership or Operational Control [326 IAC 2-7-11]	
B.26	Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]	
B.27	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.....	22
	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	Stack Height [326 IAC 1-7]	
C.7	Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]	

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

C.8 Performance Testing [326 IAC 3-6]

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

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

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

C.12 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.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

C.15 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

C.16 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.17 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.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

Stratospheric Ozone Protection

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

D.1 FACILITY OPERATION CONDITIONS – Grain processing & Oil Refining..... 31

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Best Available Control Technology (BACT) for Volatile Organic Compounds (VOC) [326 IAC 2-2-3]

D.1.2 Prevention of Significant Deterioration (PSD) – PM/PM10 Emission Limitations [326 IAC 2-2]

D.1.3 Particulate [326 IAC 6-3-2]

D.1.4 Consent Decree Requirements

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

D.1.7 VOC Compliance - Consent Decree and PSD [326 IAC 2-2]

D.1.8 Particulate Control

D.1.9 VOC Control

D.1.10 Particulate Control

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

D.1.11 Visible Emissions Notations

D.1.12 Parametric Monitoring

D.1.13 Broken or Failed Bag Detection

D.1.14 Cyclone Failure Detection

D.1.15 Parametric Monitoring

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

D.1.16 Record Keeping Requirements

D.1.17 Reporting Requirements

D.2 FACILITY OPERATION CONDITIONS - Boilers..... 44

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]
- D.2.2 Particulate [326 IAC 6-2-3]
- D.2.3 Particulate [326 IAC 6-2-4]
- D.2.4 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 12-1]
- D.2.5 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]
- D.2.6 Distillate Fuel Oil / Vegetable Oil Usage Limitations [326 IAC 1-7] [326 IAC 2-2]
- D.2.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

- D.2.8 PM and PM₁₀ Emissions Determination [326 IAC 2-2]
- D.2.9 NO_x Emissions Determination [326 IAC 2-2]
- D.2.10 Sulfur Dioxide Emissions and Sulfur Content
- D.2.11 Sulfur Dioxide Emissions and Sulfur Content
- D.2.12 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.2.13 Visible Emissions Notations
- D.2.14 Continuous Emissions Monitoring

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

- D.2.15 Record Keeping Requirements
- D.2.16 Reporting Requirements

D.3 FACILITY OPERATION CONDITIONS - Degreasing Operations 51

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]
- D.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]
- D.3.3 Particulate [326 IAC 6-3-2]
- D.3.4 Particulate [326 IAC 2-2]
- D.3.5 Record Keeping Requirements

E.1 FACILITY OPERATION CONDITIONS 54

- E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]
- E.1.2 New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Db] [326 IAC 12]

E.2 FACILITY OPERATION CONDITIONS 55

- E.2.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]
- E.2.2 New Source Performance Standards (NSPS) for Grain Elevators [40 CFR Part 60, Subpart DD] [326 IAC 12]

E.3 FACILITY OPERATION CONDITIONS 56

- E.3.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants [326 IAC 20-1] [40 CFR Part 63, Subpart A]
- E.3.2 National Emission Standards for Hazardous Air Pollutants (NESHAPs): Solvent Extraction for Vegetable Oil Production [40 CFR Part 63, Subpart GGGG] [326 IAC 20]

Certification	57
Emergency Occurrence Report	58
Semi-Annual Natural Gas Fired Boiler Certification	60
Quarterly Reports	61-65
Quarterly Deviation and Compliance Monitoring Report	67

SECTION A

SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary soybean processing and oil refining operation.

Source Address:	2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address:	P.O. Box 249, Frankfort, IN 46041
General Source Phone Number:	(765) 654-8729
SIC Code:	2075
County Location:	Clinton
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) One (1) rail unloading operation, identified as EU01, constructed in 1946 and modified in 2004, with particulate emissions controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01), including the following:
 - (1) one (1) discharge drag conveyor with particulate emissions also controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (b) One (1) truck unloading operation, identified as EU02, constructed in 1946, with particulate emissions controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (c) One (1) grain elevator, identified as EU03, constructed in 1946, with particulate emissions controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (d) One (1) conveyor to grain storage, identified as EU04, constructed in 1946 and approved for modification in 2008, controlled for particulate matter by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (e) Two (2) concrete silo top vents, identified as EU05, constructed in 1946, controlled for particulate matter by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (f) Two (2) steel storage tank vents, identified as EU06, constructed in 1965, each exhausting through two (2) exhaust fans to the atmosphere;
- (g) One (1) conveyor from grain storage, identified as EU07, constructed in 1946 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);

- (h) Two (2) column grain dryers, identified as EU08, both constructed in 1978;
- (i) One (1) grain cleaner, identified as EU09, constructed in June of 1990 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
- (j) One (1) bean dryer, identified as EU10, constructed in February of 1986, controlled for particulate matter by one (1) cyclone (CE-06) and one (1) baghouse (BH-06A) in series, and exhausting to one (1) stack (EP04);
- (k) Cracking rolls, identified as EU11, constructed in February of 1986 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-06) and one (1) baghouse (BH-06A) in series, and exhausting to one (1) stack (EP04);
- (l) One (1) hull separator system, identified as EU12, constructed in February of 1986 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-07), and exhausting to one (1) stack (EP05);
- (m) One (1) conditioner, identified as EU13, constructed in February of 1986 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-06) and one (1) baghouse (BH-06A) in series, and exhausting to one (1) stack (EP04);
- (n) One (1) flaking operation, identified as EU14, constructed in June of 1985 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-07), and exhausting to one (1) stack (EP05);
- (o) One (1) expander, identified as EU15, constructed in August of 1994, exhausting to one (1) stack (EP06);
- (p) One (1) hull screening operation, identified as EU16, constructed in August of 1994 and approved for modification in 2008, controlled for particulate matter by one baghouse (CE-05) and three (3) cyclones (CE-19, CE-19A and CE-19B) in parallel, and exhausting to one (1) stack (EP03);
- (q) One (1) hull grinder, identified as EU17, constructed in June of 1989 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-20) and one (1) baghouse (CE-20A) in series, and exhausting to one (1) stack (EP20);
- (r) One (1) hull storage unit, identified as EU18, constructed in 1946, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
- (s) One (1) hull conveyor, identified as EU19, constructed in 1946 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
- (t) One (1) pellet mill, identified as EU20, constructed in June of 1992, controlled for particulate matter by one (1) cyclone (CE-08), and exhausting to one (1) stack (EP07);
- (u) One (1) pellet cooler, identified as EU21, constructed in June of 1992, controlled for particulate matter by one (1) cyclone (CE-08), and exhausting to one (1) stack (EP07);
- (v) One (1) pellet storage unit, identified as EU22, constructed in June of 1992, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series and exhausting to one (1) stack (EP03);

- (w) One (1) dryer deck, DTDC - Deck #1, identified as EU23, constructed in May of 1985 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-09), and exhausting to one (1) stack (EP08);
- (x) Two (2) DTDC dryer decks:
 - (1) DTDC - Deck #2, identified as EU24, constructed in May of 1985 and approved for modification in 2008, emissions controlled by one (1) cyclone (CE-10), and exhausting to one (1) stack (EP09).
 - (2) DTDC - Deck #3, identified as EU24A, approved for construction in 2008, emissions controlled by one (1) cyclone (CE-10A), and exhausting to one (1) stack (EP09A).
- (y) One (1) DTDC - cooler deck, identified as EU25, constructed in May of 1985 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-11), and exhausting to one (1) stack (EP10);
- (z) One (1) meal conveyor (from DTDC to meal screens), identified as EU26, constructed in June of 1991 and approved for reconstruction in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (aa) One (1) meal sifting operation, identified as EU27, constructed in June of 1991 and approved for modification in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (bb) One (1) meal grinding operation, identified as EU28, constructed in June of 1991 and approved for modification in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack, (EP11);
- (cc) One (1) meal storage conveyor, identified as EU29, constructed in June of 1991 and approved for modification in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (dd) One (1) meal storage unit (two tanks), identified as EU30, constructed in 1958 and approved for modification in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (ee) Two (2) meal surge tanks, identified as EU31, constructed in 1986 and approved for modification in 2008, with a portion of emissions controlled for particulate matter by one (1) baghouse (ML-1), exhausting to one (1) stack (EP12);
- (ff) One (1) hull surge tank, identified as EU32, constructed in 1986, with a portion of emissions controlled for particulate matter by one (1) baghouse (ML-1), exhausting to one (1) stack (EP12);
- (gg) One (1) enclosed mixing conveyor, identified as EU33, constructed in 1988, conveying to the truck and rail meal and hull pellet loadout operations;
- (hh) One (1) truck meal and hull pellet loadout operation, identified as EU34, constructed in 1988, controlled for particulate by one (1) baghouse (ML-1), and exhausting to one (1) stack (EP12);
- (ii) One (1) rail meal and hull pellet loadout operation, identified as EU35, constructed in 1988, controlled for particulate matter by one (1) baghouse (ML-1), and exhausting to one (1) stack (EP12);

- (jj) One (1) meal clay storage unit, identified as EU36, constructed in 1986, controlled for particulate matter by one (1) baghouse (MC-1), and exhausting to one (1) stack (EP13);
- (kk) One (1) refinery clay storage unit, identified as EU37, constructed in 1992, controlled for particulate matter by one (1) baghouse (RCB), and exhausting to one (1) stack (EP14);
- (ll) One (1) oil extraction process, identified as EU38, constructed in May of 1985 and approved for modification in 2008, using hexane solvent, with emissions released through a number of exit streams in the process collectively called the "hexane bubble". The process is equipped with one (1) mineral oil absorber/scrubber (CE-22), which exhausts through one (1) stack (EP25). This process is also equipped with a once-through cold water condenser located between the vent condenser and the mineral oil absorber/scrubber.
- (mm) One (1) bean cleaner, identified as EU43, constructed in 1998, controlled for particulate matter by one (1) baghouse (CE-21), and exhausting to one (1) stack (EP24);
- (nn) One (1) vertical seed conditioner, also referred to as a steam-heated soybean heater, identified as EU44, approved for construction in 2008, emissions controlled by one (1) cyclone (CE-44), and exhausting to one (1) stack (EP44);
- (oo) Boiler #1, identified as EU39, constructed in 1960, firing natural gas, vegetable oil, No. 2 distillate fuel oil, or blends of vegetable oil and No. 2 distillate fuel oil, exhausting to one (1) stack (EP15);
- (pp) Boiler #3, identified as EU41, constructed in 1992, firing natural gas, vegetable oil, No. 2 distillate fuel oil, or blends of vegetable oil and No. 2 distillate fuel oil, exhausting to one (1) stack (EP17);
- (qq) One (1) Refinery Boiler, identified as EU42, constructed in 2000, firing natural gas or No. 2 distillate fuel oil, exhausting to one (1) stack (EP18);
- (rr) Boiler #4, identified as EU46, constructed in 1995 approved for installation in 2008, firing natural gas, vegetable oil, No. 2 distillate fuel oil or blends of vegetable oil and No. 2 distillate fuel oil, with emissions uncontrolled, and exhausting to one (1) stack (EP46).

Note: The projected production rates of the above listed emission units are listed in Appendix A.

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) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6: One (1) parts washer, constructed after 1990. [326 IAC 8-3-2][326 IAC 8-3-5]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (c) The following activities with emissions equal to or less than insignificant thresholds:
 - (1) one (1) silica clay storage silo, identified as EU47, constructed in 2002, with particulate emissions controlled by a baghouse (RC-2), exhausting through one

(1) stack (EP19). [326 IAC 6-3-2][326 IAC 2-2]

(2) one (1) cooling tower, identified as EU45, with a design recirculation rate of 1,500 gal/min. [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 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]

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

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

B.4 Permit Term [326 IAC 2-7-5(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, T023-6066-00011, 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.5 Term of Conditions [326 IAC 2-1.1-9.5]

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

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

B.6 Enforceability [326 IAC 2-7-7]

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.7 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.8 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.9 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.10 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.11 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 a 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.12 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 in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 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.13 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, IN 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 PMP does 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.14 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, 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: 317-233-5967

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 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.15 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 in 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.16 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 T023-24846-00011 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.17 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, IN 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.18 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 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.19 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, IN 46204-2251

- (b) A timely renewal application is one that is:
- (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (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.20 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, IN 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.21 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.22 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, IN 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, (and local agency if applicable) 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 in emissions in at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(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.23 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.24 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.25 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, IN 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.26 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.27 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). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 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.7 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, IN 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.8 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, IN 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.9 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.10 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, IN 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.11 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.12 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.13 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, IN 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.14 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.15 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;
 - (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.16 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 and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the "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.17 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 purpose of fee assessment.

The 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, IN 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.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

- (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(II)) 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(II)) 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.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by 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, IN 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.20 Compliance with 40 CFR 82 and 326 IAC 22-1

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

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1

FACILITY OPERATION CONDITIONS

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

- (a) One (1) rail unloading operation, identified as EU01, constructed in 1946 and modified in 2004, with particulate emissions controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01), including the following:
 - (1) one (1) discharge drag conveyor with particulate emissions also controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (b) One (1) truck unloading operation, identified as EU02, constructed in 1946, with particulate emissions controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (c) One (1) grain elevator, identified as EU03, constructed in 1946, with particulate emissions controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (d) One (1) conveyor to grain storage, identified as EU04, constructed in 1946 and approved for modification in 2008, controlled for particulate matter by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (e) Two (2) concrete silo top vents, identified as EU05, constructed in 1946, controlled for particulate matter by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
- (f) Two (2) steel storage tank vents, identified as EU06, constructed in 1965, each exhausting through two (2) exhaust fans to the atmosphere;
- (g) One (1) conveyor from grain storage, identified as EU07, constructed in 1946 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
- (h) Two (2) column grain dryers, identified as EU08, both constructed in 1978;
- (i) One (1) grain cleaner, identified as EU09, constructed in June of 1990 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
- (j) One (1) bean dryer, identified as EU10, constructed in February of 1986, controlled for particulate matter by one (1) cyclone (CE-06) and one (1) baghouse (BH-06A) in series, and exhausting to one (1) stack (EP04);
- (k) Cracking rolls, identified as EU11, constructed in February of 1986 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-06) and one (1) baghouse (BH-06A) in series, and exhausting to one (1) stack (EP04);
- (l) One (1) hull separator system, identified as EU12, constructed in February of 1986 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-07), and exhausting to one (1) stack (EP05);
- (m) One (1) conditioner, identified as EU13, constructed in February of 1986 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-06) and one (1) baghouse (BH-06A) in series, and exhausting to one (1) stack (EP04);
- (n) One (1) flaking operation, identified as EU14, constructed in June of 1985 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-07), and exhausting to one (1) stack (EP05);

- (o) One (1) expander, identified as EU15, constructed in August of 1994, exhausting to one (1) stack (EP06);
- (p) One (1) hull screening operation, identified as EU16, constructed in August of 1994 and approved for modification in 2008, controlled for particulate matter by one baghouse (CE-05) and three (3) cyclones (CE-19, CE-19A and CE-19B) in parallel, and exhausting to one (1) stack (EP03);
- (q) One (1) hull grinder, identified as EU17, constructed in June of 1989 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-20) and one (1) baghouse (CE-20A) in series, and exhausting to one (1) stack (EP20);
- (r) One (1) hull storage unit, identified as EU18, constructed in 1946, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
- (s) One (1) hull conveyor, identified as EU19, constructed in 1946 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
- (t) One (1) pellet mill, identified as EU20, constructed in June of 1992, controlled for particulate matter by one (1) cyclone (CE-08), and exhausting to one (1) stack (EP07);
- (u) One (1) pellet cooler, identified as EU21, constructed in June of 1992, controlled for particulate matter by one (1) cyclone (CE-08), and exhausting to one (1) stack (EP07);
- (v) One (1) pellet storage unit, identified as EU22, constructed in June of 1992, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series and exhausting to one (1) stack (EP03);
- (w) One (1) dryer deck, DTDC - Deck #1, identified as EU23, constructed in May of 1985 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-09), and exhausting to one (1) stack (EP08);
- (x) Two (2) DTDC dryer decks:
 - (1) DTDC - Deck #2, identified as EU24, constructed in May of 1985 and approved for modification in 2008, emissions controlled by one (1) cyclone (CE-10), and exhausting to one (1) stack (EP09).
 - (2) DTDC - Deck #3, identified as EU24A, approved for construction in 2008, emissions controlled by one (1) cyclone (CE-10A), and exhausting to one (1) stack (EP09A).
- (y) One (1) DTDC - cooler deck, identified as EU25, constructed in May of 1985 and approved for modification in 2008, controlled for particulate matter by one (1) cyclone (CE-11), and exhausting to one (1) stack (EP10);
- (z) One (1) meal conveyor (from DTDC to meal screens), identified as EU26, constructed in June of 1991 and approved for reconstruction in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (aa) One (1) meal sifting operation, identified as EU27, constructed in June of 1991 and approved for modification in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (bb) One (1) meal grinding operation, identified as EU28, constructed in June of 1991 and approved for

- modification in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack, (EP11);
- (cc) One (1) meal storage conveyor, identified as EU29, constructed in June of 1991 and approved for modification in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
 - (dd) One (1) meal storage unit (two tanks), identified as EU30, constructed in 1958 and approved for modification in 2008, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
 - (ee) Two (2) meal surge tanks, identified as EU31, constructed in 1986 and approved for modification in 2008, with a portion of emissions controlled for particulate matter by one (1) baghouse (ML-1), exhausting to one (1) stack (EP12);
 - (ff) One (1) hull surge tank, identified as EU32, constructed in 1986, with a portion of emissions controlled for particulate matter by one (1) baghouse (ML-1), exhausting to one (1) stack (EP12);
 - (gg) One (1) enclosed mixing conveyor, identified as EU33, constructed in 1988, conveying to the truck and rail meal and hull pellet loadout operations;
 - (hh) One (1) truck meal and hull pellet loadout operation, identified as EU34, constructed in 1988, controlled for particulate by one (1) baghouse (ML-1), and exhausting to one (1) stack (EP12);
 - (ii) One (1) rail meal and hull pellet loadout operation, identified as EU35, constructed in 1988, controlled for particulate matter by one (1) baghouse (ML-1), and exhausting to one (1) stack (EP12);
 - (jj) One (1) meal clay storage unit, identified as EU36, constructed in 1986, controlled for particulate matter by one (1) baghouse (MC-1), and exhausting to one (1) stack (EP13);
 - (kk) One (1) refinery clay storage unit, identified as EU37, constructed in 1992, controlled for particulate matter by one (1) baghouse (RCB), and exhausting to one (1) stack (EP14);
 - (ll) One (1) oil extraction process, identified as EU38, constructed in May of 1985 and approved for reconstruction in 2008, using hexane solvent, with emissions released through a number of exit streams in the process collectively called the "hexane bubble". The process is equipped with one (1) mineral oil absorber/scrubber (CE-22), which exhausts through one (1) stack (EP25). This process is also equipped with a once-through cold water condenser located between the vent condenser and the mineral oil absorber/scrubber;
 - (mm) One (1) bean cleaner, identified as EU43, constructed in 1998, controlled for particulate matter by one (1) baghouse (CE-21), and exhausting to one (1) stack (EP24);
 - (nn) One (1) vertical seed conditioner, also referred to as a steam-heated soybean heater, identified as EU44, approved for construction in 2008, emissions controlled by one (1) cyclone (CE-44), and exhausting to one (1) stack (EP44).
- (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 Best Available Control Technology (BACT) for Volatile Organic Compounds (VOC) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD SSM 023-24843-00011:

- (a) VOC emissions from the solvent extraction and recovery process main vent shall be controlled by a condenser and mineral oil absorber/scrubber system (CE-22).
- (b) The overall solvent loss ratio of the solvent extraction process shall not exceed 0.179 gallons of hexane per ton of soybeans processed. Compliance with the solvent loss ratio limit shall be demonstrated using the procedures established in 40 CFR Part 63, Subpart GGGG.
- (c) The Permittee shall optimize the design and operation of the Desolventizer-Toaster-Dryer-Cooler (DTDC) (consisting of EU23, EU24, EU24A and EU25) to mitigate VOC emissions.
- (d) Within 60 days of achieving full production permitted by PSD SSM 023-24843-00011, but no later than 180 days after startup of the modified extraction process, the Permittee shall implement a leak detection and correction program to control VOC emissions. The program is included as Attachment A to this permit.
- (e) The amount of soybeans processed by the source shall not exceed 1,314,000 tons twelve consecutive month period with compliance determined at the end of each month.

D.1.2 Prevention of Significant Deterioration (PSD) – PM/PM10 Emission Limitations [326 IAC 2-2]

- (a) Pursuant to PSD SSM 023-24843-00011, the PM and PM10 emissions from the following units are limited as follows:

Unit (ID) *	PM Limit	PM10 Limit	Units for Limit
Vertical Seed Conditioner (EU44)	0.001	0.001	lb/ton beans processed
DTDC Meal Dryer Deck #1 (EU23)	0.00017	0.00017	
DTDC Meal Dryer Deck #2 (EU24)	0.0063	0.0063	
DTDC Meal Dryer Deck #3 (EU24A)	0.0063	0.0063	
DTDC Meal Cooler Deck (EU25)	0.0018	0.0018	
Grain Conveying (EU04)	0.061	0.034	lb/ton grain received
Cracking and Conditioning (EU10/11/13)	0.00161	0.00161	lb/ton beans processed
Conveying to Processing (EU07)	0.061	0.034	lb/ton grain received
Grain Cleaner (EU09)	0.00102	0.00102	lb/ton beans processed
Hull Screening (EU16)	0.00674	0.00674	lb/ton hulls processed
Hull Grinder (EU17)	0.00674	0.00674	
Hull Conveyor (EU19)	0.061	0.034	
Hull Separator and Flaking (EU12/14)	0.050	0.032	lb/ton beans processed
Meal Conveyor (EU26)	0.061	0.034	lb/ton meal produced
Meal Grinder and Sifter (EU27/28)	0.00347	0.00347	lb/ton beans processed
Meal Storage Conveyor (EU29)	0.061	0.034	lb/ton meal produced
Meal Surge Tanks (EU31)	0.025	0.0063	
Truck and Rail Receiving (EU01/02)	0.035	0.0078	lb/ton grain received
Elevator Leg vents (EU03)	0.061	0.034	
Grain Storage (EU05)	0.025	0.0063	
Hull Storage Unit (EU18)	0.025	0.0063	

Unit (ID) *	PM Limit	PM10 Limit	Units for Limit
Pellet Storage Unit (EU22)	0.025	0.0063	processed
Pellet Mill and Cooler (EU20/21)	0.030	0.030	
Meal Storage Unit (EU30)	0.025	0.0063	lb/ton meal produced
Truck Meal and Hull Pellet Loadout (EU34)	0.061	0.034	
Rail Meal and Hull Pellet Loadout (EU35) and Storage (EU36)	0.27	0.1755	lb/ton beans processed
Hull Surge Tank (EU32)	0.025	0.0063	lb/ton hulls processed
Meal Clay Storage Unit (EU36)	0.571	0.40	lb/ton clay received
Silica Clay Silo (EU47)	0.571	0.40	lb/ton clay received
Cooling Tower (EU45)	0.030	0.030	lb/hr

- (b) The amount of soybeans processed by the source shall not exceed 1,314,000 tons twelve consecutive month period with compliance determined at the end of each month.
- (c) Units EU10, EU11 and EU13 may operate without the emissions control of baghouse BH-06A for no more than 200 hours per year.

Compliance with these limits will render the requirements of 326 IAC 2-2 not applicable with respect to PM and PM10 to the modification described in PSD SSM 023-24843-00011.

D.1.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the facilities listed below shall be limited as indicated in the table below.

The pounds per hour limitations were calculated with either of the following equations:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

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

or

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

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

Emission Unit ID	Process Weight Rate (ton/hr)	Allowable Particulate Emissions (lb/hr)
Rail Unloading, EU01	400	66.3
Truck Unloading, EU02	720	73.4
Grain elevator, EU03	720	73.4

Emission Unit ID	Process Weight Rate (ton/hr)	Allowable Particulate Emissions (lb/hr)
Conveyor to grain storage, EU04	1,200	80.0
Concrete silo top vents, EU05	720	73.4
Steel storage tank vents, EU06	720	73.4
Conveyor from grain storage, EU07	225	59.8
Grain Dryer, EU08	180	57.4
Grain Cleaner, EU09	180	57.4
Bean Dryer, EU10	122	53.3
Cracking Rolls, EU11	180	57.4
Hull Separator, EU12	180	57.4
Conditioner, EU13	180	57.4
Flaking, EU14	172	56.9
Expander, EU15	30.0	40.0
Hull Screen, EU16	14.0	24.0
Hull Grinder, EU17	14.0	24.0
Hull Storage Unit, EU18	9.00	17.9
Hull Conveyor, EU19	14.0	24.0
Pellet Mill, EU20	9.00	17.9
Pellet Cooler, EU21	9.00	17.9
Pellet Storage Unit, EU22	9.00	17.9
Dryer Deck #1, EU23	172	55.1
Dryer Deck #2, EU24	172	55.1
Dryer Deck #3, EU24A	172	55.1
Cooler Deck, EU25	172	55.1
Meal Conveyor, EU26	136	54.4
Meal sifter, EU27	136	54.4
Meal grinder, EU28	136	54.4
Meal storage conveyor, EU29	90.0	50.0
Meal storage tank, EU30	90.0	50.0
Meal surge tanks, EU31	300	63.0
Hull surge tank, EU32	100	51.3

Emission Unit ID	Process Weight Rate (ton/hr)	Allowable Particulate Emissions (lb/hr)
Mixing conveyor, EU33	250	61.0
Truck Meal & Hull Pellet loadout, EU34	250	61.0
Rail Meal & Hull Pellet loadout, EU35	250	61.0
Meal clay storage, EU36	25.0	35.4
Refinery clay storage, EU37	25.0	35.4
Bean cleaner, EU43	180	57.4
Vertical Seed Conditioner, EU44	180	57.4

- (a) For purposes of demonstrating compliance with the particulate emission limits for the rail unloading (EU01), the truck unloading (EU02), the grain elevator (EU03), the conveyor to grain storage (EU04), and the concrete silo top vents (EU05) all exhausting through baghouse GR-1, which exhausts through stack EP01, the allowable particulate emission rate from baghouse GR-1 shall be limited to 366.5 pounds per hour.
- (b) For purposes of demonstrating compliance with the particulate emission limits for the conveyor from grain storage (EU07), the grain cleaner (EU09), the hull screen (EU16), the hull grinder (EU17), the hull storage unit (EU18), the hull conveyor (EU19), and the pellet storage unit (EU22) all exhausting through baghouse CE-05, which exhausts through stack EP03, the allowable particulate emission rate from baghouse CE-05 shall be limited to 225 pounds per hour.
- (c) For purposes of demonstrating compliance with the particulate emission limits for the bean dryer (EU10), the cracking rolls (EU11), and the conditioner (EU13) all exhausting through cyclone CE-06, which exhausts through stack EP04, the allowable particulate emission rate from cyclone CE-06 and baghouse BH-06A shall be limited to 168 pounds per hour.
- (d) For purposes of demonstrating compliance with the particulate emission limits for the hull separator (EU12) and the flakers (EU14) both exhausting through cyclone CE-07, which exhausts through stack EP05, the allowable particulate emission rate from cyclone CE-07 shall be limited to 114.3 pounds per hour.
- (e) For purposes of demonstrating compliance with the particulate emission limits for the pellet mill (EU20) and the pellet cooler (EU21) both exhausting through cyclone CE-08, which exhausts through stack EP07, the allowable particulate emission rate from cyclone CE-08 shall be limited to 35.8 pounds per hour.
- (f) For purposes of demonstrating compliance with the particulate emission limits for the conveyor to meal screens (EU26), the meal sifter (EU27), the meal grinder (EU28), the meal storage conveyor (EU29), and the meal storage tank (EU30) all exhausting through baghouse BH-2, which exhausts through stack EP11, the allowable particulate emission rate from baghouse BH-2 shall be limited to 263.2 pounds per hour.
- (g) For purposes of demonstrating compliance with the particulate emission limits for the meal surge tank (EU31), the hull surge tank (EU32), the truck meal & hull pellet loadout (EU34), and the rail meal & hull pellet loadout (EU35) all exhausting through baghouse ML-1, which exhausts through stack EP12, the allowable particulate emission rate from baghouse ML-1 shall be limited to 236.3 pounds per hour.

D.1.4 Consent Decree Requirements

Pursuant to the Consent Decree in *United States v. Archer Daniels Midland Company*, Civil Action No. 03-2066, that was lodged with the United States District Court for the Central District of Illinois, the following requirements apply to the Permittee:

- (a) As part of the consent decree, a once-through cold water condenser shall be installed and will be located between the vent condenser and the mineral oil absorber/scrubber. The purpose of this condenser is to condense hexane vapors and reduce the vapor loading to the mineral oil absorber/scrubber. The Consent Decree requires that ADM's Frankfort, Indiana plant install only the once-through cold-water condenser prior to the mineral oil absorber/scrubber. ADM shall conduct a design and engineering review of each affected unit to size the condenser upgrade. The design criteria for the once-through cold-water condenser that will be the basis for sizing the required condenser upgrade is a minimum of 94 ft² surface area.

By no later than the dates set forth in section 6.0 of Attachment 9 of the Consent Decree, VOC Control Technology Plan for ADM's Oilseed Plants, ADM shall upgrade its oilseed plants so that all plants have condenser systems that include, at a minimum, a dedicated "extractor condenser" for the extractor and a once-through cold water condenser following the vent condenser. This shall be done at all ADM plants no later than April 1, 2006.

- (b) By no later than December 31, 2007, ADM shall propose in writing to the U.S. EPA, the Department of Justice, and the OAQ, the Plaintiffs in the Consent Decree for this plant, final VOC Solvent Loss Ratio (SLR) limits for this facility that satisfy the requirements of Subsection 5.2 of Attachment 9 of the Consent Decree presented below.

Except for multi-seed plants, the capacity-weighted average of these final VOC SLR limits for the conventional soybean group shall not exceed the VOC SLR limit of 0.175 gal/ton for conventional soybean plants.

The capacity weighted average of the final VOC SLR limit for the conventional soybean group is to be calculated using the following equation:

$$\text{Conventional Soybean} = \frac{\sum (\text{Seed}_i * \text{SLR}_i)}{\sum (\text{Seed}_i)} \# 0.175 \text{ gal/ton}$$

where: Seed_i = Crush capacity of soybean plant i; and
SLR_i = Final SLR Limit for soybean plant i.

The capacity-weighted averages shall be based on the design capacity for each plant that has been approved by the Plaintiffs under Paragraph 68 of the Consent Decree. For purposes of the Consent Decree, design capacity is the "maximum permitted crush capacity" that a plant is allowed to process in a given time period under its operating permit; or, if no limit is included in the operating permit, the plant's maximum physical capacity. This number is expressed as "tons of crush per day."

Note the maximum crush capacity of the oil extraction process at this source is confidential trade secret information.

Compliance with these requirements satisfies the requirements of 326 IAC 2-2 (PSD) and 326 IAC 8-1-6 (New Facilities, General Reduction Requirements).

D.1.5 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 any control devices.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within twelve (12) months after issuance of PSD SSM 023-24843-00011, in order to demonstrate compliance with Condition D.1.2, the Permittee shall perform PM and PM10 testing of the stack exhaust from all units(except for EU04, EU07, EU19, EU26, EU29, EU03, EU47 and EU45) limited by Condition D.1.2. These tests shall be conducted utilizing methods approved by the Commissioner and repeated at least once every five (5) years from the date of valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C - Performance Testing.

D.1.7 VOC Compliance - Consent Decree and PSD [326 IAC 2-2]

(a) Compliance with Conditions D.1.1(b) and D.1.4 shall be determined in accordance with 40 CFR Part 63, Subpart GGGG, with the following exceptions:

- (1) provisions pertaining to HAP content shall not apply;
- (2) monitoring and recordkeeping of solvent losses at the plant shall be conducted daily;
- (3) solvent losses and quantities of oilseed processed during startup and shutdown periods shall not be excluded in determining solvent losses; and
- (4) records shall be kept in the form of the table included in Section 8.0 of Attachment 9 of the Consent Decree and presented here that show total solvent losses, solvent losses during malfunction periods, adjusted solvent losses (i.e., total solvent losses minus malfunction losses) monthly and on a twelve-month rolling basis as follows:

Solvent Loss Record for ADM Oilseed Plant X

Date	Total Crush (tons)		Total Solvent Loss (gallons)		Malfunction Period Solvent Loss (gallons)		Adjusted Solvent Loss ^a (gallons)		SLR ^b (gal/ton)
	Monthly	12-Month Rolling	Monthly	12-Month Rolling	Monthly	12-Month Rolling	Monthly	12-Month Rolling	12-Month Rolling
Month, Year									

a -Adjusted Solvent Loss is equal to Total Solvent Loss minus Malfunction Period Loss.

b -Solvent Loss Ratio is equal to 12-month rolling Adjusted Solvent Loss divided by 12-Month Rolling Total Crush.

Compliance determination for each plant is based on 12-Month Rolling SLR value compared to Final VOC SLR Limit.

(b) For plants with interim or final solvent loss limits, ADM may apply the provisions of 40 CFR Part 63, Subpart GGGG pertaining to malfunction periods only when the conditions in both paragraphs (1) and (2) below are met:

- (1) The malfunction results in a total plant shutdown. For purposes of the Consent Decree, a "total plant shutdown" means a shutdown of the solvent extraction system.
- (2) Cumulative solvent losses during malfunction periods at a plant do not exceed 4,000 gallons in a 12-month rolling period.

At all other times, ADM must include all solvent losses when determining compliance with its interim or final VOC SLR limits at this plant.

During a malfunction period, ADM shall comply with the startup, shutdown and malfunction (SSM) plan as required under Subpart GGGG for the plant. The solvent loss corresponding to a malfunction period will be calculated as the difference in the total solvent inventories for the day before the malfunction period began and the day the plant resumes normal operation.

D.1.8 Particulate Control

- (a) In order to comply with Conditions D.1.2 and D.1.3, baghouses BH-06A, CE-05, ML-1, MC-1, BH-2A, CE-20A, CE-21 and cyclones CE-06, CE-07, CE-09, CE-10, CE-10A, CE-11, CE-18, CE-19, CE-19A, CE-19B, CE-20 and CE-44 for particulate control shall be in operation and control emissions from the associated units at all times that the associated units are in operation unless specified otherwise in Condition D.1.2.
- (b) In order to comply with Condition D.1.3, baghouse GR-1 for particulate control shall be in operation and control emissions from EU01, EU02, EU03 and EU04 at all times at least one of the respective units 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.1.9 VOC Control

Pursuant to 326 IAC 2-2-3, and in order to comply with Conditions D.1.1(b) and D.1.4, the condenser and mineral oil absorber/scrubber system (CE-22) shall be operated at all times that the hexane solvent oil extraction process (EU38) is in operation.

D.1.10 Particulate Control

The cyclone CE-08 for particulate control shall be in operation and control emissions from the pellet mill (EU20) and the pellet cooler (EU21) at all times that the pellet mill (EU20) and the pellet cooler (EU21) are in operation. This source accepted this requirement on a voluntary basis.

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

D.1.11 Visible Emissions Notations

- (a) Visible emission notations of the stack exhausts from baghouses GR-1, BH-06A, CE-05, BH-2A, ML-1, MC-1, RCB, CE-20A and CE-21 and the stack exhausts for cyclones CE-06, CE-07, CE-08, CE-09, CE-10, CE-10A, CE-11 and CE-44 shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) Visible emission notations of the stack exhaust from cyclone CE-06 shall be performed once per day during normal operations if the emissions from EU10, EU11 and EU13 bypassed baghouse BH-06A at any time during that day.
- (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 or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.1.12 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across each of the baghouses GR-1, BH-06A, CE-05, BH-2A, ML-1, MC-1, RCB, CE-20A and CE-21 used in conjunction with emission units EU-01 through EU-05, EU-07, EU-09, EU-16 through EU-19, EU-22, EU-26 through EU-32, EU-34 through EU-37, and EU-43, at least once per day when these emission units are in operation. When for any one reading, the pressure drop across the any of the baghouses is outside the normal range of 0.5 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.13 Broken or Failed Bag Detection

For single compartment baghouses, failed units and the associated process shall be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

D.1.14 Cyclone Failure Detection

In the event that cyclone failure has been observed:

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

D.1.15 Parametric Monitoring

- (a) The Permittee shall record the following for the scrubber (CE-22) used in conjunction with the oil extraction process, identified as EU38, at least once per day when the oil extraction process is in operation:
- (1) the total pressure drop across the scrubber;
 - (2) the inlet gas temperature of the scrubber;
 - (3) the outlet gas flow rate of the scrubber; and

- (4) the mineral oil flow rate in the scrubber.
- (b) When for any one reading:
 - (1) the pressure drop across the scrubber is outside the normal range of 0.2 and 10.0 inches of water or a range established during the latest stack test;
 - (2) the inlet gas temperature is outside the normal range of 45 and 100 degrees F or a range established during the latest stack test;
 - (3) the outlet gas flow rate is outside the normal range of 50 and 250 cubic feet per minute (cfm) or a range established during the latest stack test; or
 - (4) the mineral oil flow rate is outside the normal range of 10.0 and 75.0 gallons per minute (gpm) 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, inlet gas temperature, outlet gas flow rate, or a mineral oil flow rate 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.

- (c) The instruments used for determining the pressure, temperature, and flow rates 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.1.16 Record Keeping Requirements

- (a) To demonstrate and document compliance with Conditions D.1.1(b) and D.1.4, ADM shall:
 - (1) maintain the records required by 40 CFR Part 63, Subpart GGGG on solvent loss and quantity of oilseed processed; and
 - (2) maintain the records required by 40 CFR Part 63, Subpart GGGG, for any malfunction period as defined in Section 8.0 of Attachment 9 of the Consent Decree.
 - (3) keep daily records in the form of the table included in Section 8.0 of Attachment 9 of the Consent Decree and at the end of this permit that show total solvent losses, solvent losses during malfunction periods, adjusted solvent losses (i.e., total solvent losses minus malfunction losses) monthly and on a twelve-month rolling basis.
- (b) To document compliance with Condition D.1.11, the Permittee shall maintain a daily record of 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) To document compliance with Condition D.1.12, the Permittee shall maintain a daily record of the pressure drop across the baghouses 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.1.15, the Permittee shall maintain 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).
- (e) To document compliance with Condition D.1.1(d), the Permittee shall maintain records required by the leak detection and correction program; included as Attachment A to this permit.
- (f) To document compliance with Conditions D.1.1(e) and D.1.2(b), the Permittee shall maintain daily records of the amount of soybeans processed by the plant.
- (g) To document compliance with Condition D.1.6, the Permittee shall maintain records of the results from tests required by that condition.
- (h) To document compliance with Condition D.1.2(c), the Permittee shall maintain records of the number of hours in which the emissions from EU10, EU11 and EU13 are not controlled by baghouse BH-06A.
- (i) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.17 Reporting Requirements

A summary of the information to document compliance with Conditions D.1.1(e) and D.1.2(b) 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 reporting period 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.2

FACILITY OPERATION CONDITIONS

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

- (oo) Boiler #1, identified as EU39, constructed in 1960, firing natural gas, vegetable oil, No. 2 distillate fuel oil, or blends of vegetable oil and No. 2 distillate fuel oil, exhausting to one (1) stack (EP15);
- (pp) Boiler #3, identified as EU41, constructed in 1992, firing natural gas, vegetable oil, No. 2 distillate fuel oil, or blends of vegetable oil and No. 2 distillate fuel oil, exhausting to one (1) stack (EP17);
- (qq) One (1) Refinery Boiler, identified as EU42, constructed in 2000, firing natural gas or No. 2 distillate fuel oil, exhausting to one (1) stack (EP18);
- (rr) Boiler #4, identified as EU46, constructed in 1995 and approved for installation in 2008, firing natural gas, vegetable oil, No. 2 distillate fuel oil or blends of vegetable oil and No. 2 distillate fuel oil, with emissions uncontrolled, and exhausting to one (1) stack (EP46).

(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) [326 IAC 2-2]

(a) Pursuant to PSD SSM 023-24843-00011, emissions from EU46 are limited as follows:

- (1) The PM emissions shall not exceed 0.070 pounds per MMBtu heat input and 32.7 tons per twelve consecutive month period with compliance determined at the end of each month.
- (2) The PM10 emissions shall not exceed exceed 0.070 pounds per MMBtu heat input and 12.8 tons per twelve consecutive month period with compliance determined at the end of each month.
- (3) The NOx emissions shall not exceed 37.0 tons per twelve consecutive month period with compliance determined at the end of each month.

Compliance with these limits will render the requirements of 326 IAC 2-2 not applicable with respect to PM, PM10 and NOx to the modification described in PSD SSM 023-24843-00011.

(b) Pursuant to PSD SSM 023-24843-00011 and 326 IAC 2-2-3 (BACT):

- (1) VOC emissions from EU46 shall be minimized using good combustion practices;
- (2) VOC emissions shall not exceed 0.0014 pounds per MMBTU when firing distillate oil; and
- (3) VOC emissions shall not exceed 0.0054 pounds per MMBTU when firing natural gas or vegetable oil.

D.2.2 Particulate [326 IAC 6-2-3]

(a) Pursuant to 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating) the PM emissions from EU39 shall be limited to 0.59 pounds per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}}$$

where:

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic meter for a period not to exceed a sixty (60) minute time period.

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, which-ever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.
Note: This information is a confidential trade secret.

N = Number of stacks in fuel burning operation = 1

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input. The value 0.8 shall be used for Q greater than 1,000 MMBtu/hr heat input.

h = Stack height in feet = 39 ft.

D.2.3 Particulate [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating) the PM emissions from EU41, EU42 and EU46 shall be limited to 0.28, 0.28 and 0.24 pounds per MMBtu heat input, respectively.

These limitations are based on the following equation:

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

where: Pt = Pounds of particulate matter emitted per million Btu heat input

Q = Total source maximum operating capacity rating in million Btu per hour heat input.

D.2.4 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 12-1]

Pursuant to 326 IAC 7-1.1 (SO₂ Emissions Limitations) and 40 CFR Part 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units):

- (a) The SO₂ emissions from each EU41 and EU42 shall not exceed five tenths (0.5) pounds per million Btu heat input; or
- (b) The sulfur content of the fuel oil shall not exceed five-tenths percent (0.5%) by weight. [40 CFR 60.42c(d)]

Pursuant to 40 CFR Part 60, Subpart Dc, the fuel oil sulfur content limit applies at all times, including periods of startup, shutdown, and malfunction.

D.2.5 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO₂ Emissions Limitations) the SO₂ emissions from EU39 and EU46 shall not exceed five tenths (0.5) pound per MMBtu heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.2.6 Distillate Fuel Oil / Vegetable Oil Usage Limitations [326 IAC 1-7] [326 IAC 2-2]

Pursuant to SSM 023-21838-00011, issued December 22, 2005 and PSD SSM 023-24843-00011:

- (a) The usage of vegetable oil in boiler #1 and boiler #3 (EU39 and EU41) shall not exceed a total of 4.10 million gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. When using blends of vegetable oil and distillate fuel oil, only the volume of fuel which is vegetable oil shall count toward the usage limit.
- (b) For boiler #1 and boiler #3 (EU39 and EU41), when burning vegetable oil or blends of vegetable oil and distillate fuel oil, PM₁₀ emissions shall not exceed 0.07 pounds per million Btu heat input. This condition, along with the vegetable oil usage limit, limits increases in PM₁₀ emissions due to vegetable oil combustion to less than 15 tons per year. Compliance with both the emission limit and usage limit shall render 326 IAC 2-2 as not applicable.

D.2.7 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 EU39, EU41, EU42 and EU46.

Compliance Determination Requirements

D.2.8 PM and PM10 Emissions Determination [326 IAC 2-2]

Pursuant PSD SSM 023-24843-00011:

Compliance with Condition D.2.1(a)(1) and (2) shall be determined through stack testing pursuant to Condition D.2.12 and by calculating the PM and PM10 emissions using the following equation:

$$PM/PM10 = [(EF_{\#2oil} \times FU_{\#2oil} \times HC_{\#2oil}) + (EF_{veg} \times FU_{veg} \times HC_{veg}) + (EF_{gas} \times FU_{gas} \times HC_{gas})] \times 1/2000 \text{ (ton/lb)}$$

Where:

PM/PM10 = The PM/PM10 emissions from EU46 for a calendar month.

EF_{#2oil} = PM or PM10 emission factor for distillate fuel oil combustion (lb/MMBtu). This value is equal to 0.0236 (PM) and 0.0164 (PM10) until the OAQ approves other emission factors.

FU_{#2oil} = The amount of distillate fuel oil combusted by the boiler in a calendar month (gal/month).

HC_{#2oil} = Heating value of distillate fuel oil (MMBtu/gal). This value is equal to 0.14 until the OAQ approves another.

EF_{veg} = PM/PM10 emission factor for vegetable oil combustion (lb/MMBtu). This value is equal to 0.07 until the OAQ approves another.

FU_{veg} = The amount of vegetable oil combusted by the boiler in a calendar month (gal/month).

HC_{veg} = Heating value of vegetable oil (MMBtu/gal).

EF_{gas} = PM/PM10 emission factor for natural gas combustion (lb/MMBtu). This value is equal to 0.0075 until the OAQ approves another.

FU_{gas} = The amount of natural gas combusted by the boiler in a calendar month (MMCF/month).

HC_{gas} = Heating value of natural gas (MMBtu/MMCF). This value is equal to 1020 until the OAQ approves another.

D.2.9 NOx Emissions Determination [326 IAC 2-2]

Pursuant to PSD SSM 023-24843-00011, the Permittee shall use a NOx CEMS to determine compliance with Condition D.2.1(a)(3).

D.2.10 Sulfur Dioxide Emissions and Sulfur Content

Pursuant to 40 CFR Part 60, Subpart Dc, the Permittee shall demonstrate compliance for EU41 and EU42 utilizing one of the following options:

- (a) Providing vendor analysis of fuel oil delivered, if accompanied by a certification; or
- (b) Analyzing the fuel oil sample to determine the sulfur content of the fuel oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (1) Fuel oil samples may be collected from the fuel oil tank immediately after the fuel oil tank is filled and before any fuel oil is combusted; and
 - (2) If a partially empty fuel oil tank is refilled, a new sample and analysis would be required upon filling.

D.2.11 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined for EU39 and EU46 utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu heat input by:
 - (1) Providing vendor analysis of fuel oil delivered, if accompanied by a vendor certification, or;
 - (2) Analyzing the fuel oil sample to determine the sulfur content of the fuel oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Fuel oil samples may be collected from the fuel oil tank immediately after the fuel oil tank is filled and before any fuel oil is combusted; and
 - (B) If a partially empty fuel oil tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.2.12 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

No later than 180 days from the commencement of soybean oil combustion in EU39, EU41, or EU46 and in order to demonstrate compliance with Conditions D.2.1 and D.2.6(b), the Permittee shall perform PM and PM10 testing on EU39, EU41, or EU46 utilizing methods as approved by the Commissioner in accordance with Section C - Performance Testing. The boiler tested shall not be a boiler tested in the previous six (6) years. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.

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

D.2.13 Visible Emissions Notations

- (a) Visible emission notations of the stack exhausts from EU39, EU41, EU42 and EU46 shall be performed once per day, when combusting fuel oil and/or vegetable oil, 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 or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.2.14 Continuous Emissions Monitoring

- (a) Continuous emission monitoring systems (CEMS) for EU46 shall be installed, calibrated, maintained, and operated for measuring NO_x and O₂ which meet all applicable performance specifications of 326 IAC 3-5-2.
- (b) The continuous emission monitoring systems must meet the certification requirements pursuant to 326 IAC 3-5-3.
- (c) 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 40 CFR Part 60.

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

D.2.15 Record Keeping Requirements

- (a) To document compliance with Condition D.2.1(a)(3), the Permittee shall maintain records of the amount of fuels combusted by EU46.
- (b) To document compliance with Conditions D.2.4 and D.2.5, the Permittee shall maintain records in accordance with (1) through (7) below. Note that pursuant to 40 CFR Part 60, Subpart Dc, the fuel oil sulfur limit for EU41, EU42 and EU46 applies at all times including periods of startup, shutdown, and malfunction.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual No. 2 fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;
 - (3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.

If the fuel supplier certification is used to demonstrate compliance, when burning distillate fuel oil or blends of distillate fuel oil and vegetable oil and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

- (4) Fuel supplier certifications;
- (5) The name of the fuel supplier;
- (6) The percentage of distillate fuel oil in the fuel; and
- (7) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (c) To document compliance with Condition D.2.8, the Permittee shall maintain monthly records of the PM and PM10 emissions from EU46.
- (d) The Permittee shall maintain records sufficient to verify compliance with the procedures specified in Conditions D.2.10 and D.2.11. Records shall be maintained for a period of five (5) years and shall be made available upon request by IDEM.
- (e) To document compliance with Condition D.2.13, the Permittee shall maintain a record 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).
- (f) To document compliance with Condition D.2.14, the Permittee shall maintain a record of the NOx CEMs readings required by that condition.
- (g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.16 Reporting Requirements

- (a) The natural gas boiler certification 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 its equivalent, within thirty (30) days after the end of the six (6) month period being reported. The natural gas-fired boiler certification does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) A quarterly summary of the information to document compliance with Conditions D.2.1 and D.2.6 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 six (6) month period 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.3

FACILITY OPERATION CONDITIONS

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

- (a) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6: One (1) parts washer, constructed after 1990. [326 IAC 8-3-2][326 IAC 8-3-5]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (c) The following activities with emissions equal to or less than insignificant thresholds:
 - (1) one (1) silica clay storage silo, identified as EU47, constructed in 2002, with particulate emissions controlled by a baghouse (RC-2), exhausting through one (1) stack (EP19). [326 IAC 6-3-2][326 IAC 2-2]
 - (2) one (1) cooling tower, identified as EU45, with a design recirculation rate of 1,500 gal/min. [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.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.3.2 Volatile Organic Compounds (VOC) [326 8-3-5]

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:
 - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));

- (B) The solvent is agitated; or
 - (C) The solvent is heated.
- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^oC) (one hundred degrees Fahrenheit (100^oF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^oC) (one hundred degrees Fahrenheit (100^oF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^oC) (one hundred twenty degrees Fahrenheit (120^oF)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
 - (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

D.3.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2) (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This applies to the brazing equipment, cutting torches, soldering equipment, welding equipment and the silica clay storage silo.

D.3.4 Particulate [326 IAC 2-2]

Pursuant to PSD SSM 023-24843-00011 and in order to render the requirements of 326 IAC 2-2 not applicable to the modification permitted by that approval, the PM and PM10 emissions from:

- (a) The silica clay storage silo (EU47) shall be less than 0.571 and 0.40 pounds per ton of clay received, respectively.
- (b) The cooling tower (EU45) shall be less than 0.03 pounds per hour.

D.3.5 Record Keeping Requirements

- (a) To document compliance with Condition D.3.4, the Permittee shall maintain records of the clay received by EU47.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION E.1

FACILITY OPERATION CONDITIONS

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

Boiler #4 (EU46). Full facility description in Section D.2.

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

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

- (a) The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facilities described in this Section E.1 except when otherwise specified in 40 CFR 60, Subpart Db.
- (b) Pursuant to 40 CFR 60.19, 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 (NSPS) for Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Db] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Db (New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units) (included as Attachment B of this permit) which are incorporated by reference as 326 IAC 12:

- (1) 40 CFR 60.40b (a)
- (2) 40 CFR 60.41b
- (3) 40 CFR 60.42b (a), (e), (g) and (j)
- (4) 40 CFR 60.43b (f) and (g)
- (5) 40 CFR 60.44b (a)(1)(ii), (b), (c), (e), (f), (h) and (i)
- (6) 40 CFR 60.45b (b), (j) and (k)
- (7) 40 CFR 60.46b (a), (c), (d)(7), and (e)
- (8) 40 CFR 60.47b (f)
- (9) 40 CFR 60.48b (a) through (g), (i), (j)(2), (j)(4) and (j)(5)
- (10) 40 CFR 60.49b (b), (c), (d), (f) through (j), (o) and (r)

SECTION E.2

FACILITY OPERATION CONDITIONS

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

Facilities EU01, EU04, EU07 and EU09. Full facility descriptions in Section D.1.

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

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

- (a) The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facilities described in this Section E.2 except when otherwise specified in 40 CFR 60, Subpart DD.
- (b) Pursuant to 40 CFR 60.19, 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 (NSPS) for Grain Elevators [40 CFR Part 60, Subpart DD] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart DD (New Source Performance Standards (NSPS) for Grain Elevators) (included as Attachment C of this permit) which are incorporated by reference as 326 IAC 12:

- (1) 40 CFR 60.300
- (2) 40 CFR 60.301
- (3) 40 CFR 60.302 (b)(1), (b)(2), and (c)(2)
- (4) 40 CFR 60.303
- (5) 40 CFR 60.304

SECTION E.3

FACILITY OPERATION CONDITIONS

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

The vegetable oil production process as defined in 40 CFR 63.2872.

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

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

- (a) The provisions of 40 CFR Part 63, Subpart A (General Provisions), which are incorporated by reference in 326 IAC 20-1, apply to the facilities described in this Section E.3 except when otherwise specified in 40 CFR Part 63, Subpart GGGG.
- (b) Pursuant to 40 CFR 63.9, 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 (NESHAPs): Solvent Extraction for Vegetable Oil Production [40 CFR Part 63, Subpart GGGG] [326 IAC 20]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart GGGG (National Emission Standards for Hazardous Air Pollutants (NESHAPs): Solvent Extraction for Vegetable Oil Production (included as Attachment D of this permit) which are incorporated by reference as 326 IAC 20:

- (1) 40 CFR 63.2832 (a)
- (2) 40 CFR 63.2833
- (3) 40 CFR 63.2834 (a)
- (4) 40 CFR 63.2840 (a), (b)(1) through (b)(5), and (e) through (f)
- (5) 40 CFR 63.2850 (a), (b), (d) (e)(1)(i), (e)(1)(iii) and (e)(2)
- (6) 40 CFR 63.2851
- (7) 40 CFR 63.2852
- (8) 40 CFR 63.2853
- (9) 40 CFR 63.2854
- (10) 40 CFR 63.2855
- (11) 40 CFR 63.2860 (a), (c) and (d)
- (12) 40 CFR 63.2861
- (13) 40 CFR 63.2862
- (14) 40 CFR 63.2863
- (15) 40 CFR 63.2870
- (16) 40 CFR 63.2871
- (17) 40 CFR 63.2872
- (18) Table 1 of 63.2833
- (19) Item (a) of Table 1 of 63.2834
- (20) Item (ix) of Table 1 of 63.2840
- (21) Table 1 of 63.2850
- (22) Items (a) and (c) of Table 2 of 63.2850
- (23) Table 1 of 63.2853
- (24) Table 1 of 63.2870

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, Indiana 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011

**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, IN 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865**

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, Indiana 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- C 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
 - C 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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, Indiana 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011

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.

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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, Indiana 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: Boiler #2 (EU40)
Parameter: SO₂ emissions
Limit: the usage of No. 2 fuel oil with a sulfur content of 0.3% in the boiler #2 (EU40) shall not exceed 1.17 million gallons per twelve (12) consecutive month period, with compliance determined at the end of each month, so that SO₂ emissions are limited to less than 25 tons per year.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	No. 2 Fuel Oil Usage This Month (gallons)	No. 2 Fuel Oil Usage Previous 11 Months (gallons)	No. 2 Fuel Oil Usage 12 Month Total Usage (gallons)
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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, Indiana 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: Boiler #1(EU39) and Boiler #3 (EU41)
Parameter: PM₁₀ emissions
Limit: The usage of vegetable oil in boiler #1 and boiler #3 shall not exceed a total of 4.10 million gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Vegetable Oil Usage This Month (gallons)	Vegetable Oil Usage Previous 11 Months (gallons)	Vegetable Oil Usage 12 Month Total Usage (gallons)
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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: Entire source
Limit: The amount of soybeans processed by the source shall not exceed 1,314,000 tons twelve consecutive month period with compliance determined at the end of each month.

QUARTER :

YEAR:

Month	Soybeans processed (tons)	Soybeans processed (tons)	Soybeans processed (tons)
	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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: EU46
Parameter: PM emissions
Limit: PM emissions shall not exceed 32.7 tons per twelve consecutive month period with compliance determined at the end of each month.

QUARTER :

YEAR:

Month	PM Emissions	PM Emissions	PM Emissions
	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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: EU46
Parameter: PM10 emissions
Limit: PM10 emissions shall not exceed 12.8 tons per twelve consecutive month period with compliance determined at the end of each month.

QUARTER :

YEAR:

Month	PM10 Emissions	PM10 Emissions	PM10 Emissions
	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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: EU46
Parameter: NOx emissions
Limit: NOx emissions shall not exceed 37.0 tons per twelve consecutive month period with compliance determined at the end of each month.

QUARTER :

YEAR:

Month	NOx Emissions	NOx Emissions	NOx Emissions
	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:

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

**PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, Indiana 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011

Months: _____ to _____ Year: _____

Page 1 of 2

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

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.

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

ATTACHMENT A - Leak Detection and Correction Program

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD SSM 023-24843-00011, within 60 days of achieving full production, but no later than 180 days after startup of the modified extraction process, the Permittee shall implement a leak detection and correction program to control VOC emissions. The program is as follows:

- (a) Extraction plant operators shall visually inspect equipment that contains hexane on a daily basis. Operators shall check for leaks on the basis of sight, sound and/or smell at pump seals, valves, process piping, and process equipment (such as condensers and heat exchangers). If a leak is found, a work order shall be written to repair the leak.
- (b) Corrective action to repair leaks shall be taken as soon as possible and usually within five days of writing the work order. Some leaks require a welding shutdown to completely repair the leak. Welding shutdowns are typically taken every two to three years. Due to the highly explosive nature of hexane, a welding shutdown requires that the entire extraction plant be shut down and that all hexane be purged from all extraction plant vessels and piping before welding can be done in that area. For larger leaks that require welding to fully repair, a two-part epoxy/hardener compound or other appropriate material shall be used to patch the leak until it can be safely repaired via welding during a welding purge.
- (c) If a pump seal is found to be leaking, the seal shall be replaced as soon as possible. All extractor, distillation, and hexane pumps shall be checked daily for visible signs of leaking.
- (d) If a valve is found to be leaking, it is typically repaired by either tightening the flange bolts or tightening the packing gland bolts. Valves shall be replaced as necessary during scheduled plant shutdowns. All valves associated with the extractor and the distillation system shall be checked daily for visible signs of leaking.
- (e) Process piping shall be checked daily for signs of leaking on the basis of sight, sound and/or smell. If a leak is detected, repair shall be made almost immediately by one of the methods described above. Two-part epoxy/hardener compound or other appropriate material shall be used to completely stop the leak until a welding shutdown is scheduled.
- (f) Condensers and heat exchangers shall be checked daily for leaks on the basis of sight, sound and/or smell. If a leak is detected, repair shall be made almost immediately by the same methods used to repair leaks in process piping.
- (g) Distillation process equipment shall be checked on a daily basis, and leaks shall be repaired immediately by the same methods used to repair leaks in process piping. Since the distillation system operates under moderate vacuum, most leaks are easily detectable from audible signs (i.e. air being drawn into the vessel).

ATTACHMENT B

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

PART 70 OPERATING PERMIT SIGNIFICANT SOURCE MODIFICATION SIGNIFICANT PERMIT MODIFICATION OFFICE OF AIR QUALITY

**Archer Daniels Midland Company - Frankfort
2191 W CR 0 N/S Frankfort IN 46041
Frankfort, Indiana 46041
023-25870-00011**

Title 40: Protection of Environment

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 (SO₂) 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 SO₂ 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 SO₂ 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).

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 SO₂ 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 SO₂ 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-m³ (70,000 Btu/hr-ft³).

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-m³ (70,000 Btu/hr-ft³) or less.

Mass-feed stoker steam generating unit means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

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

Municipal-type solid waste means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

Natural gas means: (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) 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 SO₂ emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

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

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 SO₂ emission control, has a SO₂ 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 SO₂ emission control, has a SO₂ emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input.

Wet flue gas desulfurization technology means a SO₂ 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 SO₂.

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

§ 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 SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction) and the emission limit determined according to the following formula:

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

Where:

E_s = SO₂ 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:

$$E_s = \frac{(K_c H_c + K_d H_d)}{(H_c + H_d)}$$

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 SO₂ 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 SO₂ 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 SO₂ emissions and

(2) Emissions from the pretreated fuel (without combustion or post-combustion SO₂ 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 SO₂ control system is not being operated because of malfunction or maintenance of the SO₂ 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 SO₂ 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 SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential SO₂ 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 SO₂ emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO₂ 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 SO₂ 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 SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction) 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 SO₂ 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 SO₂ 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 SO₂ 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 NO₂) 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:

$$E_n = \frac{(EL_{ng}H_{ng}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{ng} + H_{ro} + H_c)}$$

Where:

E_n= NO_xemission limit (expressed as NO₂), ng/J (lb/MMBtu);

EL_{ng}= Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

H_{ng}= 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:

$$E_n = \frac{(EL_{ng}H_{ng}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{ng} + H_{ro} + H_c)}$$

Where:

E_n= NO_xemission limit (expressed as NO₂), ng/J (lb/MMBtu);

EL_{ng}= Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

H_{ng}= 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_xemission limit that shall apply specifically to that affected facility when the byproduct/waste is

(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_xemission 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 NO₂) 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:

$$E_n = \frac{(0.10 \times H_{go}) + (0.20 \times H_r)}{(H_{go} + H_r)}$$

Where:

E_n= NO_xemission 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 SO₂emission 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 SO₂emission rate (% P_s) and the SO₂emission 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 SO₂standards 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 SO₂emission 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 SO₂emission rate (%P_s) emitted to the atmosphere is computed using the following formula:

$$\%P_s = 100 \left(1 - \frac{\%R_g}{100} \right) \left(1 - \frac{\%R_f}{100} \right)$$

Where:

%P_s= Potential SO₂emission rate, percent;

%R_g= SO₂removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

%R_f= SO₂removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(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 SO₂emission 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 E_{ho}^o is computed using the following formula:

$$E_{ho}^o = \frac{E_{ho} - E_w(1 - X_1)}{X_1}$$

Where:

E_{ho}^o = Adjusted hourly SO₂emission rate, ng/J (lb/MMBtu);

E_{ho}= Hourly SO₂emission 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} from paragraph (b)(3)(i) of this section and an adjusted average SO_2 inlet rate (E_{ai}^o) using the following formula:

$$\%R_g^o = 100 \left(1.0 - \frac{E_{ao}^o}{E_{ai}^o} \right)$$

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:

$$E_{hi}^o = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

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 SO₂ emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for SO₂ 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 SO₂ emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for SO₂ 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 SO₂ 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 SO₂ emissions data in calculating %P_s and E_{h0} 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 SO₂ emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating %P_s and E_{h0} pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the SO₂ 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 (O₂) or CO₂ 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 O₂ or CO₂ measurements and PM measurements obtained under this section;

(ii) The dry basis F factor; and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(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_xemission 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_xstandards 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_xemission 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_xstandards under §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NO_xemissions 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_xemission 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_xemission 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_xrequired 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_xshall be computed using Equation 1 in this section:

$$E = E_{sg} + \left(\frac{H_g}{H_b} \right) (E_{sg} - E_g) \quad (\text{Eq.1})$$

Where:

E = Emissions rate of NO_xfrom 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_xconcentrations. Method 3A or 3B of appendix A of this part shall be used to determine O₂concentration.

(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 O₂(or CO₂) 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 O₂(or CO₂), 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 SO₂standards under §60.42b shall install, calibrate, maintain, and operate CEMS for measuring SO₂concentrations and either O₂or CO₂concentrations and shall record the output of the systems. For units complying with the percent reduction standard, the SO₂and either O₂or

CO₂ concentrations shall both be monitored at the inlet and outlet of the SO₂ control device. If the owner or operator has installed and certified SO₂ and O₂ or CO₂ 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, SO₂ concentration data and CO₂ (or O₂) data are collected simultaneously; and

(2) In addition to meeting the applicable SO₂ and CO₂ (or O₂) 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. SO₂ and CO₂ (or O₂) 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 SO₂ 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 SO₂ 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 SO₂ input rate, or

(2) Measuring SO₂ according to Method 6B of appendix A of this part at the inlet or outlet to the SO₂ 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 SO₂ and CO₂ 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 SO₂ 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 SO₂ 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 SO₂ 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 SO₂ 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 SO₂CEMS at the inlet to the SO₂control device is 125 percent of the maximum estimated hourly potential SO₂emissions of the fuel combusted, and the span value of the CEMS at the outlet to the SO₂control device is 50 percent of the maximum estimated hourly potential SO₂emissions of the fuel combusted. Alternatively, SO₂span 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 CO₂and O₂monitors and for SO₂and NO_xmonitors 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 SO₂and NO_xspan values less than 100 ppm;

(ii) For all required CO₂and O₂monitors and for SO₂and NO_xmonitors 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 SO₂and NO_xspan values less than or equal to 30 ppm; and

(iii) For SO₂, CO₂, and O₂monitoring systems and for NO_xemission 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 SO₂(regardless of the SO₂emission level during the RATA), and for NO_xwhen the average NO_xemission 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 O₂ (or CO₂) 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_xspan 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_xemission 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_xemission 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_xstandards of §60.44b(a)(4) or §60.44b(l) is not required to install or operate a continuous emissions monitoring system to measure NO_xemissions.

(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_xemissions.

(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 SO₂emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and does not use a post-combustion technology to reduce SO₂or 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 SO₂or PM emissions; or

(4) The affected facility does not use post-combustion technology (except a wet scrubber) for reducing PM, SO₂, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 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 SO₂. 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 SO₂, 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 O₂ 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 NO₂) (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 SO₂ 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 SO₂ 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 SO₂ 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 SO₂ or diluent (O₂ or CO₂) 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 SO₂ 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 SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and 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 SO₂ 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_xemission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last NO_xemission 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 or 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 or 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 SO₂ and/or NO_x and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

(x) Facility-specific NO_x standard for Weyerhaeuser Company's No. 2 Power Boiler located in New Bern, North Carolina:

ATTACHMENT C

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart DD—Standards of Performance for Grain Elevators

PART 70 OPERATING PERMIT SIGNIFICANT SOURCE MODIFICATION SIGNIFICANT PERMIT MODIFICATION OFFICE OF AIR QUALITY

**Archer Daniels Midland Company - Frankfort
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Frankfort, Indiana 46041
023-25870-00011**

Title 40: Protection of Environment

Subpart DD—Standards of Performance for Grain Elevators

Source: 43 FR 34347, Aug. 3, 1978, unless otherwise noted.

§ 60.300 Applicability and designation of affected facility.

(a) The provisions of this subpart apply to each affected facility at any grain terminal elevator or any grain storage elevator, except as provided under §60.304(b). The affected facilities are each truck unloading station, truck loading station, barge and ship unloading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations.

(b) Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after August 3, 1978, is subject to the requirements of this part.

[43 FR 34347, Aug. 3, 1978, as amended at 52 FR 42434, Nov. 5, 1988]

§ 60.301 Definitions.

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

(a) *Grain* means corn, wheat, sorghum, rice, rye, oats, barley, and soybeans.

(b) *Grain elevator* means any plant or installation at which grain is unloaded, handled, cleaned, dried, stored, or loaded.

(c) *Grain terminal elevator* means any grain elevator which has a permanent storage capacity of more than 88,100 m³ (ca. 2.5 million U.S. bushels), except those located at animal food manufacturers, pet food manufacturers, cereal manufacturers, breweries, and livestock feedlots.

(d) *Permanent storage capacity* means grain storage capacity which is inside a building, bin, or silo.

(e) *Railcar* means railroad hopper car or boxcar.

(f) *Grain storage elevator* means any grain elevator located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant which has a permanent grain storage capacity of 35,200 m³ (ca. 1 million bushels).

(g) *Process emission* means the particulate matter which is collected by a capture system.

(h) *Fugitive emission* means the particulate matter which is not collected by a capture system and is released directly into the atmosphere from an affected facility at a grain elevator.

(i) *Capture system* means the equipment such as sheds, hoods, ducts, fans, dampers, etc. used to collect particulate matter generated by an affected facility at a grain elevator.

(j) *Grain unloading station* means that portion of a grain elevator where the grain is transferred from a truck, railcar, barge, or ship to a receiving hopper.

(k) *Grain loading station* means that portion of a grain elevator where the grain is transferred from the elevator to a truck, railcar, barge, or ship.

(l) *Grain handling operations* include bucket elevators or legs (excluding legs used to unload barges or ships), scale hoppers and surge bins (garners), turn heads, scalpers, cleaners, trippers, and the headhouse and other such structures.

(m) *Column dryer* means any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in one or more continuous packed columns between two perforated metal sheets.

(n) *Rack dryer* means any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in a cascading flow around rows of baffles (racks).

(o) *Unloading leg* means a device which includes a bucket-type elevator which is used to remove grain from a barge or ship.

[43 FR 34347, Aug. 3, 1978, as amended at 65 FR 61759, Oct. 17, 2000]

§ 60.302 Standard for particulate matter.

(a) On and after the 60th day of achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere any gases which exhibit greater than 0 percent opacity from any:

(1) Column dryer with column plate perforation exceeding 2.4 mm diameter (ca. 0.094 inch).

(2) Rack dryer in which exhaust gases pass through a screen filter coarser than 50 mesh.

(b) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility except a grain dryer any process emission which:

(1) Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).

(2) Exhibits greater than 0 percent opacity.

(c) On and after the 60th day of achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere any fugitive emission from:

(1) Any individual truck unloading station, railcar unloading station, or railcar loading station, which exhibits greater than 5 percent opacity.

(2) Any grain handling operation which exhibits greater than 0 percent opacity.

(3) Any truck loading station which exhibits greater than 10 percent opacity.

(4) Any barge or ship loading station which exhibits greater than 20 percent opacity.

(d) The owner or operator of any barge or ship unloading station shall operate as follows:

(1) The unloading leg shall be enclosed from the top (including the receiving hopper) to the center line of the bottom pulley and ventilation to a control device shall be maintained on both sides of the leg and the grain receiving hopper.

(2) The total rate of air ventilated shall be at least 32.1 actual cubic meters per cubic meter of grain handling capacity (ca. 40 ft³ /bu).

(3) Rather than meet the requirements of paragraphs (d)(1) and (2) of this section the owner or operator may use other methods of emission control if it is demonstrated to the Administrator's satisfaction that they would reduce emissions of particulate matter to the same level or less.

§ 60.303 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). Acceptable alternative methods and procedures are given in paragraph (c) of this section.

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.302 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration and the volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 1.70 dscm (60 dscf). The probe and filter holder shall be operated without heaters.

(2) Method 2 shall be used to determine the ventilation volumetric flow rate.

(3) Method 9 and the procedures in §60.11 shall be used to determine opacity.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For Method 5, Method 17 may be used.

[54 FR 6674, Feb. 14, 1989]

§ 60.304 Modifications.

(a) The factor 6.5 shall be used in place of "annual asset guidelines repair allowance percentage," to determine whether a capital expenditure as defined by §60.2 has been made to an existing facility.

(b) The following physical changes or changes in the method of operation shall not by themselves be considered a modification of any existing facility:

(1) The addition of gravity loadout spouts to existing grain storage or grain transfer bins.

(2) The installation of automatic grain weighing scales.

(3) Replacement of motor and drive units driving existing grain handling equipment.

(4) The installation of permanent storage capacity with no increase in hourly grain handling capacity.

ATTACHMENT D

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

**Subpart GGGG—National Emission Standards for Hazardous Air
Pollutants: Solvent Extraction for Vegetable Oil Production**

PART 70 OPERATING PERMIT SIGNIFICANT SOURCE MODIFICATION SIGNIFICANT PERMIT MODIFICATION OFFICE OF AIR QUALITY

**Archer Daniels Midland Company - Frankfort
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Title 40: Protection of Environment

Subpart GGGG—National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production

Source: 66 FR 19011, Apr. 12, 2001, unless otherwise noted.

What This Subpart Covers

§ 63.2830 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for emissions during vegetable oil production. This subpart limits hazardous air pollutant (HAP) emissions from specified vegetable oil production processes. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission standards.

§ 63.2831 Where can I find definitions of key words used in this subpart?

You can find definitions of key words used in this subpart in §63.2872.

§ 63.2832 Am I subject to this subpart?

(a) You are an affected source subject to this subpart if you meet all of the criteria listed in paragraphs (a)(1) and (2) of this section:

(1) You own or operate a vegetable oil production process that is a major source of HAP emissions or is collocated within a plant site with other sources that are individually or collectively a major source of HAP emissions.

(i) A *vegetable oil production process* is defined in §63.2872. In general, it is the collection of continuous process equipment and activities that produce crude vegetable oil and meal products by removing oil from oilseeds listed in Table 1 to §63.2840 through direct contact with an organic solvent, such as a hexane isomer blend.

(ii) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year.

(2) Your vegetable oil production process processes any combination of eight types of oilseeds listed in paragraphs (a)(2)(i) through (viii) of this section:

(i) Corn germ;

(ii) Cottonseed;

(iii) Flax;

(iv) Peanut;

(v) Rapeseed (for example, canola);

(vi) Safflower;

(vii) Soybean; and

(viii) Sunflower.

(b) You are not subject to this subpart if your vegetable oil production process meets any of the criteria listed in paragraphs (b)(1) through (4) of this section:

(1) It uses only mechanical extraction techniques that use no organic solvent to remove oil from a listed oilseed.

(2) It uses only batch solvent extraction and batch desolventizing equipment.

(3) It processes only agricultural products that are not listed oilseeds as defined in §63.2872.

(4) It functions only as a research and development facility and is not a major source.

(c) As listed in §63.1(c)(5) of the General Provisions, if your HAP emissions increase such that you become a major source, then you are subject to all of the requirements of this subpart.

§ 63.2833 Is my source categorized as existing or new?

(a) This subpart applies to each existing and new affected source. You must categorize your vegetable oil production process as either an existing or a new source in accordance with the criteria in Table 1 of this section, as follows:

Table 1 to §63.2833—Categorizing Your Source as Existing or New

If your affected source...	And if...	Then your affected source...
(1) was constructed or began construction before May 26, 2000	reconstruction has not occurred	is an existing source.
(2) began reconstruction, as defined in §63.2, on or after May 26, 2000	(i) reconstruction was part of a scheduled plan to comply with the existing source requirements of this subpart; and (ii) reconstruction was completed no later than 3 years after the effective date of this subpart	remains an existing source.
(3) began a significant modification, as defined in §63.2872, at any time on an existing source	the modification does not constitute reconstruction	remains an existing source.
(4) began a significant modification, as defined in §63.2872, at any time on a new source	the modification does not constitute reconstruction	remains a new source.

(5) began reconstruction on or after May 26, 2000	reconstruction was completed later than 3 years after the effective date of this subpart	is a new source
(6) began construction on or after May 26, 2000		is a new source.

(b) *Reconstruction of a source.* Any affected source is reconstructed if components are replaced so that the criteria in the definition of *reconstruction* in §63.2 are satisfied. In general, a vegetable oil production process is reconstructed if the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost for constructing a new vegetable oil production process, and it is technically and economically feasible for the reconstructed source to meet the relevant new source requirements of this subpart. The effect of reconstruction on the categorization of your existing and new affected source is described in paragraphs (b)(1) and (2) of this section:

(1) After reconstruction of an existing source, the affected source is recategorized as a new source and becomes subject to the new source requirements of this subpart.

(2) After reconstruction of a new source, the affected source remains categorized as a new source and remains subject to the new source requirements of this subpart.

(c) *Significant modification of a source.* A significant modification to an affected source is a term specific to this subpart and is defined in §63.2872.

(1) In general, a significant modification to your source consists of adding new equipment or the modification of existing equipment within the affected source that significantly affects solvent losses from the affected source. Examples include adding or replacing extractors, desolventizer-toasters (conventional and specialty), and meal dryer-coolers. All other significant modifications must meet the criteria listed in paragraphs (c)(1)(i) and (ii) of this section:

(i) The fixed capital cost of the modification represents a significant percentage of the fixed capital cost of building a comparable new vegetable oil production process.

(ii) It does not constitute reconstruction as defined in §63.2.

(2) A significant modification has no effect on the categorization of your source as existing and new. An existing source remains categorized as an existing source and subject to the existing source requirements of this subpart. A new source remains categorized as a new source and subject to the new source requirements of this subpart.

(d) Changes in the type of oilseed processed by your affected source does not affect the categorization of your source as new or existing. Recategorizing an affected source from existing to new occurs only when you add or modify process equipment within the source which meets the definition of *reconstruction*.

§ 63.2834 When do I have to comply with the standards in this subpart?

You must comply with this subpart in accordance with one of the schedules in Table 1 of this section, as follows:

Table 1 of §63.2834—Compliance Dates for Existing and New Sources

If your affected source is categorized as...	And if...	Then your compliance date is...
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(a) an existing source		3 years after the effective date of this subpart.
(b) a new source	you startup your affected source before the effective date of this subpart	the effective date of this subpart.
(c) a new source	you startup your affected source on or after the effective date of this subpart	your startup date.

Standards

§ 63.2840 What emission requirements must I meet?

For each facility meeting the applicability criteria in §63.2832, you must comply with either the requirements specified in paragraphs (a) through (d), or the requirements in paragraph (e) of this section.

(a)(1) The emission requirements limit the number of gallons of HAP lost per ton of listed oilseeds processed. For each operating month, you must calculate a compliance ratio which compares your actual HAP loss to your allowable HAP loss for the previous 12 operating months as shown in Equation 1 of this section. An operating month, as defined in §63.2872, is any calendar month in which a source processes a listed oilseed, excluding any entire calendar month in which the source operated under an initial startup period subject to §63.2850(c)(2) or (d)(2) or a malfunction period subject to §63.2850(e)(2). Equation 1 of this section follows:

$$\text{Compliance Ratio} = \frac{\text{Actual Hap Loss}}{\text{Allowable Hap Loss}} \quad (\text{Eq. 1})$$

(2) Equation 1 of this section can also be expressed as a function of total solvent loss as shown in Equation 2 of this section. Equation 2 of this section follows:

$$\text{Compliance Ratio} = \frac{f * \text{Actual Solvent Loss}}{0.64 * \sum_{i=1}^n ((\text{Oilseed})_i * (\text{SLF})_i)} \quad (\text{Eq. 2})$$

Where:

f = The weighted average volume fraction of HAP in solvent received during the previous 12 operating months, as determined in §63.2854, dimensionless.

0.64 = The average volume fraction of HAP in solvent in the baseline performance data, dimensionless.

Actual Solvent Loss = Gallons of actual solvent loss during previous 12 operating months, as determined in §63.2853.

Oilseed = Tons of each oilseed type "i" processed during the previous 12 operating months, as shown in §63.2855.

SLF = The corresponding solvent loss factor (gal/ton) for oilseed “i” listed in Table 1 of this section, as follows:

Table 1 of §63.2840—Oilseed Solvent Loss Factors for Determining Allowable HAP Loss

Type of oilseed process	A source that...	Oilseed solvent loss factor (gal/ton)	
		Existing sources	New sources
(i) Corn Germ, Wet Milling	processes corn germ that has been separated from other corn components using a “wet” process of centrifuging a slurry steeped in a dilute sulfurous acid solution	0.4	0.3
(ii) Corn Germ, Dry Milling	processes corn germ that has been separated from the other corn components using a “dry” process of mechanical chafing and air sifting	0.7	0.7
(iii) Cottonseed, Large	processes 120,000 tons or more of a combination of cottonseed and other listed oilseeds during all normal operating periods in a 12 operating month period	0.5	0.4
(iv) Cottonseed, Small	processes less than 120,000 tons of a combination of cottonseed and other listed oilseeds during all normal operating periods in a 12 operating month period	0.7	0.4
(v) Flax	processes flax	0.6	0.6
(vi) Peanuts	processes peanuts	1.2	0.7
(vii) Rapeseed	processes rapeseed	0.7	0.3
(viii) Safflower	processes safflower	0.7	0.7
(ix) Soybean, Conventional	uses a conventional style desolventizer to produce crude soybean oil products and soybean animal feed products	0.2	0.2
(x) Soybean, Specialty	uses a special style desolventizer to produce soybean meal products for human and animal consumption	1.7	1.5
(xi) Soybean, Combination Plant with Low Specialty Production	processes soybeans in both specialty and conventional desolventizers and the quantity of soybeans processed in specialty desolventizers during normal operating periods is less than 3.3 percent of total soybeans processed during all	0.25	0.25

	normal operating periods in a 12 operating month period. The corresponding solvent loss factor is an overall value and applies to the total quantity of soybeans processed.		
(xii) Sunflower	processes sunflower	0.4	0.3

(b) When your source has processed listed oilseed for 12 operating months, calculate the compliance ratio by the end of each calendar month following an operating month using Equation 2 of this section. When calculating your compliance ratio, consider the conditions and exclusions in paragraphs (b)(1) through (6) of this section:

(1) If your source processes any quantity of listed oilseeds in a calendar month and the source is not operating under an initial startup period or malfunction period subject to §63.2850, then you must categorize the month as an operating month, as defined in §63.2872.

(2) The 12-month compliance ratio may include operating months occurring prior to a source shutdown and operating months that follow after the source resumes operation.

(3) If your source shuts down and processes no listed oilseed for an entire calendar month, then you must categorize the month as a nonoperating month, as defined in §63.2872. Exclude any nonoperating months from the compliance ratio determination.

(4) If your source is subject to an initial startup period as defined in §63.2872, exclude from the compliance ratio determination any solvent and oilseed information recorded for the initial startup period.

(5) If your source is subject to a malfunction period as defined in §63.2872, exclude from the compliance ratio determination any solvent and oilseed information recorded for the malfunction period.

(6) For sources processing cottonseed or specialty soybean, the solvent loss factor you use to determine the compliance ratio may change each operating month depending on the tons of oilseed processed during all normal operating periods in a 12 operating month period.

(c) If the compliance ratio is less than or equal to 1.00, your source was in compliance with the HAP emission requirements for the previous operating month.

(d) To determine the compliance ratio in Equation 2 of this section, you must select the appropriate oilseed solvent loss factor from Table 1 of this section. First, determine whether your source is new or existing using Table 1 of §63.2833. Then, under the appropriate existing or new source column, select the oilseed solvent loss factor that corresponds to each type oilseed or process operation for each operating month.

(e) *Low-HAP solvent option.* For all vegetable oil production processes subject to this subpart, you must exclusively use solvent where the volume fraction of each HAP comprises 1 percent or less by volume of the solvent (low-HAP solvent) in each delivery, and you must meet the requirements in paragraphs (e)(1) through (5) of this section. Your vegetable oil production process is not subject to the requirements in §§63.2850 through 63.2870 unless specifically referenced in paragraphs (e)(1) through (5) of this section.

(1) You shall determine the HAP content of your solvent in accordance with the specifications in §63.2854(b)(1).

(2) You shall maintain documentation of the HAP content determination for each delivery of the solvent at the facility at all times.

(3) You must submit an initial notification for existing sources in accordance with §63.2860(a).

(4) You must submit an initial notification for new and reconstructed sources in accordance with §63.2860(b).

(5) You must submit an annual compliance certification in accordance with §63.2861(a). The certification should only include the information required under §63.2861(a)(1) and (2), and a certification indicating whether the source complied with all of the requirements in paragraph (e) of this section.

(f) You may change compliance options for your source if you submit a notice to the Administrator at least 60 days prior to changing compliance options. If your source changes from the low-HAP solvent option to the compliance ratio determination option, you must determine the compliance ratio for the most recent 12 operating months beginning with the first month after changing compliance options.

[66 FR 19011, Apr. 12, 2001, as amended at 69 FR 53341, Sept. 1, 2004]

Compliance Requirements

§ 63.2850 How do I comply with the hazardous air pollutant emission standards?

(a) *General requirements.* The requirements in paragraphs (a)(1)(i) through (iv) of this section apply to all affected sources:

(1) Submit the necessary notifications in accordance with §63.2860, which include:

(i) Initial notifications for existing sources.

(ii) Initial notifications for new and reconstructed sources.

(iii) Initial notifications for significant modifications to existing or new sources.

(iv) Notification of compliance status.

(2) Develop and implement a plan for demonstrating compliance in accordance with §63.2851.

(3) Develop a written startup, shutdown and malfunction (SSM) plan in accordance with the provisions in §63.2852.

(4) Maintain all the necessary records you have used to demonstrate compliance with this subpart in accordance with §63.2862.

(5) Submit the reports in paragraphs (a)(5)(i) through (iii) of this section:

(i) Annual compliance certifications in accordance with §63.2861(a).

(ii) Periodic SSM reports in accordance with §63.2861(c).

(iii) Immediate SSM reports in accordance with §63.2861(d).

(6) Submit all notifications and reports and maintain all records required by the General Provisions for performance testing if you add a control device that destroys solvent.

(b) *Existing sources under normal operation.* You must meet all of the requirements listed in paragraph (a) of this section and Table 1 of this section for sources under normal operation, and the schedules for demonstrating compliance for existing sources under normal operation in Table 2 of this section.

Table 1 of §63.2850—Requirements for Compliance with HAP Emission Standards

Are you required to ...	For periods of normal operation?	For initial startup periods subject to §63.2850(c)(2) or (d)(2)?	For malfunction periods subject to §63.2850(e)(2)?
(a) Operate and maintain your source in accordance with general duty provisions of §63.6(e)?	Yes. Additionally, the HAP emission limits will apply.	Yes, you are required to minimize emissions to the extent practicable throughout the initial startup period. Such measures should be described in the SSM plan.	Yes, you are required to minimize emissions to the extent practicable throughout the initial startup period. Such measures should be described in the SSM plan.
(b) Determine and record the extraction solvent loss in gallons from your source?	Yes, as described in §63.2853	Yes, as described in §63.2862(e)	Yes, as described in §63.2862(e).
(c) Record the volume fraction of HAP present at greater than 1 percent by volume and gallons of extraction solvent in shipment received?	Yes	Yes	Yes.
(d) Determine and record the tons of each oilseed type processed by your source?	Yes, as described in §63.2855	No	No.
(e) Determine the weighted average volume fraction of HAP in extraction solvent received as described in §63.2854 by the end of the following calendar month?	Yes	No. Except for solvent received by a new or reconstructed source commencing operation under an initial startup period, the HAP volume fraction in any solvent received during an initial startup period is included in the weighted average HAP determination for	No, the HAP volume fraction in any solvent received during a malfunction period is included in the weighted average HAP determination for the next operating month.

		the next operating month	
(f) Determine and record the actual solvent loss, weighted average volume fraction HAP, oilseed processed and compliance ratio for each 12 operating month period as described in §63.2840 by the end of the following calendar month?	Yes,	No, these requirements are not applicable because your source is not required to determine the compliance ratio with data recorded for an initial startup period	No, these requirements are not applicable because your source is not required to determine the compliance ratio with data recorded for a malfunction period.
(g) Submit a Notification of Compliance Status or Annual Compliance Certification as appropriate?	Yes, as described in §§63.2860(d) and 63.2861(a)	No. However, you may be required to submit an annual compliance certification for previous operating months, if the deadline for the annual compliance certification happens to occur during the initial startup period	No. However, you may be required to submit an annual compliance certification for previous operating months, if the deadline for the annual compliance certification happens to occur during the malfunction period.
(h) Submit a Deviation Notification Report by the end of the calendar month following the month in which you determined that the compliance ratio exceeds 1.00 as described in §63.2861(b)?	Yes	No, these requirements are not applicable because your source is not required to determine the compliance ratio with data recorded for an initial startup period	No, these requirements are not applicable because your source is not required to determine the compliance ratio with data recorded for a malfunction period.
(i) Submit a Periodic SSM Report as described in §63.2861(c)?	No, a SSM activity is not categorized as normal operation	Yes	Yes.
(j) Submit an	No, a SSM	Yes, only if your source	Yes, only if your source

Immediate SSM Report as described in §63.2861(d)?	activity is not categorized as normal operation	does not follow the SSM plan	does not follow the SSM plan.
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Table 2 of §63.2850—Schedules for Demonstrating Compliance Under Various Source Operating Modes

If your source is . . .	and is operating under . . .	then your recordkeeping schedule . . .	You must determine your first compliance ratio by the end of the calendar month following . . .	Base your first compliance ratio on information recorded . . .
(a) Existing	Normal operation	Begins on the compliance date	The first 12 operating months after the compliance date	During the first 12 operating months after the compliance date.
(b) New	(1) Normal operation	Begins on the startup date of your new source	The first 12 operating months after the startup date of the new source	During the first 12 operating months after the startup date of the new source.
	(2) An initial startup period	Begins on the startup date of your new source	The first 12 operating months after termination of the initial startup period, which can last for up to 6 months	During the first 12 operating months after the initial startup period, which can last for up to 6 months.
(c) Existing or new that has been significantly modified	(1) Normal operation	Resumes on the startup date of the modified source	The first operating month after the startup date of the modified source	During the previous 11 operating months prior to the significant modification and the first operating month following the initial startup date of the source.
	(2) An initial startup	Resumes on the startup date of the modified source	The first operating month after termination of the	During the 11 operating months before the significant

	period		initial startup period, which can last up to 3 months	modification and the first operating month after the initial startup period.
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[66 FR 19011, Apr. 12, 2001, as amended at 71 FR 20463, Apr. 20, 2006]

§ 63.2851 What is a plan for demonstrating compliance?

(a) You must develop and implement a written plan for demonstrating compliance that provides the detailed procedures you will follow to monitor and record data necessary for demonstrating compliance with this subpart. Procedures followed for quantifying solvent loss from the source and amount of oilseed processed vary from source to source because of site-specific factors such as equipment design characteristics and operating conditions. Typical procedures include one or more accurate measurement methods such as weigh scales, volumetric displacement, and material mass balances. Because the industry does not have a uniform set of procedures, you must develop and implement your own site-specific plan for demonstrating compliance before the compliance date for your source. You must also incorporate the plan for demonstrating compliance by reference in the source's title V permit and keep the plan on-site and readily available as long as the source is operational. If you make any changes to the plan for demonstrating compliance, then you must keep all previous versions of the plan and make them readily available for inspection for at least 5 years after each revision. The plan for demonstrating compliance must include the items in paragraphs (a)(1) through (7) of this section:

- (1) The name and address of the owner or operator.
- (2) The physical address of the vegetable oil production process.
- (3) A detailed description of all methods of measurement your source will use to determine your solvent losses, HAP content of solvent, and the tons of each type of oilseed processed.
- (4) When each measurement will be made.
- (5) Examples of each calculation you will use to determine your compliance status. Include examples of how you will convert data measured with one parameter to other terms for use in compliance determination.
- (6) Example logs of how data will be recorded.
- (7) A plan to ensure that the data continue to meet compliance demonstration needs.

(b) The responsible agency of these NESHAP may require you to revise your plan for demonstrating compliance. The responsible agency may require reasonable revisions if the procedures lack detail, are inconsistent or do not accurately determine solvent loss, HAP content of the solvent, or the tons of oilseed processed.

§ 63.2852 What is a startup, shutdown, and malfunction plan?

You must develop a written SSM plan in accordance with §63.6(e)(3). You must complete the SSM plan before the compliance date for your source. You must also keep the SSM plan on-site and readily available as long as the source is operational. The SSM plan provides detailed procedures for operating and maintaining your source to minimize emissions during a qualifying SSM event for which the source chooses the §63.2850(e)(2) malfunction period, or the §63.2850(c)(2) or (d)(2) initial startup period. The SSM plan must specify a program of corrective action for malfunctioning process and air pollution control equipment and reflect the best practices now in use by the industry to minimize emissions. Some or all of the procedures may come from plans you developed for other purposes such as a Standard Operating

Procedure manual or an Occupational Safety and Health Administration Process Safety Management plan. To qualify as a SSM plan, other such plans must meet all the applicable requirements of these NESHAP.

[66 FR 19011, Apr. 12, 2001, as amended at 67 FR 16321, Apr. 5, 2002; 71 FR 20463, Apr. 20, 2006]

§ 63.2853 How do I determine the actual solvent loss?

By the end of each calendar month following an operating month, you must determine the total solvent loss in gallons for the previous operating month. The total solvent loss for an operating month includes all solvent losses that occur during normal operating periods within the operating month. If you have determined solvent losses for 12 or more operating months, then you must also determine the 12 operating months rolling sum of actual solvent loss in gallons by summing the monthly actual solvent loss for the previous 12 operating months. The 12 operating months rolling sum of solvent loss is the "actual solvent loss," which is used to calculate your compliance ratio as described in §63.2840.

(a) To determine the actual solvent loss from your source, follow the procedures in your plan for demonstrating compliance to determine the items in paragraphs (a)(1) through (7) of this section:

(1) *The dates that define each operating status period during a calendar month.* The dates that define each operating status period include the beginning date of each calendar month and the date of any change in the source operating status. If the source maintains the same operating status during an entire calendar month, these dates are the beginning and ending dates of the calendar month. If, prior to the effective date of this rule, your source determines the solvent loss on an *accounting month*, as defined in §63.2872, rather than a calendar month basis, and you have 12 complete accounting months of approximately equal duration in a calendar year, you may substitute the accounting month time interval for the calendar month time interval. If you choose to use an accounting month rather than a calendar month, you must document this measurement frequency selection in your plan for demonstrating compliance, and you must remain on this schedule unless you request and receive written approval from the agency responsible for these NESHAP.

(2) *Source operating status.* You must categorize the operating status of your source for each recorded time interval in accordance with criteria in Table 1 of this section, as follows:

Table 1 of §63.2853—Categorizing Your Source Operating Status

If during a recorded time interval . . .	then your source operating status is . . .
(i) Your source processes any amount of listed oilseed and source is not operating under an initial startup operating period or a malfunction period subject to §63.2850(c)(2), (d)(2), or (e)(2)	A normal operating period.
(ii) Your source processes no agricultural product and your source is not operating under an initial startup period or malfunction period subject to §63.2850(c)(2), (d)(2), or (e)(2)	A nonoperating period.
(iii) You choose to operate your source under an initial startup period subject to §63.2850(c)(2) or (d)(2)	An initial startup period.
(iv) You choose to operate your source under a malfunction period subject to §63.2850(e)(2)	A malfunction period.
(v) Your source processes agricultural products not defined as	An exempt period.

listed oilseed	
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(3) *Measuring the beginning and ending solvent inventory.* You are required to measure and record the solvent inventory on the beginning and ending dates of each normal operating period that occurs during an operating month. An operating month is any calendar month with at least one normal operating period. You must consistently follow the procedures described in your plan for demonstrating compliance, as specified in §63.2851, to determine the extraction solvent inventory, and maintain readily available records of the actual solvent loss inventory, as described in §63.2862(c)(1). In general, you must measure and record the solvent inventory only when the source is actively processing any type of agricultural product. When the source is not active, some or all of the solvent working capacity is transferred to solvent storage tanks which can artificially inflate the solvent inventory.

(4) *Gallons of extraction solvent received.* Record the total gallons of extraction solvent received in each shipment. For most processes, the gallons of solvent received represents purchases of delivered solvent added to the solvent storage inventory. However, if your process refines additional vegetable oil from off-site sources, recovers solvent from the off-site oil, and adds it to the on-site solvent inventory, then you must determine the quantity of recovered solvent and include it in the gallons of extraction solvent received.

(5) *Solvent inventory adjustments.* In some situations, solvent losses determined directly from the measured solvent inventory and quantity of solvent received is not an accurate estimate of the "actual solvent loss" for use in determining compliance ratios. In such cases, you may adjust the total solvent loss for each normal operating period as long as you provide a reasonable justification for the adjustment. Situations that may require adjustments of the total solvent loss include, but are not limited to, situations in paragraphs (a)(5)(i) and (ii) of this section:

(i) *Solvent destroyed in a control device.* You may use a control device to reduce solvent emissions to meet the emission standard. The use of a control device does not alter the emission limit for the source. If you use a control device that reduces solvent emissions through destruction of the solvent instead of recovery, then determine the gallons of solvent that enter the control device and are destroyed there during each normal operating period. All solvent destroyed in a control device during a normal operating period can be subtracted from the total solvent loss. Examples of destructive emission control devices include catalytic incinerators, boilers, or flares. Identify and describe, in your plan for demonstrating compliance, each type of reasonable and sound measurement method that you use to quantify the gallons of solvent entering and exiting the control device and to determine the destruction efficiency of the control device. You may use design evaluations to document the gallons of solvent destroyed or removed by the control device instead of performance testing under §63.7. The design evaluations must be based on the procedures and options described in §63.985(b)(1)(i)(A) through (C) or §63.11, as appropriate. All data, assumptions, and procedures used in such evaluations must be documented and available for inspection. If you use performance testing to determine solvent flow rate to the control device or destruction efficiency of the device, follow the procedures as outlined in §63.997(e)(1) and (2). Instead of periodic performance testing to demonstrate continued good operation of the control device, you may develop a monitoring plan, following the procedures outlined in §63.988(c) and using operational parametric measurement devices such as fan parameters, percent measurements of lower explosive limits, and combustion temperature.

(ii) *Changes in solvent working capacity.* In records you keep on-site, document any process modifications resulting in changes to the solvent working capacity in your vegetable oil production process. *Solvent working capacity* is defined in §63.2872. In general, solvent working capacity is the volume of solvent normally retained in solvent recovery equipment such as the extractor, desolventizer-toaster, solvent storage, working tanks, mineral oil absorber, condensers, and oil/solvent distillation system. If the change occurs during a normal operating period, you must determine the difference in working solvent volume and make a one-time documented adjustment to the solvent inventory.

(b) Use Equation 1 of this section to determine the actual solvent loss occurring from your affected source for all normal operating periods recorded within a calendar month. Equation 1 of this section follows:

Monthly Actual

$$\text{Solvent (gal)} = \sum_{i=1}^n (\text{SOLV}_B - \text{SOLV}_E + \text{SOLV}_R \pm \text{SOLV}_A)_i \quad (\text{Eq. 1})$$

Where:

SOLV_B= Gallons of solvent in the inventory at the beginning of normal operating period “i” as determined in paragraph (a)(3) of this section.

SOLV_E= Gallons of solvent in the inventory at the end of normal operating period “i” as determined in paragraph (a)(3) of this section.

SOLV_R= Gallons of solvent received between the beginning and ending inventory dates of normal operating period “i” as determined in paragraph (a)(4) of this section.

SOLV_A= Gallons of solvent added or removed from the extraction solvent inventory during normal operating period “i” as determined in paragraph (a)(5) of this section.

n = Number of normal operating periods in a calendar month.

(c) The actual solvent loss is the total solvent losses during normal operating periods for the previous 12 operating months. You determine your actual solvent loss by summing the monthly actual solvent losses for the previous 12 operating months. You must record the actual solvent loss by the end of each calendar month following an operating month. Use the actual solvent loss in Equation 2 of §63.2840 to determine the compliance ratio. Actual solvent loss does not include losses that occur during operating status periods listed in paragraphs (c)(1) through (4) of this section. If any one of these four operating status periods span an entire month, then the month is treated as nonoperating and there is no compliance ratio determination.

(1) Nonoperating periods as described in paragraph (a)(2)(ii) of this section.

(2) Initial startup periods as described in §63.2850(c)(2) or (d)(2).

(3) Malfunction periods as described in §63.2850(e)(2).

(4) Exempt operation periods as described in paragraph (a)(2)(v) of this section.

§ 63.2854 How do I determine the weighted average volume fraction of HAP in the actual solvent loss?

(a) This section describes the information and procedures you must use to determine the weighted average volume fraction of HAP in extraction solvent received for use in your vegetable oil production process. By the end of each calendar month following an operating month, determine the weighted average volume fraction of HAP in extraction solvent received since the end of the previous operating month. If you have determined the monthly weighted average volume fraction of HAP in solvent received for 12 or more operating months, then also determine an overall weighted average volume fraction of HAP in solvent received for the previous 12 operating months. Use the volume fraction of HAP determined as a 12 operating months weighted average in Equation 2 of §63.2840 to determine the compliance ratio.

(b) To determine the volume fraction of HAP in the extraction solvent determined as a 12 operating months weighted average, you must comply with paragraphs (b)(1) through (3) of this section:

(1) Record the volume fraction of each HAP comprising more than 1 percent by volume of the solvent in each delivery of solvent, including solvent recovered from off-site oil. To determine the HAP content of the

Received_i = Gallons of extraction solvent received in operating month "i" as determined in accordance with §63.2853(a)(4).

Content_i = Average volume fraction of HAP in extraction solvent received in operating month "i" as determined in accordance with paragraph (b)(1) of this section.

Total Received = Total gallons of extraction solvent received during the previous 12 operating months.

§ 63.2855 How do I determine the quantity of oilseed processed?

All oilseed measurements must be determined on an *as received* basis, as defined in §63.2872. The *as received* basis refers to the oilseed chemical and physical characteristics as initially received by the source and prior to any oilseed handling and processing. By the end of each calendar month following an operating month, you must determine the tons as received of each listed oilseed processed for the operating month. The total oilseed processed for an operating month includes the total of each oilseed processed during all normal operating periods that occur within the operating month. If you have determined the tons of oilseed processed for 12 or more operating months, then you must also determine the 12 operating months rolling sum of each type oilseed processed by summing the tons of each type of oilseed processed for the previous 12 operating months. The 12 operating months rolling sum of each type of oilseed processed is used to calculate the compliance ratio as described in §63.2840.

(a) To determine the tons as received of each type of oilseed processed at your source, follow the procedures in your plan for demonstrating compliance to determine the items in paragraphs (a)(1) through (5) of this section:

(1) *The dates that define each operating status period.* The dates that define each operating status period include the beginning date of each calendar month and the date of any change in the source operating status. If, prior to the effective date of this rule, your source determines the oilseed inventory on an accounting month rather than a calendar month basis, and you have 12 complete accounting months of approximately equal duration in a calendar year, you may substitute the accounting month time interval for the calendar month time interval. If you choose to use an accounting month rather than a calendar month, you must document this measurement frequency selection in your plan for demonstrating compliance, and you must remain on this schedule unless you request and receive written approval from the agency responsible for these NESHAP. The dates on each oilseed inventory log must be consistent with the dates recorded for the solvent inventory.

(2) *Source operating status.* You must categorize the source operation for each recorded time interval. The source operating status for each time interval recorded on the oilseed inventory for each type of oilseed must be consistent with the operating status recorded on the solvent inventory logs as described in §63.2853(a)(2).

(3) *Measuring the beginning and ending inventory for each oilseed.* You are required to measure and record the oilseed inventory on the beginning and ending dates of each normal operating period that occurs during an operating month. An operating month is any calendar month with at least one normal operating period. You must consistently follow the procedures described in your plan for demonstrating compliance, as specified in §63.2851, to determine the oilseed inventory on an *as received* basis and maintain readily available records of the oilseed inventory as described by §63.2862(c)(3).

(4) *Tons of each oilseed received.* Record the type of oilseed and tons of each shipment of oilseed received and added to your on-site storage.

(5) *Oilseed inventory adjustments.* In some situations, determining the quantity of oilseed processed directly from the measured oilseed inventory and quantity of oilseed received is not an accurate estimate of the tons of oilseed processed for use in determining compliance ratios. For example, spoiled and molded oilseed removed from storage but not processed by your source will result in an overestimate of the quantity of oilseed processed. In such cases, you must adjust the oilseed inventory and provide a justification for the

adjustment. Situations that may require oilseed inventory adjustments include, but are not limited to, the situations listed in paragraphs (a)(5)(i) through (v) of this section:

- (i) Oilseed that mold or otherwise become unsuitable for processing.
- (ii) Oilseed you sell before it enters the processing operation.
- (iii) Oilseed destroyed by an event such as a process malfunction, fire, or natural disaster.
- (iv) Oilseed processed through operations prior to solvent extraction such as screening, dehulling, cracking, drying, and conditioning; but that are not routed to the solvent extractor for further processing.
- (v) Periodic physical measurements of inventory. For example, some sources periodically empty oilseed storage silos to physically measure the current oilseed inventory. This periodic measurement procedure typically results in a small inventory correction. The correction factor, usually less than 1 percent, may be used to make an adjustment to the source's oilseed inventory that was estimated previously with indirect measurement techniques. To make this adjustment, your plan for demonstrating compliance must provide for such an adjustment.

(b) Use Equation 1 of this section to determine the quantity of each oilseed type processed at your affected source during normal operating periods recorded within a calendar month. Equation 1 of this section follows:

$$\begin{array}{l} \text{Monthly Quantity} \\ \text{of Each Oilseed} \\ \text{Processed (tons)} \end{array} = \sum_{n=1}^n (SEED_B - SEED_E + SEED_R \pm SEED_A) \quad (Eq. 1)$$

Where:

$SEED_B$ = Tons of oilseed in the inventory at the beginning of normal operating period "i" as determined in accordance with paragraph (a)(3) of this section.

$SEED_E$ = Tons of oilseed in the inventory at the end of normal operating period "i" as determined in accordance with paragraph (a)(3) of this section.

$SEED_R$ = Tons of oilseed received during normal operating period "i" as determined in accordance with paragraph (a)(4) of this section.

$SEED_A$ = Tons of oilseed added or removed from the oilseed inventory during normal operating period "i" as determined in accordance with paragraph (a)(5) of this section.

n = Number of normal operating periods in the calendar month during which this type oilseed was processed.

(c) The quantity of each oilseed processed is the total tons of each type of listed oilseed processed during normal operating periods in the previous 12 operating months. You determine the tons of each oilseed processed by summing the monthly quantity of each oilseed processed for the previous 12 operating months. You must record the 12 operating months quantity of each type of oilseed processed by the end of each calendar month following an operating month. Use the 12 operating months quantity of each type of oilseed processed to determine the compliance ratio as described in §63.2840. The quantity of oilseed processed does not include oilseed processed during the operating status periods in paragraphs (c)(1) through (4) of this section:

- (1) Nonoperating periods as described in §63.2853 (a)(2)(ii).

(2) Initial startup periods as described in §63.2850(c)(2) or (d)(2).

(3) Malfunction periods as described in §63.2850(e)(2).

(4) Exempt operation periods as described in §63.2853 (a)(2)(v).

(5) If any one of these four operating status periods span an entire calendar month, then the calendar month is treated as a nonoperating month and there is no compliance ratio determination.

Notifications, Reports, and Records

§ 63.2860 What notifications must I submit and when?

You must submit the one-time notifications listed in paragraphs (a) through (d) of this section to the responsible agency:

(a) *Initial notification for existing sources.* For an existing source, submit an initial notification to the agency responsible for these NESHAP no later than 120 days after the effective date of this subpart. In the notification, include the items in paragraphs (a)(1) through (5) of this section:

(1) The name and address of the owner or operator.

(2) The physical address of the vegetable oil production process.

(3) Identification of the relevant standard, such as the vegetable oil production NESHAP, and compliance date.

(4) A brief description of the source including the types of listed oilseeds processed, nominal operating capacity, and type of desolventizer(s) used.

(5) A statement designating the source as a major source of HAP or a demonstration that the source meets the definition of an area source. An area source is a source that is not a major source and is not collocated within a plant site with other sources that are individually or collectively a major source.

(b) *Initial notifications for new and reconstructed sources.* New or reconstructed sources must submit a series of notifications before, during, and after source construction per the schedule listed in §63.9. The information requirements for the notifications are the same as those listed in the General Provisions with the exceptions listed in paragraphs (b)(1) and (2) of this section:

(1) The application for approval of construction does not require the specific HAP emission data required in §63.5(d)(1)(ii)(H) and (iii), (d)(2) and (d)(3)(ii). The application for approval of construction would include, instead, a brief description of the source including the types of listed oilseeds processed, nominal operating capacity, and type of desolventizer(s) used.

(2) The notification of actual startup date must also include whether you have elected to operate under an initial startup period subject to §63.2850(c)(2) and provide an estimate and justification for the anticipated duration of the initial startup period.

(c) *Significant modification notifications.* Any existing or new source that plans to undergo a significant modification as defined in §63.2872 must submit two reports as described in paragraphs (c)(1) and (2) of this section:

(1) Initial notification. You must submit an initial notification to the agency responsible for these NESHAP 30 days prior to initial startup of the significantly modified source. The initial notification must demonstrate that

(ii) You are following the procedures described in the plan for demonstrating compliance.

(iii) The compliance ratio is less than or equal to 1.00.

§ 63.2861 What reports must I submit and when?

After the initial notifications, you must submit the reports in paragraphs (a) through (d) of this section to the agency responsible for these NESHAP at the appropriate time intervals:

(a) *Annual compliance certifications.* The first annual compliance certification is due 12 calendar months after you submit the notification of compliance status. Each subsequent annual compliance certification is due 12 calendar months after the previous annual compliance certification. The annual compliance certification provides the compliance status for each operating month during the 12 calendar months period ending 60 days prior to the date on which the report is due. Include the information in paragraphs (a)(1) through (6) of this section in the annual certification:

(1) The name and address of the owner or operator.

(2) The physical address of the vegetable oil production process.

(3) Each listed oilseed type processed during the 12 calendar months period covered by the report.

(4) Each HAP identified under §63.2854(a) as being present in concentrations greater than 1 percent by volume in each delivery of solvent received during the 12 calendar months period covered by the report.

(5) A statement designating the source as a major source of HAP or a demonstration that the source qualifies as an area source. An area source is a source that is not a major source and is not collocated within a plant site with other sources that are individually or collectively a major source.

(6) A compliance certification to indicate whether the source was in compliance for each compliance determination made during the 12 calendar months period covered by the report. For each such compliance determination, you must include a certification of the items in paragraphs (a)(6)(i) through (ii) of this section:

(i) You are following the procedures described in the plan for demonstrating compliance.

(ii) The compliance ratio is less than or equal to 1.00.

(b) *Deviation notification report.* Submit a deviation report for each compliance determination you make in which the compliance ratio exceeds 1.00 as determined under §63.2840(c). Submit the deviation report by the end of the month following the calendar month in which you determined the deviation. The deviation notification report must include the items in paragraphs (b)(1) through (4) of this section:

(1) The name and address of the owner or operator.

(2) The physical address of the vegetable oil production process.

(3) Each listed oilseed type processed during the 12 operating months period for which you determined the deviation.

(4) The compliance ratio comprising the deviation. You may reduce the frequency of submittal of the deviation notification report if the agency responsible for these NESHAP does not object as provided in §63.10(e)(3)(iii).

(c) *Periodic startup, shutdown, and malfunction report.* If you choose to operate your source under an initial startup period subject to §63.2850(c)(2) or (d)(2) or a malfunction period subject to §63.2850(e)(2), you must

submit a periodic SSM report by the end of the calendar month following each month in which the initial startup period or malfunction period occurred. The periodic SSM report must include the items in paragraphs (c)(1) through (3) of this section:

(1) The name, title, and signature of a source's responsible official who is certifying that the report accurately states that all actions taken during the initial startup or malfunction period were consistent with the SSM plan.

(2) A description of events occurring during the time period, the date and duration of the events, and reason the time interval qualifies as an initial startup period or malfunction period.

(3) An estimate of the solvent loss during the initial startup or malfunction period with supporting documentation.

(d) *Immediate SSM reports.* If you handle a SSM during an initial startup period subject to §63.2850(c)(2) or (d)(2) or a malfunction period subject to §63.2850(e)(2) differently from procedures in the SSM plan and the relevant emission requirements in §63.2840 are exceeded, then you must submit an immediate SSM report. Immediate SSM reports consist of a telephone call or facsimile transmission to the responsible agency within 2 working days after starting actions inconsistent with the SSM plan, followed by a letter within 7 working days after the end of the event. The letter must include the items in paragraphs (d)(1) through (3) of this section:

(1) The name, title, and signature of a source's responsible official who is certifying the accuracy of the report, an explanation of the event, and the reasons for not following the SSM plan.

(2) A description and date of the SSM event, its duration, and reason it qualifies as a SSM.

(3) An estimate of the solvent loss for the duration of the SSM event with supporting documentation.

[66 FR 19011, Apr. 12, 2001, as amended at 67 FR 16321, Apr. 5, 2002]

§ 63.2862 What records must I keep?

(a) You must satisfy the recordkeeping requirements of this section by the compliance date for your source specified in Table 1 of §63.2834.

(b) Prepare a plan for demonstrating compliance (as described in §63.2851) and a SSM plan (as described in §63.2852). In these two plans, describe the procedures you will follow in obtaining and recording data, and determining compliance under normal operations or a SSM subject to the §63.2850(c)(2) or (d)(2) initial startup period or the §63.2850(e)(2) malfunction period. Complete both plans before the compliance date for your source and keep them on-site and readily available as long as the source is operational.

(c) If your source processes any listed oilseed, record the items in paragraphs (c)(1) through (5) of this section:

(1) For the solvent inventory, record the information in paragraphs (c)(1)(i) through (vii) of this section in accordance with your plan for demonstrating compliance:

(i) Dates that define each operating status period during a calendar month.

(ii) The operating status of your source such as normal operation, nonoperating, initial startup period, malfunction period, or exempt operation for each recorded time interval.

(iii) Record the gallons of extraction solvent in the inventory on the beginning and ending dates of each normal operating period.

(iv) The gallons of all extraction solvent received, purchased, and recovered during each calendar month.

(v) All extraction solvent inventory adjustments, additions or subtractions. You must document the reason for the adjustment and justify the quantity of the adjustment.

(vi) The total solvent loss for each calendar month, regardless of the source operating status.

(vii) The actual solvent loss in gallons for each operating month.

(2) For the weighted average volume fraction of HAP in the extraction solvent, you must record the items in paragraphs (c)(2)(i) through (iii) of this section:

(i) The gallons of extraction solvent received in each delivery.

(ii) The volume fraction of each HAP exceeding 1 percent by volume in each delivery of extraction solvent.

(iii) The weighted average volume fraction of HAP in extraction solvent received since the end of the last operating month as determined in accordance with §63.2854(b)(2).

(3) For each type of listed oilseed processed, record the items in paragraphs (c)(3)(i) through (vi) of this section, in accordance with your plan for demonstrating compliance:

(i) The dates that define each operating status period. These dates must be the same as the dates entered for the extraction solvent inventory.

(ii) The operating status of your source such as normal operation, nonoperating, initial startup period, malfunction period, or exempt operation for each recorded time interval. On the log for each type of listed oilseed that is not being processed during a normal operating period, you must record which type of listed oilseed is being processed in addition to the source operating status.

(iii) The oilseed inventory for the type of listed oilseed being processed on the beginning and ending dates of each normal operating period.

(iv) The tons of each type of listed oilseed received at the affected source each normal operating period.

(v) All listed oilseed inventory adjustments, additions or subtractions for normal operating periods. You must document the reason for the adjustment and justify the quantity of the adjustment.

(vi) The tons of each type of listed oilseed processed during each operating month.

(d) After your source has processed listed oilseed for 12 operating months, and you are not operating during an initial startup period as described in §63.2850(c)(2) or (d)(2), or a malfunction period as described in §63.2850(e)(2), record the items in paragraphs (d)(1) through (5) of this section by the end of the calendar month following each operating month:

(1) The 12 operating months rolling sum of the actual solvent loss in gallons as described in §63.2853(c).

(2) The weighted average volume fraction of HAP in extraction solvent received for the previous 12 operating months as described in §63.2854(b)(3).

(3) The 12 operating months rolling sum of each type of listed oilseed processed at the affected source in tons as described in §63.2855(c).

(4) A determination of the compliance ratio. Using the values from §§63.2853, 63.2854, 63.2855, and Table 1 of §63.2840, calculate the compliance ratio using Equation 2 of §63.2840.

(5) A statement of whether the source is in compliance with all of the requirements of this subpart. This includes a determination of whether you have met all of the applicable requirements in §63.2850.

(e) For each SSM event subject to an initial startup period as described in §63.2850(c)(2) or (d)(2), or a malfunction period as described in §63.2850(e)(2), record the items in paragraphs (e)(1) through (3) of this section by the end of the calendar month following each month in which the initial startup period or malfunction period occurred:

(1) A description and date of the SSM event, its duration, and reason it qualifies as an initial startup or malfunction.

(2) An estimate of the solvent loss in gallons for the duration of the initial startup or malfunction period with supporting documentation.

(3) A checklist or other mechanism to indicate whether the SSM plan was followed during the initial startup or malfunction period.

§ 63.2863 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for review in accordance with §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 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, in accordance with §3.10(b)(1). You can keep the records off-site for the remaining 3 years.

Other Requirements and Information

§ 63.2870 What parts of the General Provisions apply to me?

Table 1 of this section shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. Table 1 of §63.2870 follows:

Table 1 of §63.2870—Applicability of 40 CFR Part 63, Subpart A, to 40 CFR, Part 63, Subpart GGGG

General provisions citation	Subject of citation	Brief description of requirement	Applies to subpart	Explanation
§63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions; notifications	Yes	

§63.2	Definitions	Definitions for part 63 standards	Yes	Except as specifically provided in this subpart.
§63.3	Units and abbreviations	Units and abbreviations for part 63 standards	Yes	
§63.4	Prohibited activities and circumvention	Prohibited activities; compliance date; circumvention; severability	Yes	
§63.5	Construction/reconstruction	Applicability; applications; approvals	Yes	Except for subsections of §63.5 as listed below.
§63.5(c)	[Reserved]			
§63.5(d)(1)(ii)(H)	Application for approval	Type and quantity of HAP, operating parameters	No	All sources emit HAP. Subpart GGGG does not require control from specific emission points.
§63.5(d)(1)(ii)(I)	[Reserved]			
§63.5(d)(1)(iii), (d)(2), (d)(3)(ii)		Application for approval	No	The requirements of the application for approval for new, reconstructed and significantly modified sources are described in §63.2860(b) and (c) of subpart

				<p>GGGG. General provision requirements for identification of HAP emission points or estimates of actual emissions are not required. Descriptions of control and methods, and the estimated and actual control efficiency of such do not apply. Requirements for describing control equipment and the estimated and actual control efficiency of such equipment apply only to control equipment to which the subpart GGGG requirements for quantifying.</p>
§63.6	Applicability of General Provisions	Applicability	Yes	Except for subsections of §63.6 as listed below.

§63.6(b)(1)–(3)	Compliance dates, new and reconstructed sources		No	Section 63.2834 of subpart GGGG specifies the compliance dates for new and reconstructed sources.
§63.6(b)(6)	[Reserved]			
§63.6(c)(3)–(4)	[Reserved]			
§63.6(d)	[Reserved]			
§63.6(e)(1) through (e)(3)(ii) and §63.6(e)(3)(v) through (vii)	Operation and maintenance requirements		Yes	Minimize emissions to the extent practical.
§63.6(e)(3)(iii)	Operation and maintenance requirements		No	Minimize emissions to the extent practical
§63.6(e)(3)(iv)	Operation and maintenance requirements		No	Report SSM and in accordance with §63.2861(c) and (d).
§63.6(e)(3)(viii)	Operation and maintenance requirements		Yes	Except, report each revision to your SSM plan in accordance with §63.2861(c) rather than §63.10(d)(5) as required under §63.6(e)(3) (viii).
§63.6(e)(3)(ix)	Title V permit		Yes	

§63.6(f)–(g)	Compliance with nonopacity emission standards except during SSM	Comply with emission standards at all times except during SSM	No	Subpart GGGG does not have nonopacity requirements.
§63.6(h)	Opacity/Visible emission (VE) standards		No	Subpart GGGG has no opacity or VE standards.
§63.6(i)	Compliance extension	Procedures and criteria for responsible agency to grant compliance extension	Yes	
§63.6(j)	Presidential compliance exemption	President may exempt source category from requirement to comply with subpart	Yes	
§63.7	Performance testing requirements	Schedule, conditions, notifications and procedures	Yes	Subpart GGGG requires performance testing only if the source applies additional control that destroys solvent. Section 63.2850(a)(6) requires sources to follow the performance testing guidelines of the General Provisions if a control is

				added.
§63.8	Monitoring requirements		No	Subpart GGGG does not require monitoring other than as specified therein.
§63.9	Notification requirements	Applicability and state delegation	Yes	Except for subsections of §63.9 as listed below.
§63.9(b)(2)	Notification requirements	Initial notification requirements for existing sources	No	Section 63.2860(a) of subpart GGGG specifies the requirements of the initial notification for existing sources.
§63.9(b)(3)–(5)	Notification requirements	Notification requirement for certain new/reconstructed sources	Yes	Except the information requirements differ as described in §63.2860(b) of subpart GGGG.
§63.9(e)	Notification of performance test	Notify responsible agency 60 days ahead	Yes	Applies only if performance testing is performed.
§63.9(f)	Notification of VE/opacity observations	Notify responsible agency 30 days ahead	No	Subpart GGGG has no opacity or VE standards.
§63.9(g)	Additional notifications when using a continuous monitoring system (CMS)	Notification of performance evaluation;	No	Subpart GGGG has no CMS

		Notification using COMS data; notification that exceeded criterion for relative accuracy		requirements.
§63.9(h)	Notification of compliance status	Contents	No	Section 63.2860(d) of subpart GGGG specifies requirements for the notification of compliance status.
§63.10	Recordkeeping/reporting	Schedule for reporting, record storage	Yes	Except for subsections of §63.10 as listed below.
§63.10(b)(2)(i)	Recordkeeping	Record SSM event	Yes	Applicable to periods when sources must implement their SSM plan as specified in subpart GGGG.
§63.10(b)(2)(ii)–(iii)	Recordkeeping	Malfunction of air pollution equipment	No	Applies only if air pollution control equipment has been added to the process and is necessary for the source to meet the emission limit.
§63.10(b)(2)(vi)	Recordkeeping	CMS recordkeeping	No	Subpart GGGG has no

				CMS requirements.
§63.10(b)(2)(viii)–(ix)	Recordkeeping	Conditions of performance test	Yes	Applies only if performance tests are performed. Subpart GGGG does not have any CMS opacity or VE observation requirements.
§63.10(b)(2)(x)–(xii)	Recordkeeping	CMS, performance testing, and opacity and VE observations recordkeeping	No	Subpart GGGG does not require CMS.
§63.10(c)	Recordkeeping	Additional CMS recordkeeping	No	Subpart GGGG does not require CMS.
§63.10(d)(2)	Reporting	Reporting performance test results	Yes	Applies only if performance testing is performed.
§63.10(d)(3)	Reporting	Reporting opacity or VE observations	No	Subpart GGGG has no opacity or VE standards.
§63.10(d)(4)	Reporting	Progress reports	Yes	Applies only if a condition of compliance extension exists.
§63.10(d)(5)	Reporting	SSM reporting	No	Section 63.2861(c) and (d) specify SSM

				reporting requirements.
§63.10(e)	Reporting	Additional CMS reports	No	Subpart GGGG does not require CMS.
§63.11	Control device requirements	Requirements for flares	Yes	Applies only if your source uses a flare to control solvent emissions. Subpart GGGG does not require flares.
§63.12	State authority and delegations	State authority to enforce standards	Yes	
§63.13	State/regional 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 and confidentiality	Public and confidential information	Yes	

[66 FR 19011, Apr. 12, 2001, as amended at 67 FR 16321, Apr. 5, 2002; 71 FR 20463, Apr. 20, 2006]

§ 63.2871 Who implements and enforces this subpart?

(a) This subpart can be implemented by us, the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency, as well as the U.S. EPA, has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under section 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are as follows:

- (1) Approval of alternative nonopacity emissions standards under §63.6(g).
- (2) Approval of alternative opacity standards under §63.6(h)(9).
- (3) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.
- (4) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.
- (5) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

§ 63.2872 What definitions apply to this subpart?

Terms used in this subpart are defined in the sources listed:

- (a) The Clean Air Act, section 112(a).
- (b) In 40 CFR 63.2, the NESHAP General Provisions.
- (c) In this section as follows:

Accounting month means a time interval defined by a business firm during which corporate economic and financial factors are determined on a consistent and regular basis. An accounting month will consist of approximately 4 to 5 calendar weeks and each accounting month will be of approximate equal duration. An accounting month may not correspond exactly to a calendar month, but 12 accounting months will correspond exactly to a calendar year.

Actual solvent loss means the gallons of solvent lost from a source during 12 operating months as determined in accordance with §63.2853.

Agricultural product means any commercially grown plant or plant product.

Allowable HAP loss means the gallons of HAP that would have been lost from a source if the source was operating at the solvent loss factor for each listed oilseed type. The allowable HAP loss in gallons is determined by multiplying the tons of each oilseed type processed during the previous 12 operating months, as determined in accordance with §63.2855, by the corresponding oilseed solvent loss factor (gal/ton) listed in Table 1 of §63.2840, and by the dimensionless constant 0.64, and summing the result for all oilseed types processed.

Area source means any source that does not meet the major source definition.

As received is the basis upon which all oilseed measurements must be determined and refers to the oilseed chemical and physical characteristics as initially received by the source and prior to any oilseed handling and processing.

Batch operation means any process that operates in a manner where the addition of raw material and withdrawal of product do not occur simultaneously. Typically, raw material is added to a process, operational steps occur, and a product is removed from the process. More raw material is then added to the process and the cycle repeats.

Calendar month means 1 month as specified in a calendar.

Compliance date means the date on which monthly compliance recordkeeping begins. For existing sources, recordkeeping typically begins 3 years after the effective date of the subpart. For new and reconstructed sources, recordkeeping typically begins upon initial startup, except as noted in §63.2834.

Compliance ratio means a ratio of the actual HAP loss in gallons from the previous 12 operating months to an allowable HAP loss in gallons, which is determined by using oilseed solvent loss factors in Table 1 of §63.2840, the weighted average volume fraction of HAP in solvent received for the previous 12 operating months, and the tons of each type of listed oilseed processed in the previous 12 operating months. Months during which no listed oilseed is processed, or months during which the §63.2850(c)(2) or (d)(2) initial startup period or the §63.2850(e)(2) malfunction period applies, are excluded from this calculation. Equation 2 of §63.2840 is used to calculate this value. If the value is less than or equal to 1.00, the source is in compliance. If the value is greater than 1.00, the source is deviating from compliance.

Continuous operation means any process that adds raw material and withdraws product simultaneously. Mass, temperature, concentration and other properties typically approach steady-state conditions.

Conventional desolventizer means a desolventizer toaster that operates with indirect and direct-contact steam to remove solvent from the extracted meal. Oilseeds processed in a conventional desolventizer produce crude vegetable oil and crude meal products, such as animal feed.

Corn germ dry milling means a source that processes corn germ that has been separated from the other corn components using a “dry” process of mechanical chafing and air sifting.

Corn germ wet milling means a source that processes corn germ that has been separated from other corn components using a “wet” process of centrifuging a slurry steeped in a dilute sulfurous acid solution.

Exempt period means a period of time during which a source processes agricultural products not defined as listed oilseed.

Extraction solvent means an organic chemical medium used to remove oil from an oilseed. Typically, the extraction solvent is a commercial grade of hexane isomers which have an approximate HAP content of 64 percent by volume.

Hazardous air pollutant (HAP) means any substance or mixture of substances listed as a hazardous air pollutant under section 112(b) of the Clean Air Act, as of April 12, 2001.

Initial startup date means the first calendar day that a new, reconstructed or significantly modified source processes any listed oilseed.

Initial startup period means a period of time from the initial startup date of a new, reconstructed or significantly modified source, for which you choose to operate the source under an initial startup period subject to §63.2850(c)(2) or (d)(2). During an initial startup period, a source complies with the standards by minimizing HAP emissions to the extent practical. The initial startup period following initial startup of a new or reconstructed source may not exceed 6 calendar months. The initial startup period following a significant modification may not exceed 3 calendar months. Solvent and oilseed inventory information recorded during the initial startup period is excluded from use in any compliance ratio determinations.

Large cottonseed plant means a vegetable oil production process that processes 120,000 tons or more of cottonseed and other listed oilseed during all normal operating periods in a 12 operating months period used to determine compliance.

Malfunction period means a period of time between the beginning and end of a process malfunction and the time reasonably necessary for a source to correct the malfunction for which you choose to operate the source under a malfunction period subject to §63.2850(e)(2). This period may include the duration of an unscheduled process shutdown, continued operation during a malfunction, or the subsequent process startup after a shutdown resulting from a malfunction. During a malfunction period, a source complies with the standards by minimizing HAP emissions to the extent practical. Therefore, solvent and oilseed inventory information recorded during a malfunction period is excluded from use in any compliance ratio determinations.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Significant Source Modification and Significant Permit Modification to a Part 70 Permit

Source Background and Description

Source Name:	Archer Daniels Midland Company
Source Location:	2191 West County Road 0 N/S, Frankfort, IN 46041
County:	Clinton
SIC Code:	2075
Operation Permit No.:	T023-6066-00011
Operation Permit Issuance Date:	July 13, 2004
Significant Source Modification No.:	023-24843-00011
Significant Permit Modification No.:	023-25870-00011
Permit Reviewer:	ERG/BS

On February 14, 2008, the Office of Air Quality (OAQ) had a notice published in the Frankfort Times of Frankfort, Indiana, stating that Archer Daniels Midland Company ("ADM") had applied for a Significant Source Modification and a Significant Permit Modification to a Part 70 Permit relating to an expansion to the source that will increase the soybean processing capacity (on an annual average basis) from 80,000 to 120,000 bushels per day. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On March 10, 2008, ADM submitted comments on the proposed documents. The following is a list of the comments and IDEM's corresponding responses. Added text is shown as **bold** and deleted text is shown as ~~strikeout~~. When conditions are added or deleted, the other conditions are renumbered accordingly, and the Table of Contents modified to reflect these changes.

Comment 1:

Condition D.1.6 (Testing Requirements):

- (a) Conveyors EU04, EU07, EU19, EU26, EU29 and EU03 are enclosed and aspirated to a baghouse. Emissions are based on standard AP-42 emission factors. As a result, ADM requests the removal of testing requirements for these emission units.
- (b) Testing should not be required for EU36 and EU47. Those sources are controlled by bin vent filters and do not have constant exhaust flow. EU47 is a Refinery insignificant source which is not affected by the expansion project.
- (c) Testing should not be required for EU45. This unit is a cooling tower and there is no way to test this source because there is no stack. Emissions are fugitive from drift loss.

Response to Comment 1:

Condition D.1.6 requires testing for the respective units in order to determine compliance with Condition D.1.2. Given that conveyors EU04, EU07, EU19, EU26, EU29 and EU03 are each limited to published AP-42 emission factors (0.061 lb PM per ton and 0.034 lb PM10 per ton), are controlled by baghouses and have a combined controlled PTE of less than 1.0 tpy PM/PM10, OAQ agrees that testing is not necessary.

The OAQ agrees that testing should not be required for units controlled by bin vent filters; i.e. EU36 and EU47.

The OAQ agrees that testing should not be required for cooling towers.

The following changes were made to the permit as a result of this comment:

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within twelve (12) months after issuance of PSD SSM 023-24843-00011, in order to demonstrate compliance with Condition D.1.2, the Permittee shall perform PM and PM10 testing of the stack exhaust from **all units (except for EU04, EU07, EU19, EU26, EU29, EU03, EU36, EU47 and EU45)** limited by Condition D.1.2. These tests shall be conducted utilizing methods approved by the Commissioner and repeated at least once every five (5) years from the date of valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C - Performance Testing.

Comment 2:

The permit requires particulate testing for the package boilers (1, 3, and 4). These boilers typically combust natural gas with #2 fuel oil and vegetable as alternate fuel sources. Condition D.1.6 requires performance testing for all units listed in D.1.2. Aren't the specific testing requirements for the boilers listed in Section D.2?

According to Section D.2, it appears that ADM is required to test Boiler #4 when burning gas, fuel oil and vegetable oil and boiler #1 or #3 when combusting vegetable oil. ADM requests that only particulate testing when burning vegetable oil in one of the three boilers be required and that the resulting emission factor can be applied to each of the three boilers when burning vegetable oil. ADM believes that AP-42 particulate factors for natural gas and fuel oil combustion should be satisfactory for these package boilers and should be able to use the AP-42 emission factor in D.2.8. All three boilers are D-tube style package boilers with nearly identical firing configurations.

ADM also requests that the requirement to test when burning vegetable oil more clearly state that the 180 day requirement is not triggered if vegetable is only fired for a very short period of time strictly for purposes of tuning the boiler.

Response to Comment 2:

Condition D.2.1 limits the PM and PM10 emissions from boiler #4 (EU46). Condition D.2.6(b) limits the PM and PM10 emissions from boilers #1 and #3 (EU39 and EU41). As stated in the respective conditions, the requirements are necessary to render the requirements of 326 IAC 2-2 not applicable. As a result, the PM and PM10 emissions in Condition D.1.2 are duplicative. References to boilers EU39, EU41 and EU46 were mistakenly included in Section D.1 of the permit and are not necessary.

OAQ agrees that the test results (from testing during vegetable oil firing) for one boiler would be representative for the other two boilers.

The following changes have been made to the permit to clarify the particulate-related requirements for the boilers:

D.1.2 Prevention of Significant Deterioration (PSD) – PM/PM10 Emission Limitations [326 IAC 2-2]

(a) Pursuant to PSD SSM 023-24843-00011, the PM and PM10 emissions from the following units are limited as follows:

...

Unit (ID) *	PM Limit	PM10 Limit	Units for Limit
Hull Surge Tank (EU32)	0.025	0.0063	lb/ton hulls processed
Meal Clay Storage Unit (EU36)	0.571	0.40	lb/ton clay received
Boiler #1 (EU39)	0.070	0.070	lb/MMBtu heat input
Boiler #3 (EU41)	0.070	0.070	
Silica Clay Silo (EU47)	0.571	0.40	lb/ton clay received
Boiler #4 (EU46)	0.070	0.070	lb/MMBtu heat input
Cooling Tower (EU45)	0.030	0.030	lb/hr

D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

(a) Pursuant to PSD SSM 023-24843-00011, emissions from EU46 are limited as follows:

- (1) The PM emissions shall not exceed **0.070 pounds per MMBtu heat input and 32.7 tons per twelve consecutive month period** with compliance determined at the end of each month.
- (2) The PM10 emissions shall not exceed **0.070 pounds per MMBtu heat input and 12.8 tons per twelve consecutive month period** with compliance determined at the end of each month.
- (3) The NOx emissions shall not exceed 37.0 tons per twelve consecutive month period with compliance determined at the end of each month.

Compliance with these limits will render the requirements of 326 IAC 2-2 not applicable with respect to PM, PM10 and NOx to the modification described in PSD SSM 023-24843-00011.

D.2.6 Distillate Fuel Oil / Vegetable Oil Usage Limitations [326 IAC 1-7] [326 IAC 2-2]

Pursuant to SSM 023-21838-00011, issued December 22, 2005 **and PSD SSM 023-24843-00011:**

- (a) The usage of vegetable oil in boiler #1 and boiler #3 (EU39 and EU41) shall not exceed a total of 4.10 million gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. When using blends of vegetable oil and distillate fuel oil, only the volume of fuel which is vegetable oil shall count toward the usage limit.
- (b) For boiler #1 and boiler #3 (EU39 and EU41), when burning vegetable oil or blends of vegetable oil and distillate fuel oil, PM₁₀ emissions shall not exceed 0.07 pounds per million Btu heat input. This condition, along with the vegetable oil usage limit, limits increases in PM₁₀ emissions due to vegetable oil combustion to less than 15 tons per year. Compliance with both the emission limit and usage limit shall render 326 IAC 2-2 as not applicable.

D.2.12 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

~~(a) In order to demonstrate compliance with Condition D.2.(6)(b), no later than 180 days from the commencement of soybean oil combustion, the Permittee shall conduct performance tests for PM₁₀ on either EU39 or EU41 during soybean oil combustion, and furnish the Commissioner a written report of the results of such performance tests. This testing shall be repeated at least once every five (5) years from the date of valid compliance demonstration.~~

- (b) ~~Within 180 days after initial startup of EU46~~ **No later than 180 days from the commencement of soybean oil combustion in EU39, EU41 or EU46** and in order to demonstrate compliance with Conditions D.2.1 and D.2.6(b), the Permittee shall perform PM and PM10 testing on **EU39, EU41 or EU46** utilizing methods as approved by the Commissioner in accordance with Section C - Performance Testing. **The boiler tested shall not be a boiler tested in the previous six (6) years.** This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.

Comment 3:

Condition D.1.8:

This condition requires the operation of baghouse BH-06A and cyclone CE-06 at all times that the associated facilities are in operation. Please change the word "facilities" to "equipment" to clarify this requirement.

In addition, ADM requests that the cracking and conditioning system (consisting of EU10, EU11 and EU13), be limited such that the baghouse BH-06A can be bypassed up to 200 hours a year. The cracking and conditioning system produces a hot, moist air stream unlike most air streams at the source that exhaust to baghouses. The moisture and heat have a tendency to cause plugging of the filter media and requires relatively more frequent maintenance of BH-06A to change filter bags. While the baghouse is bypassed, the air is directed to cyclone CE-06 for PM control. Note that the baghouse is usually un-operational for 6-8 hours at a time when this maintenance is needed. We have several facilities in several states that have this permit condition wrote in their Title V Permit.

Response to Comment 3:

The emissions calculations in Appendix A and the corresponding evaluation of 326 IAC 2-2 (PSD) applicability assume baghouse BH-06A is bypassed for up to 200 hours per year. As a result, this operating scenario should be included as an enforceable limitation.

D.1.2 Prevention of Significant Deterioration (PSD) – PM/PM10 Emission Limitations [326 IAC 2-2]

...

- (b) The amount of soybeans processed by the source shall not exceed 1,314,000 tons twelve consecutive month period with compliance determined at the end of each month.
- (c) **Units EU10, EU11 and EU13 may operate without the emissions control of baghouse BH-06A for no more than 200 hours per year.**

Compliance with these limits will render the requirements of 326 IAC 2-2 not applicable with respect to PM and PM10 to the modification described in PSD SSM 023-24843-00011.

D.1.8 Particulate Control

- (a) In order to comply with Conditions D.1.2 and D.1.3, baghouses BH-06A, CE-05, ML-1, MC-1, BH-2A, CE-20A, CE-21 and cyclones CE-06, CE-07, CE-09, CE-10, CE-10A, CE-11, CE-18, CE-19, CE-19A, CE-19B, CE-20 and CE-44 for particulate control shall be in operation and control emissions from the associated ~~facilities~~ **units** at all times that the associated ~~facilities~~ **units** are in operation **unless specified otherwise in Condition D.1.2.**

...

D.1.11 Visible Emissions Notations

...

- (b) **Visible emission notations of the stack exhaust from cyclone CE-06 shall be performed once per day during normal operations if the emissions from EU10,**

- EU11 and EU13 bypassed baghouse BH-06A at any time during that day.**
- (b 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.
 - (e 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.
 - (d 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.
 - (e f) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.1.16 Record Keeping Requirements

- ...
- (g) To document compliance with Condition D.1.6, the Permittee shall maintain records of the results from tests required by that condition.
 - (h) **To document compliance with Condition D.1.2(c), the Permittee shall maintain records of the number of hours in which the emissions from EU10, EU11 and EU13 are not controlled by baghouse BH-06A.**
 - (h i) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Comment 4:

Condition D.1.11:
Visible emission notations should not be required for the cyclones that do not exhaust to the atmosphere but exhaust to another control device. As a result, please remove the requirement to perform visible emissions notations for cyclones CE-06, CE-18, CE-19, CE19A, CE-19B, and CE-20.

Response to Comment 4:

The following changes were made to the permit as a result of this comment:

D.1.11 Visible Emissions Notations

- (a) Visible emission notations of the stack exhausts ~~for~~ **from** baghouses GR-1, BH-06A, CE-05, BH-2A, ML-1, MC-1, RCB, CE-20A and CE-21 and the stack exhausts for cyclones ~~CE-06, CE-07, CE-08, CE-09, CE-10, CE-10A, CE-11, CE-18, CE-19, CE-19A, CE-19B, CE-20~~ and CE-44 shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

Comment 5:

Technical Support Document:
The PM/PM10 table indicates that EU44 is controlled by a baghouse. That is incorrect, the unit is controlled by a cyclone.

Response to Comment 5:

OAQ acknowledges this as the correct control device is documented in the permit. The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

No changes were made to the permit as a result of this comment.

Upon further review, the OAQ has decided to make the following revisions to the permit (bolded language has been added, the language with a line through it has been deleted). The Table Of Contents has been modified, if applicable, to reflect these changes.

1. The D.1 Facility Description has been revised to include EU44:

SECTION D.1 FACILITY OPERATION CONDITIONS

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

...

- (mm) One (1) bean cleaner, identified as EU43, constructed in 1998, controlled for particulate matter by one (1) baghouse (CE-21), and exhausting to one (1) stack (EP24);
- (nn) One (1) vertical seed conditioner, also referred to as a steam-heated soybean heater, identified as EU44, approved for construction in 2008, emissions controlled by one (1) cyclone (CE-44), and exhausting to one (1) stack (EP44);**

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

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Prevention of Significant Deterioration (PSD) Part 70 Significant Source Modification and Significant Permit Modification

Source Description and Location

Source Name: Archer Daniels Midland Company
Source Location: 2191 West County Road 0 N/S, Frankfort, IN 46041
County: Clinton
SIC Code: 2075
Operation Permit No.: T023-6066-00011
Operation Permit Issuance Date: July 13, 2004
Significant Source Modification No.: 023-24843-00011
Significant Permit Modification No.: 023-25870-00011
Permit Reviewer: ERG/BS

The Office of Air Quality (OAQ) has reviewed a significant source and significant permit application from Archer Daniels Midland Company ("ADM") relating to the operation of a stationary soybean processing and oil refining plant.

Existing Approvals

ADM was issued a Part 70 Operating Permit (T023-6066-00011) on July 13, 2004. The source has since received the following approvals:

- (a) MSM 023-20324-00011, issued December 20, 2004;
- (b) MPM 023-19883-00011, issued February 17, 2005;
- (c) AA 023-21789-00011, issued December 15, 2005;
- (d) SSM 023-21838-00011, issued December 22, 2005; and
- (e) SPM 023-21909-00011, issued January 19, 2006.

County Attainment Status

The source is located in Clinton County.

Pollutant	Status
PM ₁₀	Attainment
PM _{2.5}	Attainment
SO ₂	Attainment
NO ₂	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (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 the ozone standards. Clinton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) Clinton County has been classified as attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM_{2.5} emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions.
- (c) Clinton County has been classified as attainment for all other criteria pollutants and lead. Therefore, these emissions were reviewed pursuant to the requirements for PSD, 326 IAC 2-2.
- (d) This source is not classified as one of the twenty-eight (28) listed PSD source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (e) Fugitive Emissions
 Since this type of operation is not in one of the twenty-eight (28) listed source categories under 326 IAC 2-2, fugitive emissions are not counted toward the determination of PSD applicability.

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	Potential To Emit * (tons/year)
PM	Greater than 250
PM10	Greater than 250
SO ₂	Greater than 250
VOC	Greater than 250
CO	Less than 100
NO _x	Greater than 100, Less than 250

* According to the TSD for T023-21909-00011, issued January 19, 2006.

This existing source is a major stationary source under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

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 * (tons/year)
Hexane	Greater than 10
Formaldehyde	Less than 10
Selenium	Less than 10
Manganese	Less than 10
Total HAPs	Greater than 25

* According to the TSD for T023-21909-00011, issued January 19, 2006.

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 any single HAP and greater than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an major source under Section 112 of the Clean Air Act (CAA).

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM2.5	23
PM10	143
SO ₂	11
VOC	323
CO	32
NO _x	40
HAPs	Not reported

Description of Proposed Modification

The Office of Air Quality (OAQ) reviewed a Part 70 modification application from ADM (submitted on May 30, 2007) regarding an expansion to the source that will increase the soybean processing capacity (on an annual average basis) from 80,000 to 120,000 bushels per day. Specifically, ADM proposes to do the following:

New emission units:

- (a) Add a new steam heated soybean heater (EU44) (also called a vertical seed conditioner). Emissions will be controlled by a cyclone (CE-44) and will exhaust to stack EP44.
- (b) Replace the DTDC – Deck #1 (EU23), Deck #2 (EU24) and cooler deck (EU25) with a new larger DTDC system equipped with three dryer decks (EU23, EU24, and EU24A), one cooler deck (EU25), and larger cyclones (CE-9, CE-10, CE-10A, and CE-11). Emissions will exhaust to stacks EP08, EP09, EP09A and EP10, respectively. The units are a part of the oil extraction process (EU38), collectively called the “hexane bubble”.
- (c) Add a new cooling tower (EU45) with a design recirculation rate of 1,500 gal/min - an insignificant activity.
- (d) Relocate an existing natural gas, No. 2 fuel oil and vegetable oil-fired boiler (Boiler #4, EU46). The boiler, originally constructed in 1995, has a heat input capacity of 140 to 145 MMBtu/hr (depending on fuel) and is currently located at ADM's North Kansas City, Missouri plant. Once relocated, the boiler will exhaust to new stack EP46. The heat input capacity of the boiler will not be changed. For the purposes of PSD review, the boiler is considered a new emissions unit. See the *State Rule Applicability* and *Federal Rule Applicability* sections of this document for more information.

Modified emission units:

- (a) Increase the capacity of the conveying system (EU04) from the grain elevator to the grain storage building.
- (b) Increase the capacity of the conveying system (EU07) from the grain storage building to the grain cleaner.
- (c) Increase the capacity of the grain cleaner (EU09).
- (d) Increase the capacity of the existing soybean conditioning/de-hulling system.

Specifically:

- (1) Six (6) existing cracking rolls (EU11) will be replaced with four (4) larger cracking rolls (EU11).
 - (2) An increase in the capacity of the conditioner (EU13).
 - (3) Add a bag filter (BH-06A) to control emissions from the existing bean dryer (EU10), cracking rolls (EU11) and conditioner (EU13).
- (e) Increase the capacity of the hull separation system (EU12) by replacing the primary aspirators with larger units.
 - (f) Increase the capacity of the flaking operation (EU14) by modifying the cyclones and fan systems. Four new flaking rolls will be added.
 - (g) Increase the capacity of the hull screening operation (EU16) by adding secondary aspirators that will be controlled by two new cyclones (CE-19A and CE-19B).
 - (h) Increase the capacity of the hull grinder (EU17) and add a baghouse (CE-20A) to control emissions.
 - (i) Increase the capacity of the hull conveyor (EU19).
 - (j) Replace the meal conveyor (EU26) with a new one with a larger capacity.
 - (k) Increase the capacity of the meal sifter (EU27) and meal grinder (EU28) and replace the baghouse (BH-2) with a larger unit (BH-2A).
 - (l) Increase the capacity of the meal storage conveyor (EU29).
 - (m) Increase the capacity of the meal storage unit (EU30) by adding a Laidig unloader.
 - (n) Increase the capacity of the two (2) meal surge tanks (EU31).
 - (o) Increase the capacity of the oil extraction process (EU38). The capacity increase will cause an increase in emissions from the solvent extractor, the solvent recovery system, the desolventizer and toaster sections of the DTDC (desolventizer-toaster-dryer-cooler), meal processing and equipment leaks. The main vent of the extraction process exhausts to stack EP25. See the *State Rule Applicability – Oil extraction process* section of this document for details.

Units undergoing increased utilization:

- (a) Rail unloading operation (EU01);
- (b) Truck unloading operation (EU02);
- (c) Grain elevator (EU03);
- (d) Grain storage (EU05);
- (e) Hull storage unit (EU18);
- (f) Pellet storage unit (EU22);
- (g) Pellet mill (EU20) and pellet cooler (EU21);
- (h) Hull surge tank (EU32);

- (i) Truck meal and hull pellet loadout (EU34);
- (j) Rail meal and hull pellet loadout (EU35); and
- (k) Meal clay storage unit (EU36).

Removed emission units:

- (a) Boiler #2, identified as EU40, constructed in 1987, firing natural gas or No. 2 distillate fuel oil, exhausting to stack EP16.

Note that the units belonging to the refinery operations (EU37 and EU42) will not be modified nor will experience increased utilization as a result of this modification. The refinery operations currently process more soybean oil than the processing plant can produce and consequently receive soybean oil from other locations.

Stack Summary - New Units

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
EP44	Vertical Seed Conditioner	57	2.67	28,000	145
EP08	DTDC Dryer Deck #1	60	2.33	15,000	150
EP09	DTDC Dryer Deck #2	37	2.08	15,000	120
EP09A	DTDC Dryer Deck #3	37	2.08	15,000	110
EP10	DTDC Cooler Deck	60	2.33	15,000	100
EP46	Boiler #4	55	5.00	30,000	585

Enforcement Issues

There are no pending enforcement actions related to this modification.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

Permit Level Determination – Part 70

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

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE of the modification after controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit. ADM uses numerous control devices to reduce particulate emissions from its operations. Use of those control devices is required by T023-6066-00011, issued on July 13, 2004, which makes the respective control equipment federally enforceable.

Pollutant	Potential To Emit (tons/year) *
PM	Less than 25
PM10	Less than 15
PM2.5	Less than 15
SO ₂	Less than 40
VOC	Greater than 40
CO	Less than 100
NO _x	Less than 40

* See Appendix A for detailed emission calculations.

Pursuant to 326 IAC 2-7-10.5(f)(1), this modification is being performed through a Part 70 Significant Source Modification because this is a modification subject to 326 IAC 2-2 (PSD); see the *Permit Level Determination – PSD* section of this document for more information. Pursuant to 326 IAC 2-7-12(d), the permit modification is being performed through a Part 70 Significant Permit Modification because this modification involves significant changes to existing permit terms and conditions.

Permit Level Determination – PSD

Page 1 of Appendix A includes a detailed summary of the emission increases associated with this modification. The emission increases reflect all limits and the impact of control devices since those limits and controls are required and federally enforceable following issuance of this Part 70 Significant Source Modification.

The table below summarizes the total net emission increase of the modification.

	PM	PM ₁₀ / PM _{2.5}	SO ₂	VOC	CO	NO _x	Pb
Net Emission Increase of the Modification *	24.8	14.8	34.4	172.3	74.2	38.6	0
PSD Significant Level	25	15	40	40	100	40	0.6
Subject to PSD	No	No	No	Yes	No	No	No

* As indicated in Appendix A, fugitive emissions are included in the net emission increase.

This modification to an existing major stationary source is major because the VOC net emissions increase is greater than the respective PSD significant threshold. Therefore, pursuant to 326 IAC 2-2-2, the modification is subject to the requirements of PSD with respect to VOC.

As part of the application for this approval, the Permittee completed an Actual to Projected Actual test (provided by 326 IAC 2-2-2) for the PM and PM10 emissions associated with the modification which indicates that the modification to a major stationary source will not be major for PSD under 326 IAC 2-2-1. See the *State Rule Applicability Section - 326 IAC 2-2* section of this document for a detailed explanation.

Federal Rule Applicability Determination

- (a) Boiler #4 (EU46) is subject to the requirements of 326 IAC 12 and 40 CFR Part 60, Subpart Db (New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units) because it has a heat input capacity greater than 100 MMBtu/hr and was constructed, modified or reconstructed after June 19, 1984. Therefore, this unit is considered an affected facility for the purposes of the standard.

The proposed modification to the ADM source includes the relocation of EU46. Pursuant to 40 CFR 60.14(e)(6), relocation of an existing facility is not considered a 'modification' under 40 CFR Part 60. In addition, pursuant to 40 CFR 60.15, relocation of this unit is not considered 'reconstruction' because the fixed capital cost of the new

components will not exceed 50% of the fixed capital cost required to construct a comparable new unit.

The affected facility (EU46) is subject to the following sections of 326 IAC 12 and 40 CFR Part 60, Subpart Db:

40 CFR 60.40b (a)
40 CFR 60.41b
40 CFR 60.42b (a), (e), (g) and (j)
40 CFR 60.43b (f) and (g)
40 CFR 60.44b (a)(1)(ii), (b), (c), (e), (f), (h) and (i)
40 CFR 60.45b (b), (j) and (k)
40 CFR 60.46b (a), (c), (d)(7), and (e)
40 CFR 60.47b (f)
40 CFR 60.48b (a) through (g), (i), (j)(2), (j)(4) and (j)(5)
40 CFR 60.49b (b), (c), (d), (f) through (j), (o) and (r)

The provisions of 40 CFR Part 60, Subpart A (General Provisions), which are incorporated as 326 IAC 12-1, apply to the affected facility described in 40 CFR 60.40b except when otherwise specified in 40 CFR Part 60, Subpart Db.

- (b) The requirements of 326 IAC 12 and 40 CFR Part 60, Subpart Dc (New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units) are not included in this permit. Pursuant to 40 CFR 60.40c(a), this standard applies to steam generating units with a heat input capacity greater than 10 MMBtu/hr but less than 100 MMBtu/hr.

The modification includes the relocation of EU46. EU46 has a heat input capacity greater than 100 MMBtu/hr.

- (c) This source is subject to the requirements of 326 IAC 12 and 40 CFR Part 60, Subpart DD (New Source Performance Standards (NSPS) for Grain Elevators). Pursuant to 40 CFR 60.300, the standard applies to affected facilities at a grain storage elevator constructed, modified or reconstructed after August 3, 1978 that have a permanent grain storage capacity of one million bushels or more.

Pursuant to 40 CFR 60.300(a), affected facilities for purpose of this standard are each truck unloading station, truck loading station, barge and ship unloading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations.

The grain storage elevator at the source was constructed after August 3, 1978 and has a permanent grain storage capacity greater than one million bushels.

Units EU04 (conveyor to grain storage) and EU07 (conveyor from grain storage) will be modified as part of the modification and meet the definition of affected facilities.

The affected facilities are subject to the following sections of 326 IAC 12 and 40 CFR Part 60, Subpart DD:

40 CFR 60.300
40 CFR 60.301
40 CFR 60.302 (b)(1), (b)(2), and (c)(2)
40 CFR 60.303
40 CFR 60.304

The provisions of 40 CFR Part 60, Subpart A (General Provisions), which are incorporated as 326 IAC 12-1, apply to the affected facilities described in 40 CFR 60.300 except when otherwise specified in 40 CFR Part 60, Subpart DD.

- (d) The source is subject to the requirements of 326 IAC 20 and 40 CFR Part 63, Subpart GGGG (National Emission Standards for Hazardous Air Pollutants (NESHAPs): Solvent Extraction for Vegetable Oil Production). Pursuant to 40 CFR 63.2832, this standard applies to owners and operators of vegetable oil production processes located at a major source of HAPs.

This source owns and operates a vegetable oil production process, as defined in 40 CFR 63.2872, which utilizes soybean oilseeds and is located at a major source of HAPs.

Pursuant to 40 CFR 63.2833, the existing vegetable oil production process is an existing affected source because it was constructed before May 26, 2000.

Pursuant to 40 CFR 63.2834, existing affected sources must comply with the requirements of Subpart GGGG by April 12, 2004.

The planned modifications to the source constitute a "significant modification" to the oil extraction process as defined at 40 CFR 63.2872. The cost of the proposed changes will not exceed 50% of the fixed capital cost of constructing a new vegetable oil production process. Therefore, in accordance with 40 CFR 63.2 and 40 CFR 63.2833(b), the proposed modification is not considered a 'reconstruction' of an existing affected source. Therefore, the affected source will remain an existing affected source for purpose of Subpart GGGG.

The Subpart GGGG requirements that currently exist in the Part 70 permit have been removed from the respective D sections and replaced with Section E.3. A copy of the entire rule is attached to the permit.

The affected facilities are subject to the following sections of 326 IAC 20 and 40 CFR Part 63, Subpart GGGG:

40 CFR 63.2832 (a)
40 CFR 63.2833
40 CFR 63.2834 (a)
40 CFR 63.2840 (a), (b)(1) through (b)(5), and (e) through (f)
40 CFR 63.2850 (a), (b), (d) (e)(1)(i), (e)(1)(iii) and (e)(2)
40 CFR 63.2851
40 CFR 63.2852
40 CFR 63.2853
40 CFR 63.2854
40 CFR 63.2855
40 CFR 63.2860 (a), (c) and (d)
40 CFR 63.2861
40 CFR 63.2862
40 CFR 63.2863
40 CFR 63.2870
40 CFR 63.2871
40 CFR 63.2872

Table 1 of 63.2833
Item (a) of Table 1 of 63.2834
Item (ix) of Table 1 of 63.2840
Table 1 of 63.2850
Items (a) and (c) of Table 2 of 63.2850
Table 1 of 63.2853
Table 1 of 63.2870

The provisions of 40 CFR Part 63, Subpart A (General Provisions), which are incorporated as 326 IAC 20-1, apply to the affected source except when otherwise specified in 40 CFR Part 63, Subpart GGGG.

- (e) Boilers EU39, EU40, EU41, and EU42 were subject to the requirements of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63, Subpart DDDDD, promulgated on September 13, 2004). However, on June 8, 2007, the United States Court of appeals for the District of Columbia Circuit (in NRDC v. EPA, no. 04-1386) vacated in its entirety 40 CFR Part 63, Subpart DDDDD. Additionally, since the state rule at 326 IAC 20-95 incorporated the requirements of the 40 CFR Part 63, Subpart DDDDD by reference, the requirements of 326 IAC 20-95 are no longer effective. Therefore, the requirements of 40 CFR 63, Subpart DDDDD and 326 IAC 20-95 have been removed from the permit. See the *Proposed Changes* section for the specific changes.
- (f) This source is subject to the provisions of 326 IAC 3-8 and 40 CFR Part 64 (Compliance Assurance Monitoring (CAM)). In order for this rule to apply, a pollutant-specific-emissions-unit at a source that requires a Part 70 or Part 71 permit must meet three criteria for a given pollutant:
- (1) The unit has potential emissions (before controls), of the applicable regulated air pollutant, equal or greater than 100 percent of the amount required for a source to be classified as a major source,
 - (2) The unit is subject to an applicable emission limitation or standard for the applicable regulated air pollutant, and
 - (3) The unit uses a control device to achieve compliance with the applicable emission limitation or standard.

This modification includes the construction of three new units: EU44, the DTDC (which consists of EU23, EU24, EU24A and EU25) and EU45.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new emission unit and specified pollutant subject to CAM:

PM/PM10:

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)
EU44	Baghouse	Y	>100	<100	100	Y	N
DTDC (EU23/EU24, EU24A and EU25)	Cyclones	Y	>100	<100	100	Y	N
EU45	None	Y	<100	<100	100	N	N

* An emission limitation not established by 40 CFR Parts 60 and 63.

Based on this evaluation, EU44 and the DTDC are each classified as an “other” unit with respect to CAM and are subject to the requirements of 40 CFR Part 64. Pursuant to 40 CFR 64.5(b), the Permittee is required to submit the information required under 40 CFR 64.4 regarding EU44 and the DTDC as part of the Part 70 renewal application.

State Rule Applicability Determination

326 IAC 2-2 (Prevention of Significant Deterioration)

Overview

This source is located in Clinton County which is designated as attainment for all criteria pollutants. This source does not belong to one of the listed 28 PSD source categories with a PSD major threshold of 100 tons per year.

As delineated in the *Description of Modification* section of this document, this modification involves the construction of several new units and a physical change to a number of existing units in order to increase the production capacity of the source (a soybean processing plant). In order to determine the net emission increase of the modification (or "project" pursuant to 326 IAC 2-2), ADM used the "hybrid test" described in 326 IAC 2-2-2(d)(6). The following paragraphs describe the how the hybrid test was conducted and how the net emissions increase of the project was calculated. See *Appendix A* for detailed emission calculations.

The hybrid test specifies how the emission increases for new and modified units should be calculated in order to determine the applicability of 326 IAC 2-2:

For new units, the emissions increases are equal to the projected actual emissions (or potential to emit) of those units. In this case, the potential to emit for each new unit is based on the maximum capacity of the production process following the modification (120,000 bushels per day, twelve month rolling average). Emission factors are based on source test results or published AP-42 emission factors. The emission estimates account for the effect of emissions control because those controls will be required by the corresponding permit and will be federally enforceable.

For modified units, the emissions increases are the difference between projected actual emissions and baseline actual emissions excluding the portion of emissions that a unit could have accommodated during the baseline period (as provided by 326 IAC 2-2-1(rr)(2)(A)(iii)).

Baseline actual emissions for an emissions unit are based on actual production during the 24 consecutive month period from January 1, 2005 to December 31, 2006 and emission factors from source test results or published AP-42 emission factors.

Projected actual emissions for an emission unit are based on the maximum capacity of the unit following the modification and emission factors from source test results or published AP-42 emission factors.

In addition to emissions from new and modified units, a number of existing units will experience increased utilization as a result of the proposed project. The associated emissions increases with those units were calculated in a manner analogous to modified emission units.

As required by 326 IAC 2-2-1, fugitive emissions are included in the assessment of baseline actual and projected actual emissions.

Finally, the net emissions increase of the modification is equal to the sum of the emission increases from new, modified and increasingly utilized units coupled with the contemporaneous and creditable emissions increases and decreases. In this case, there were only increases within the contemporaneous period. Those increases are listed in Appendix A.

As indicated by the *Permit Level Determination - PSD* section of this document and the emission calculations in Appendix A, the net emissions increase of the project is less than the relevant PSD significant thresholds for all pollutants except VOC.

Pursuant to 326 IAC 2-2-8(b) and (c), the following requirements apply to this modification:

If there is a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) 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, the owner or operator shall document and maintain a record of the following information:
 - (A) A description of the project.

- (B) Identification of any emissions unit whose emissions of a regulated NSR 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) the baseline actual emissions;
 - (ii) the projected actual emissions;
 - (iii) the amount of emissions excluded under section 1(rr)(2)(A)(iii) of this rule; and
 - (iv) an explanation for why the amount was excluded, and any netting calculations, if applicable.
- (2) If the unit is an existing unit other than an electric utility steam generating unit, the owner or operator shall submit a report to the department if the annual emissions, in tons per year, from the project identified in subdivision (1) exceed the baseline actual emissions, as documented and maintained under subdivision (1)(C), by a significant amount, as defined in section 1(xx) of this rule, for that regulated NSR pollutant and if the emissions differ from the preconstruction projection as documented and maintained under subdivision (1)(C). The report shall be submitted to the department within sixty (60) days after the end of the year. The report shall contain the following:
 - (A) The name, address, and telephone number of the major stationary source.
 - (B) The annual emissions as calculated under subdivision (3).
 - (C) The emissions calculated under the actual-to-projected actual test stated in section 2(d)(3) of this rule.
 - (D) Any other information that the owner or operator wishes to include in the report, such as an explanation as to why the emissions differ from the preconstruction projection.

The owner or operator of the source shall make the information required to be documented and maintained under subsection (b) available for review upon a request for inspection by the department. The general public may request this information from the department under 326 IAC 17.1.

PM/PM10 Emissions

In order to render the requirements of 326 IAC 2-2 not applicable to this modification with respect to PM and PM10, the following limits have been added to the Part 70 permit:

Pursuant to PSD SSM 023-24843-00011, the PM and PM10 emissions from the following units are limited as follows:

Unit (ID) *	PM Limit	PM10 Limit	Units for Limit
Vertical Seed Conditioner (EU44)	0.001	0.001	lb/ton beans processed
DTDC Meal Dryer Deck #1 (EU23)	0.00017	0.00017	
DTDC Meal Dryer Deck #2 (EU24)	0.0063	0.0063	
DTDC Meal Dryer Deck #3 (EU24A)	0.0063	0.0063	
DTDC Meal Cooler Deck (EU25)	0.0018	0.0018	

Unit (ID) *	PM Limit	PM10 Limit	Units for Limit
Grain Conveying (EU04)	0.061	0.034	lb/ton grain received
Cracking and Conditioning (EU10/11/13)	0.00161	0.00161	lb/ton beans processed
Conveying to Processing (EU07)	0.061	0.034	lb/ton grain received
Grain Cleaner (EU09)	0.00102	0.00102	lb/ton beans processed
Hull Screening (EU16)	0.00674	0.00674	lb/ton hulls processed
Hull Grinder (EU17)	0.00674	0.00674	
Hull Conveyor (EU19)	0.061	0.034	
Hull Separator and Flaking (EU12/14)	0.050	0.032	lb/ton beans processed
Meal Conveyor (EU26)	0.061	0.034	lb/ton meal produced
Meal Grinder and Sifter (EU27/28)	0.00347	0.00347	lb/ton beans processed
Meal Storage Conveyor (EU29)	0.061	0.034	lb/ton meal produced
Meal Surge Tanks (EU31)	0.025	0.0063	
Truck and Rail Receiving (EU01/02)	0.035	0.0078	
Elevator Leg vents (EU03)	0.061	0.034	lb/ton grain received
Grain Storage (EU05)	0.025	0.0063	
Hull Storage Unit (EU18)	0.025	0.0063	
Pellet Storage Unit (EU22)	0.025	0.0063	lb/ton hulls processed
Pellet Mill and Cooler (EU20/21)	0.030	0.030	
Meal Storage Unit (EU30)	0.025	0.0063	
Truck Meal and Hull Pellet Loadout (EU34)	0.061	0.034	lb/ton meal produced
Rail Meal and Hull Pellet Loadout (EU35) and Storage (EU36)	0.27	0.1755	lb/ton beans processed
Hull Surge Tank (EU32)	0.025	0.0063	lb/ton hulls processed
Meal Clay Storage Unit (EU36)	0.571	0.40	lb/ton clay received
Boiler #1 (EU39)	0.070	0.070	lb/MMBtu heat input
Boiler #3 (EU41)	0.070	0.070	
Silica Clay Silo (EU47)	0.571	0.40	lb/ton clay received
Boiler #4 (EU46)	0.070	0.070	lb/MMBtu heat input
Cooling Tower (EU45)	0.030	0.030	lb/hr

* Stack IDs are provided in Appendix A.

Compliance with these limits will render the requirements of 326 IAC 2-2 not applicable with respect to PM and PM10 to the modification described in PSD SSM 023-24843-00011.

As shown in Appendix A, the NOx PTE of Boiler #4 (EU46) is greater than the PSD significance threshold of 40 tons per year. As a result, the following limit has been added to the permit:

Pursuant to PSD SSM 023-24843-00011, the NOx emissions from EU46 shall not exceed 37.0 tons per twelve consecutive month period with compliance determined at the end of each month. The Permittee has elected to demonstrate compliance using NOx CEMS.

VOC Emissions

Based upon emission calculations (see Appendix A) completed by the source and reviewed by the IDEM, OAQ, the emissions increase of the modification exceeds the PSD significant threshold level in 326 IAC 2-2-1 for VOC. Therefore, VOC emissions have been reviewed pursuant to 326 IAC 2-2.

The PSD provisions require that this major PSD modification be reviewed to ensure compliance with the National Ambient Air Quality Standards for ozone and apply the requirements of Best Available Control Technology (BACT) to minimize VOC emissions. Specifically, 326 IAC 2-2-3 requires a BACT review, 326 IAC 2-2-4 and 326 IAC 2-2-5 require the evaluation of the modification's impact on air quality, 326 IAC 2-2-6 requires an assessment of increment consumption and 326 IAC 2-2-7 requires an evaluation of additional impacts. A review of these

rules is included below:

326 IAC 2-2-3 (PSD: Best Available Control Technology)

Pursuant to 326 IAC 2-2-3, a detailed VOC BACT analysis was completed by the IDEM, OAQ and is included in Appendix B.

326 IAC 2-2-4 (PSD: Air Quality Analysis)

Pursuant to 326 IAC 2-2-4, an air quality analysis of a major modification is needed to determine if pre-construction monitoring is required. In most cases, post-construction monitoring can satisfy this requirement if the pre-construction monitoring threshold has been exceeded.

However, an air quality analysis is not required for a modification that is PSD major only for VOC because VOC 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.

326 IAC 2-2-5 (PSD: Air Quality Impact)

Pursuant to 326 IAC 2-2-5, an air dispersion modeling study was performed and conducted in order to estimate the maximum ambient concentrations of VOC that result from the additional emissions associated with the modification. A detailed review of this study is included in Appendix C.

In summary, the estimated maximum ambient VOC impacts combined with the background ozone concentrations are not expected to exceed the 8-hr ozone NAAQS.

326 IAC 2-2-6 (PSD: Increment Consumption)

Pursuant to 326 IAC 2-2-6(a), a demonstration of increment consumption is not required for a PSD major source of VOC emissions.

326 IAC 2-2-7 (PSD: Additional Analyses)

Additional analyses, required pursuant to 326 IAC 2-2-7, are not required for a modification that is PSD major only for VOC.

326 IAC 2-3 (Emission Offset)

This source is not subject to the requirements of 326 IAC 2-3 because it is located in Clinton County which is designated as attainment for all criteria pollutants.

326 IAC 2-4.1 (Hazardous Air Pollutants)

Pursuant to 326 IAC 2-4.1-1, any facility that:

- (1) Is constructed or reconstructed after July 27, 1997; and
- (2) Is major source of HAPs (as defined in 40 CFR 63.41); and
- (3) Is not exempt pursuant to 326 IAC 2-4.1-1(b)

is subject to the requirements of 326 IAC 2-4.1.

Of the new or reconstructed units associated with the modification, EU46, EU38 and the reconstructed DTDC (EU23, EU24, EU24A and EU25) have the potential to emit HAPs.

EU46 has a HAP PTE significantly less than major source levels. As a result, EU46 is not subject to the requirements of 326 IAC 2-4.1.

The oil extraction process (i.e. "hexane bubble"; EU38) and DTDC (EU23, EU24, EU24A and EU25) are being reconstructed as part of this modification and each have a HAP PTE greater

than 326 IAC 2-4.1 major source levels. However, EU38 and DTDC (EU23, EU24, EU24A and EU25) belong to a source category specifically regulated by Section 112(d) of the Clean Air Act (40 CFR Part 63, Subpart GGGG). Therefore, pursuant to 326 IAC 2-4.1-1(b)(2), these operations are not subject to the requirements of 326 IAC 2-4.1.

326 IAC 2-6 (Emission Reporting)

Since this source is required to have an operating permit under 326 IAC 2-7 (Part 70 Permit Program), it is subject to 326 IAC 2-6 (Emission Reporting). The source also has the potential to emit greater than 250 tons per year of VOC; therefore, an emission statement covering the previous calendar year must be submitted by July 1, annually. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 3-5 (Continuous Monitoring of Emissions)

326 IAC 3-5-1 establishes continuous emission monitoring requirements for various source categories. Pursuant to 326 IAC 3-5-1(c)(2)(A)(ii), relocated boiler EU46 is not subject to the requirements of 326 IAC 3-5 because it combusts fuel oil (or a mixture of oil and gas) and can comply with the requirements of 326 IAC 5-1 and 326 IAC 6-2 without the use of a control device.

326 IAC 5-1 (Opacity Limitations)

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

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

326 IAC 6-3-2 establishes particulate emission limitations for manufacturing processes.

Pursuant to 326 IAC 6-3-2, the particulate emissions shall be limited by the following:

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

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

or

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

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

Pursuant to 326 IAC 6-3-1(a), EU04, EU07, EU09, EU11, EU12, EU13, EU14, EU16, EU17, EU19, EU23, EU24, EU24A, EU25, EU26, EU27, EU28, EU31 and EU44 are subject to the requirements of 326 IAC 6-3-2 because they have the potential to emit particulate and are not specifically exempted by 326 IAC 6-3-1(b). The following table presents the 326 IAC 6-3-2 limitations for the new or modified units listed in the *Description of Modification* section of this document.

Emission Unit (EU)	Process Weight Rate (ton/hr)	Particulate Limit (lb/hr)
Conveying from grain elevator to storage (EU04)	1,200	80.0
Conveying from grain storage to grain cleaner (EU07)	225	59.8
Grain Cleaner (EU09)	180	57.4
Cracking Rolls (EU11)	180	57.4
Hull Separator (EU12)	180	57.4
Conditioner (EU13)	180	57.4
Flaking (EU14)	172	56.9
Hull Screening (EU16)	14.0	24.0
Hull Grinder (EU17)	14.0	24.0
Hull Conveyor (EU19)	14.0	24.0
DTDC Dryer Deck #1 (EU23)	145	55.1
DTDC Dryer Deck #2 (EU24)	145	55.1
DTDC Dryer Deck #3 (EU24A)	145	55.1
DTDC Cooler Deck (EU25)	145	55.1
Meal Conveyor (EU26)	136	54.4
Meal Sifter (EU27)	136	54.4
Meal Grinder (EU28)	136	54.4
Meal Surge Tanks (EU31)	300	63.0
Vertical Seed Conditioner (EU44)	180	57.4

Pursuant to 326 IAC 6-3-1(b)(11), the new cooling tower (EU45) is not subject to the requirements of 326 IAC 6-3-2.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-1(d), relocated boiler EU46 is subject to the requirements of 326 IAC 6-2-4 because it will be constructed after September 21, 1983 and is an indirect heating source of particulate emissions.

Pursuant to 326 IAC 6-2-4, the particulate matter (PM) from EU46 shall be limited to 0.24 pounds per MMBtu heat input.

These limitations are based on the following equation:

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

where: Pt = Pounds of particulate matter emitted per million Btu heat input

Q = Total source maximum operating capacity rating in million Btu per hour heat input; 336 MMBtu/hr.

326 IAC 6-4 (Fugitive Dust)

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). 326 IAC 6-4-2(4) is not federally enforceable.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source located in Clinton County which is not specifically listed in 326 IAC 6-5-1(a). The source has not added a facility with the potential to emit fugitive particulate matter that requires a permit as set forth in 326 IAC 2, after December 13, 1985. Specifically:

- (a) Paved and unpaved roads are located at the source and are a source of fugitive particulate emissions. However, all roads were constructed before December 13, 1985.
- (b) EU01 and EU02 are a source of fugitive emissions but were constructed before December 13, 1985.

- (c) EU35 and EU36 are a source of fugitive emissions and were constructed after December 13, 1985. However, the fugitive particulate emissions from each of these units are less than 25 tons per year.

Therefore, pursuant to 326 IAC 6-5-1, this source is not subject to the requirements of 326 IAC 6-5.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

Pursuant to 326 IAC 7-1.1-1, any facility with a potential to emit SO₂ greater than or equal to 25 tons of per year or 10 pounds per hour shall comply with the requirements of 326 IAC 7-1.1. The relocated boiler (EU46) has a potential to emit SO₂ greater than or equal to 25 tons per year.

Pursuant to 326 IAC 7-1.1-2, SO₂ emissions from EU46 shall not exceed 0.5 pounds per MMBtu when combusting distillate oil or any fuel simultaneously with distillate oil. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

326 IAC 8-1-6 (Volatile Organic Compounds – BACT)

Pursuant to 326 IAC 8-1-6, any facility constructed after January 1, 1980 that has a potential to emit greater than or equal to 25 tons of VOC per year shall reduce VOC emissions using BACT. Of the new facilities involved in this modification, only EU46 has a potential to emit VOC and it has a VOC PTE significantly less than or equal to 25 tons of VOC per year. EU46 is not subject to the requirements of 326 IAC 8-1-6.

All of the units that comprise EU38 were constructed before January 1, 1980. As a result, EU38 is not subject to the requirements of 326 IAC 8-1-6.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This source commenced operation before October 7, 1974. Therefore, pursuant to 326 IAC 8-6-1, the source is not subject to the requirements of 326 IAC 8-6.

Testing Requirements

See the *Proposed Changes* section of this document for the new and revised testing requirements.

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 the new units associated with this modification that are included in the permit are summarized in the following table:

Unit *	Monitoring Requirement 1	Monitoring Requirement 2
EU44	Visible Emission Notations	Cyclone Failure Provision
EU23/24/24A/25	Visible Emission Notations	Cyclone Failure Provision
EU46	Visible Emission Notations	NOx CEMs

* Additional monitoring is required for all the modified units. Visible emission notations and Baghouse Monitoring are required where appropriate. See the Proposed Changes section of this document for details.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. T023-6066-00011 due to this proposed modification and the changes initiated by IDEM. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

1. The following changes to unit descriptions in permit sections A.2, A.3, D.1, D.2, and D.3 and the reports section have been made to incorporate this modification and its requirements:
 - (a) One (1) rail unloading operation, identified as EU01, constructed in 1946 and modified in 2004, with particulate emissions controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01), including the following:
 - (1) one (1) discharge drag conveyor with particulate emissions also controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
 - (b) One (1) truck unloading operation, identified as EU02, constructed in 1946, with particulate emissions controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
 - (c) One (1) grain elevator, identified as EU03, constructed in 1946, with particulate emissions controlled by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
 - (d) One (1) conveyor to grain storage, identified as EU04, constructed in 1946 **and approved for modification in 2008**, controlled for particulate matter by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
 - (e) Two (2) concrete silo top vents, identified as EU05, constructed in 1946, controlled for particulate matter by one (1) baghouse (GR-1), and exhausting to one (1) stack (EP01);
 - (f) Two (2) steel storage tank vents, identified as EU06, constructed in 1965, each exhausting through two (2) exhaust fans to the atmosphere;
 - (g) One (1) conveyor from grain storage, identified as EU07, constructed in 1946 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
 - (h) Two (2) column grain dryers, identified as EU08, both constructed in 1978;
 - (i) One (1) grain cleaner, identified as EU09, constructed in June of 1990 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
 - (j) One (1) bean dryer, identified as EU10, constructed in February of 1986, controlled for

- particulate matter by one (1) cyclone (CE-06) **and one (1) baghouse (BH-06A) in series**, and exhausting to one (1) stack (EP04);
- (k) Cracking rolls, identified as EU11, constructed in February of 1986 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-06) **and one (1) baghouse (BH-06A) in series**, and exhausting to one (1) stack (EP04);
- (l) One (1) hull separator system, identified as EU12, constructed in February of 1986 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-07), and exhausting to one (1) stack (EP05);
- (m) One (1) conditioner, identified as EU13, constructed in February of 1986 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-06) **and one (1) baghouse (BH-06A) in series**, and exhausting to one (1) stack (EP04);
- (n) One (1) flaking operation, identified as EU14, constructed in June of 1985 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-07), and exhausting to one (1) stack (EP05);
- (o) One (1) expander, identified as EU15, constructed in August of 1994, exhausting to one (1) stack (EP06);
- (p) One (1) hull screening operation, identified as EU16, constructed in August of 1994 **and approved for modification in 2008**, controlled for particulate matter by ~~one (1) cyclone (CE-19)~~ and one (1) baghouse (CE-05) ~~in series~~ **and three (2) cyclones (CE-19, CE-19A and CE-19B) in parallel**, and exhausting to one (1) stack (EP03);
- (q) One (1) hull grinder, identified as EU17, constructed in June of 1989 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-20) and one (1) baghouse (~~CE-05~~ **CE-20A**) **in series**, and exhausting to one (1) stack (EP20);
- (r) One (1) hull storage unit, identified as EU18, constructed in 1946, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
- (s) One (1) hull conveyor, identified as EU19, constructed in 1946 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series, and exhausting to one (1) stack (EP03);
- (t) One (1) pellet mill, identified as EU20, constructed in June of 1992, controlled for particulate matter by one (1) cyclone (CE-08), and exhausting to one (1) stack (EP07);
- (u) One (1) pellet cooler, identified as EU21, constructed in June of 1992, controlled for particulate matter by one (1) cyclone (CE-08), and exhausting to one (1) stack (EP07);
- (v) One (1) pellet storage unit, identified as EU22, constructed in June of 1992, controlled for particulate matter by one (1) cyclone (CE-18) and one (1) baghouse (CE-05) in series and exhausting to one (1) stack (EP03);
- (w) One (1) dryer deck, DTDC - Deck #1, identified as EU23, constructed in May of 1985 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-09), and exhausting to one (1) stack (EP08);
- ~~(x) One (1) dryer deck, DTDC - Deck #2, identified as EU24, constructed in May of 1985, controlled for particulate matter by one (1) cyclone (CE-10), and exhausting to one (1) stack (EP09);~~
- (x) Two (2) DTDC dryer decks:**

- (1) **DTDC - Deck #2, identified as EU24, constructed in May of 1985 and approved for modification in 2008, emissions controlled by one (1) cyclone (CE-10), and exhausting to one (1) stack (EP09).**
- (2) **DTDC - Deck #3, identified as EU24A, approved for construction in 2008, emissions controlled by one (1) cyclone (CE-10A), and exhausting to one (1) stack (EP09A).**
- (y) One (1) DTDC - cooler deck, identified as EU25, constructed in May of 1985 **and approved for modification in 2008**, controlled for particulate matter by one (1) cyclone (CE-11), and exhausting to one (1) stack (EP10);
- (z) One (1) **meal** conveyor (from DTDC to meal screens), identified as EU26, constructed in June of 1991 **and approved for reconstruction in 2008**, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (aa) One (1) meal sifting operation, identified as EU27, constructed in June of 1991 **and approved for modification in 2008**, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (bb) One (1) meal grinding operation, identified as EU28, constructed in June of 1991 **and approved for modification in 2008**, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack, (EP11);
- (cc) One (1) meal storage conveyor, identified as EU29, constructed in June of 1991 **and approved for modification in 2008**, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (dd) One (1) meal storage unit (two tanks), identified as EU30, constructed in 1958 **and approved for modification in 2008**, controlled for particulate matter by one (1) baghouse (BH-2A), and exhausting to one (1) stack (EP11);
- (ee) Two (2) meal surge tanks, identified as EU31, constructed in 1986 **and approved for modification in 2008**, with a portion of emissions controlled for particulate matter by one (1) baghouse (ML-1), exhausting to one (1) stack (EP12) ~~and a portion of emissions uncontrolled exhausting to one (1) stack (EP26);~~
- (ff) One (1) hull surge tank, identified as EU32, constructed in 1986, with a portion of emissions controlled for particulate matter by one (1) baghouse (ML-1), exhausting to one (1) stack (EP12) ~~and a portion of emissions uncontrolled exhausting to one (1) stack (EP27);~~
- (gg) One (1) enclosed mixing conveyor, identified as EU33, constructed in 1988, conveying to the truck and rail meal and hull pellet loadout operations;
- (hh) One (1) truck meal and hull pellet loadout operation, identified as EU34, constructed in 1988, controlled for particulate by one (1) baghouse (ML-1), and exhausting to one (1) stack (EP12);
- (ii) One (1) rail meal and hull pellet loadout operation, identified as EU35, constructed in 1988, controlled for particulate matter by one (1) baghouse (ML-1), and exhausting to one (1) stack (EP12);
- (jj) One (1) meal clay storage unit, identified as EU36, constructed in 1986, controlled for particulate matter by one (1) baghouse (MC-1), and exhausting to one (1) stack (EP13);
- (kk) One (1) refinery clay storage unit, identified as EU37, constructed in 1992, controlled for particulate matter by one (1) baghouse (RCB), and exhausting to one (1) stack (EP14);

- (ll) One (1) oil extraction process, identified as EU38, constructed in May of 1985 **and approved for modification in 2008**, using hexane solvent, with emissions released through a number of exit streams in the process collectively called the "hexane bubble". The process is equipped with one (1) mineral oil absorber/scrubber (CE-22), which exhausts through one (1) stack (EP25). This process is also equipped with a once-through cold water condenser located between the vent condenser and the mineral oil absorber/scrubber.
- (mm) One (1) bean cleaner, identified as EU43, constructed in 1998, controlled for particulate matter by one (1) baghouse (CE-21), and exhausting to one (1) stack (EP24);
- (nn) One (1) vertical seed conditioner, also referred to as a steam-heated soybean heater, identified as EU44, approved for construction in 2008, emissions controlled by one (1) cyclone (CE-44), and exhausting to one (1) stack (EP44);**
- ~~(oo)~~ Boiler #1, identified as EU39, constructed in 1960, firing natural gas, vegetable oil, No. 2 distillate fuel oil, or blends of vegetable oil and No. 2 distillate fuel oil, exhausting to one (1) stack (EP15);
- ~~(oo)~~ Boiler #2, identified as EU40, constructed in 1987, firing natural gas or No. 2 distillate fuel oil, exhausting to one (1) stack (EP16);
- (pp) Boiler #3, identified as EU41, constructed in 1992, firing natural gas, vegetable oil, No. 2 distillate fuel oil, or blends of vegetable oil and No. 2 distillate fuel oil, exhausting to one (1) stack (EP17);
- (qq) One (1) Refinery Boiler, identified as EU42, constructed in 2000, firing natural gas or No. 2 distillate fuel oil, exhausting to one (1) stack (EP18);
- (rr) Boiler #4, identified as EU46, constructed in 1995 and approved for installation in 2008, firing natural gas, vegetable oil, No. 2 distillate fuel oil or blends of vegetable oil and No. 2 distillate fuel oil, with emissions uncontrolled, and exhausting to one (1) stack (EP46).**

Note: The ~~maximum capacities~~ **projected production rates** of the above listed emission units are ~~confidential trade secret information~~ **listed in Appendix A.**

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):

...

~~(ee c)~~ The following activities with emissions equal to or less than insignificant thresholds:

- (1) one (1) silica clay storage silo, identified as ~~EU44~~ **EU47, constructed in 2002**, with particulate emissions controlled by a baghouse (RC-2), exhausting through one (1) stack (EP19). [326 IAC 6-3-2]**[326 IAC 2-2]**
- (2) **one (1) cooling tower, identified as EU45, with a design recirculation rate of 1,500 gal/min. [326 IAC 2-2]**

Emission Limitations and Standards [326 IAC 2-7-5(1)]

~~D.1.1 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]~~

~~The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the grain cleaner (EU09) and the rail unloading operation (EU01) described in this section except when otherwise specified in 40 CFR Part 60, Subpart~~

~~DD.~~

~~D.1.2 New Source Performance Standard (NSPS) for Grain Elevators [326 IAC 12][40 CFR 60.300-60.304, Subpart DD]~~

~~(a) Pursuant to 40 CFR 60.302, the following shall apply to the grain cleaner (EU09):~~

~~(1) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility except a grain dryer any process emission which:~~

~~(A) Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).~~

~~(B) Exhibits greater than 0 percent opacity.~~

~~(2) On and after the 60th day of achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere any fugitive emission from any grain handling operation which exhibits greater than 0 percent opacity.~~

~~(b) Pursuant to 40 CFR 60.302, the following shall apply to the rail unloading operation (EU01):~~

~~(1) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility except a grain dryer any process emission which:~~

~~(A) Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).~~

~~(B) Exhibits greater than 0 percent opacity.~~

~~(2) On and after the 60th day of achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere any fugitive emission from any individual railcar unloading station which exhibits greater than 5 percent opacity.~~

~~D.1.3 General Provisions Relating to NESHAPs [326 IAC 20-1-1][40 CFR Part 63, Subpart A]~~

~~The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 63, Subpart GGGG.~~

~~D.1.4 Solvent Extraction for Vegetable Oil Production NESHAP [40 CFR 63.2840]~~

~~The conventional soybean process is subject to 40 CFR 63.2840 with a compliance date of three years after April 12, 2001, the effective date of the rule. The solvent (hexane) loss from the conventional soybean process shall not exceed 0.2 gallons per ton of soybeans processed.~~

D.1.1 Best Available Control Technology (BACT) for Volatile Organic Compounds (VOC) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD SSM 023-24843-00011:

(a) VOC emissions from the solvent extraction and recovery process main vent shall be controlled by a condenser and mineral oil absorber/scrubber system (CE-22).

- (b) The overall solvent loss ratio of the solvent extraction process shall not exceed 0.179 gallons of hexane per ton of soybeans processed. Compliance with the solvent loss ratio limit shall be demonstrated using the procedures established in 40 CFR Part 63, Subpart GGGG.
- (c) The Permittee shall optimize the design and operation of the Desolventizer-Toaster-Dryer-Cooler (DTDC) (consisting of EU23, EU24, EU24A and EU25) to mitigate VOC emissions.
- (d) Within 60 days of achieving full production permitted by PSD SSM 023-24843-00011, but no later than 180 days after startup of the modified extraction process, the Permittee shall implement a leak detection and correction program to control VOC emissions. The program is included as Attachment A to this permit.
- (e) The amount of soybeans processed by the source shall not exceed 1,314,000 tons twelve consecutive month period with compliance determined at the end of each month.

D.1.2 Prevention of Significant Deterioration (PSD) – PM/PM10 Emission Limitations [326 IAC 2-2]

- (a) Pursuant to PSD SSM 023-24843-00011, the PM and PM10 emissions from the following units are limited as follows:

Unit (ID) *	PM Limit	PM10 Limit	Units for Limit
Vertical Seed Conditioner (EU44)	0.001	0.001	lb/ton beans processed
DTDC Meal Dryer Deck #1 (EU23)	0.00017	0.00017	
DTDC Meal Dryer Deck #2 (EU24)	0.0063	0.0063	
DTDC Meal Dryer Deck #3 (EU24A)	0.0063	0.0063	
DTDC Meal Cooler Deck (EU25)	0.0018	0.0018	
Grain Conveying (EU04)	0.061	0.034	lb/ton grain received
Cracking and Conditioning (EU10/11/13)	0.00161	0.00161	lb/ton beans processed
Conveying to Processing (EU07)	0.061	0.034	lb/ton grain received
Grain Cleaner (EU09)	0.00102	0.00102	lb/ton beans processed
Hull Screening (EU16)	0.00674	0.00674	lb/ton hulls processed
Hull Grinder (EU17)	0.00674	0.00674	
Hull Conveyor (EU19)	0.061	0.034	
Hull Separator and Flaking (EU12/14)	0.050	0.032	lb/ton beans processed
Meal Conveyor (EU26)	0.061	0.034	lb/ton meal produced
Meal Grinder and Sifter (EU27/28)	0.00347	0.00347	lb/ton beans processed
Meal Storage Conveyor (EU29)	0.061	0.034	lb/ton meal produced
Meal Surge Tanks (EU31)	0.025	0.0063	
Truck and Rail Receiving (EU01/02)	0.035	0.0078	lb/ton grain received
Elevator Leg vents (EU03)	0.061	0.034	
Grain Storage (EU05)	0.025	0.0063	
Hull Storage Unit (EU18)	0.025	0.0063	lb/ton hulls processed
Pellet Storage Unit (EU22)	0.025	0.0063	
Pellet Mill and Cooler (EU20/21)	0.030	0.030	
Meal Storage Unit (EU30)	0.025	0.0063	lb/ton meal produced
Truck Meal and Hull Pellet Loadout	0.061	0.034	

Unit (ID) *	PM Limit	PM10 Limit	Units for Limit
(EU34)			
Rail Meal and Hull Pellet Loadout (EU35) and Storage (EU36)	0.27	0.1755	lb/ton beans processed
Hull Surge Tank (EU32)	0.025	0.0063	lb/ton hulls processed
Meal Clay Storage Unit (EU36)	0.571	0.40	lb/ton clay received
Boiler #1 (EU39)	0.070	0.070	lb/MMBtu heat input
Boiler #3 (EU41)	0.070	0.070	
Silica Clay Silo (EU47)	0.571	0.40	lb/ton clay received
Boiler #4 (EU46)	0.070	0.070	lb/MMBtu heat input
Cooling Tower (EU45)	0.030	0.030	lb/hr

(b) The amount of soybeans processed by the source shall not exceed 1,314,000 tons twelve consecutive month period with compliance determined at the end of each month.

Compliance with these limits will render the requirements of 326 IAC 2-2 not applicable with respect to PM and PM10 to the modification described in PSD SSM 023-24843-00011.

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the facilities listed below shall be limited as indicated in the table below.

The pounds per hour limitations were calculated with either of the following equations:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

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

or

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

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

Emission Unit ID	Process Weight Rate (tons/hr)	Allowable Particulate Emissions (lb/hr)
Rail Unloading, EU01	confidential 400	66.3
Truck Unloading, EU02	confidential 720	73.4
Grain elevator, EU03	confidential 720	73.4
Conveyor to grain storage, EU04	confidential 1,200	73.4 80.0
Concrete silo top vents, EU05	confidential 720	73.4
Steel storage tank vents, EU06	confidential 720	73.4

Emission Unit ID	Process Weight Rate (tons/hr)	Allowable Particulate Emissions (lb/hr)
Conveyor from grain storage, EU07	confidential 225	60.7 59.8
Grain Dryer, EU08	confidential 180	57.4
Grain Cleaner, EU09	confidential 180	53.3 57.4
Bean Dryer, EU10	confidential 122	53.3
Cracking Rolls, EU11	confidential 180	53.3 57.4
Hull Separator, EU12	confidential 180	53.3 57.4
Conditioner, EU13	confidential 180	52.5 57.4
Flaking Flakers, EU14	confidential 172	52.5 56.9
Expander, EU15	confidential 30.0	40.0
Hull Screen, EU16	confidential 14.0	17.9 24.0
Hull Grinder, EU17	confidential 14.0	17.9 24.0
Hull Storage Unit, EU18	confidential 9.00	17.9
Hull Conveyor, EU19	confidential 14.0	17.9 24.0
Pellet Mill, EU20	confidential 9.00	17.9
Pellet Cooler, EU21	confidential 9.00	17.9
Pellet Storage Unit, EU22	confidential 9.00	17.9
Dryer Deck #1, EU23	confidential 172	52.5 55.1
Dryer Deck #2, EU24	confidential 172	52.5 55.1
Dryer Deck #3, EU24A	172	55.1
Cooler Deck, EU25	confidential 172	52.5 55.1
Conveyor to meal screens Meal Conveyor, EU26	confidential 136	50.0 54.4
Meal sifter, EU27	confidential 136	50.0 54.4
Meal grinder, EU28	confidential 136	50.0 54.4
Meal storage conveyor, EU29	confidential 90.0	50.0
Meal storage tank, EU30	confidential 90.0	50.0
Meal surge tanks, EU31	confidential 300	61.0 63.0
Hull surge tank, EU32	confidential 100	51.3
Mixing conveyor, EU33	confidential 250	61.0
Truck Meal & Hull Pellet loadout, EU34	confidential 250	61.0
Rail Meal & Hull Pellet loadout, EU35	confidential 250	61.0
Meal clay storage, EU36	confidential 25.0	35.4
Refinery clay storage, EU37	confidential 25.0	35.4

Emission Unit ID	Process Weight Rate (tons/hr)	Allowable Particulate Emissions (lb/hr)
Bean cleaner, EU43	confidential 180	57.4
Vertical Seed Conditioner, EU44	180	57.4

- (a) For purposes of demonstrating compliance with the particulate emission limits for the rail unloading (EU01), the truck unloading (EU02), the grain elevator (EU03), the conveyor to grain storage (EU04), and the concrete silo top vents (EU05) all exhausting through baghouse GR-1, which exhausts through stack EP01, the allowable particulate emission rate from baghouse GR-1 shall be limited to ~~359.9~~ **366.5** pounds per hour.
- (b) For purposes of demonstrating compliance with the particulate emission limits for the conveyor from grain storage (EU07), the grain cleaner (EU09), the hull screen (EU16), the hull grinder (EU17), the hull storage unit (EU18), the hull conveyor (EU19), and the pellet storage unit (EU22) all exhausting through baghouse CE-05, which exhausts through stack EP03, the allowable particulate emission rate from baghouse CE-05 shall be limited to ~~203.5~~ **225** pounds per hour.
- (c) For purposes of demonstrating compliance with the particulate emission limits for the bean dryer (EU10), the cracking rolls (EU11), and the conditioner (EU13) all exhausting through cyclone CE-06, which exhausts through stack EP04, the allowable particulate emission rate from cyclone CE-06 **and baghouse BH-06A** shall be limited to ~~159.4~~ **168** pounds per hour.
- (d) For purposes of demonstrating compliance with the particulate emission limits for the hull separator (EU12) and the flakers (EU14) both exhausting through cyclone CE-07, which exhausts through stack EP05, the allowable particulate emission rate from cyclone CE-07 shall be limited to ~~105.8~~ **114.3** pounds per hour.
- (e) For purposes of demonstrating compliance with the particulate emission limits for the pellet mill (EU20) and the pellet cooler (EU21) both exhausting through cyclone CE-08, which exhausts through stack EP07, the allowable particulate emission rate from cyclone CE-08 shall be limited to 35.8 pounds per hour.
- (f) For purposes of demonstrating compliance with the particulate emission limits for the conveyor to meal screens (EU26), the meal sifter (EU27), the meal grinder (EU28), the meal storage conveyor (EU29), and the meal storage tank (EU30) all exhausting through baghouse BH-2, which exhausts through stack EP11, the allowable particulate emission rate from baghouse BH-2 shall be limited to ~~250.0~~ **263.2** pounds per hour.
- (g) For purposes of demonstrating compliance with the particulate emission limits for the meal surge tank (EU31), the hull surge tank (EU32), the truck meal & hull pellet loadout (EU34), and the rail meal & hull pellet loadout (EU35) all exhausting through baghouse ML-1, which exhausts through stack EP12, the allowable particulate emission rate from baghouse ML-1 shall be limited to ~~234.3~~ **236.3** pounds per hour.

D.1.6 4 Consent Decree Requirements

Pursuant to the Consent Decree in United States v. Archer Daniels Midland Company, Civil Action No. 03-2066, that was lodged with the United States District Court for the Central District of Illinois, the following requirements apply to the Permittee:

- (a) As part of the consent decree, a once-through cold water condenser shall be installed and will be located between the vent condenser and the mineral oil absorber/scrubber. The purpose of this condenser is to condense hexane vapors and reduce the vapor loading to the mineral oil absorber/scrubber. The Consent Decree requires that ADM's Frankfort, Indiana plant install only the once-through cold-water condenser prior to the mineral oil absorber/scrubber. ADM shall conduct a design and engineering review of

each affected unit to size the condenser upgrade. The design criteria for the once-through cold-water condenser that will be the basis for sizing the required condenser upgrade is a minimum of 94 ft² surface area.

By no later than the dates set forth in section 6.0 of Attachment 9 of the Consent Decree, VOC Control Technology Plan for ADM's Oilseed Plants, ADM shall upgrade its oilseed plants so that all plants have condenser systems that include, at a minimum, a dedicated "extractor condenser" for the extractor and a once-through cold water condenser following the vent condenser. This shall be done at all ADM plants no later than April 1, 2006.

- (b) By no later than December 31, 2007, ADM shall propose in writing to the U.S. EPA, the Department of Justice, and the OAQ, the Plaintiffs in the Consent Decree for this plant, final VOC Solvent Loss Ratio (SLR) limits for this facility that satisfy the requirements of Subsection 5.2 of Attachment 9 of the Consent Decree presented below.

Except for multi-seed plants, the capacity-weighted average of these final VOC SLR limits for the conventional soybean group shall not exceed the VOC SLR limit of 0.175 gal/ton for conventional soybean plants.

The capacity weighted average of the final VOC SLR limit for the conventional soybean group is to be calculated using the following equation:

$$\text{Conventional Soybean} = 3 (\text{Seed}_i * \text{SLR}_i) / 3 (\text{Seed}_i) \# 0.175 \text{ gal/ton}$$

where: Seed_i = Crush capacity of soybean plant i; and
SLR_i = Final SLR Limit for soybean plant i.

The capacity-weighted averages shall be based on the design capacity for each plant that has been approved by the Plaintiffs under Paragraph 68 of the Consent Decree. For purposes of the Consent Decree, design capacity is the "maximum permitted crush capacity" that a plant is allowed to process in a given time period under its operating permit; or, if no limit is included in the operating permit, the plant's maximum physical capacity. This number is expressed as "tons of crush per day."

Note the maximum crush capacity of the oil extraction process at this source is confidential trade secret information.

Compliance with these requirements satisfies the requirements of 326 IAC 2-2 (PSD) and 326 IAC 8-1-6 (New Facilities, General Reduction Requirements).

D.1.7.5 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 ~~this facility~~ **these facilities** and any control devices.

Compliance Determination Requirements

D.1.8 Testing Requirements [40 CFR 60, Subpart DD][326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

- (a) ~~During the period within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Conditions D.1.2 and D.1.5, the Permittee shall perform PM, PM-10, and opacity testing for the grain cleaner (EU09), exhausting through cyclone CE-18 and baghouse CE-05 in series through stack EP03, utilizing methods required pursuant to 40 CFR 60.303. PM-10 includes filterable and condensable PM-10. Testing shall be conducted in accordance with Section C - Performance Testing.~~
- (b) ~~During the period within 60 days after achieving maximum production capacity but no later than 180 days after startup, in order to demonstrate compliance with Condition D.1.2, the Permittee shall perform PM and opacity testing for the rail unloading operation (EU01), exhausting through baghouse GR-1 through stack EP01, utilizing~~

~~methods required pursuant to 40 CFR 60.303. Testing shall be conducted in accordance with Section C - Performance Testing.~~

D.1.9 6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

- (a) ~~During the period within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Condition D.1.5, and to verify the emission factors, the Permittee shall perform PM and PM-10 testing on cyclones CE-09, CE-10, and CE-11 utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM-10 includes filterable and condensible PM-10. Testing shall be conducted in accordance with Section C - Performance Testing.~~
- (b) ~~During the period within twelve (12) months after issuance of this Part 70 permit, in order to demonstrate compliance with Condition D.1.5, the Permittee shall perform PM and PM-10 testing on baghouses BH-2, ML-1, and CE-21 and cyclones CE-06 and CE-07 utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM-10 includes filterable and condensible PM-10. Testing shall be conducted in accordance with Section C - Performance Testing.~~

Within twelve (12) months after issuance of PSD SSM 023-24843-00011, in order to demonstrate compliance with Condition D.1.2, the Permittee shall perform PM and PM10 testing of the stack exhaust from units limited by Condition D.1.2. These tests shall be conducted utilizing methods approved by the Commissioner and repeated at least once every five (5) years from the date of valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C - Performance Testing.

D.1.10 HAP (MACT) Compliance [40 CFR Part 63, Subpart GGGG]

~~Compliance with Condition D.1.4 shall be demonstrated in the following manner:~~

- (a) ~~Calculate a compliance ratio, which compares the actual HAP loss to the allowable HAP loss for the previous 12 operating months. An operating month, as defined in 40 CFR 63.2872, is any calendar month in which a source processes soybean, excluding any calendar month in which the source operated under an initial startup period subject to 40 CFR 63.2850(e)(2) or (d)(2) or a malfunction period subject to 40 CFR 63.2850(e)(2). The equation to calculate a compliance ratio follows:~~

(1) ~~Compliance Ratio = (Actual HAP Loss) / (Allowable HAP Loss) (Eq. 1)~~

- (2) ~~Equation 1 can also be expressed as a function of total solvent loss as shown in Equation 2.~~

(3) ~~Compliance Ratio =
$$\frac{f * \text{Actual Solvent Loss}}{0.64 * (\text{tons of soybean processed} * \text{SLF})}$$
 (Eq. 2)~~

~~where: f = The weighted average volume fraction of HAP in solvent received during the previous 12 operating months, as determined in 40 CFR 63.2854, dimensionless.~~

~~0.64 = The average volume fraction of HAP in solvent in the baseline performance data, dimensionless.~~

~~Actual solvent loss = gallons of actual solvent loss during previous 12 operating months, as determined in 40 CFR 63.2853.~~

~~Tons of soybean processed = Tons of soybean processed during the previous 12 operating months, as shown in 40 CFR 63.2855.~~

~~SLF = Solvent Loss Factor of 0.2 gallon per ton of soybean processed for a conventional soybean process from Table 1 of 40 CFR 63.2840.~~

- ~~(b) When the source has processed soybean for 12 operating months, calculate the compliance ratio by the end of each calendar month following an operating month using Equation 2. When calculating the compliance ratio, consider the following conditions and exclusions in paragraphs (b)(1) through (6):~~
- ~~(1) If soybean is processed in a calendar month and the process is not operating under an initial startup period or malfunction period subject to 40 CFR 60.2850, then that month is categorized as an operating month, as defined in 40 CFR 63.2872.~~
 - ~~(2) The 12 month compliance ratio may include operating months prior to a source shutdown and operating months that follow after the source resumes operation.~~
 - ~~(3) If the source shuts down and processes no soybean for an entire calendar month as a non operating month, as defined in 40 CFR 63.2872, exclude any nonoperating months from the compliance ratio determination.~~
 - ~~(4) If the source is subject to an initial startup period as defined in 40 CFR 63.2872, exclude from the compliance ratio determination any solvent and soybean information recorded for the initial startup period.~~
 - ~~(5) If the source is subject to a malfunction period as defined in 40 CFR 63.2872, exclude from the compliance ratio determination any solvent and soybean information recorded for the malfunction period.~~
 - ~~(6) The solvent loss factor to determine the compliance ratio may change each operating month depending on the tons of soybean processed during all normal operating periods in a 12 operating month period.~~
- ~~(c) If the compliance ratio is less than or equal to 1.00, then the source was in compliance with the HAP emission requirements for the previous operating month.~~
- ~~(d) The Permittee shall develop and implement a written plan in accordance with 40 CFR 63.2851 that provides the detailed procedures to monitor and record data necessary for demonstrating compliance with this subpart.~~
- ~~(e) The Permittee shall develop a written SSM (Startup, Shutdown, and Malfunction) in accordance with 40 CFR 63.6(e)(3), and implement the plan, when applicable. The Permittee must complete the SSM plan before the compliance date for this source.~~
- ~~(f) The SSM plan provides detailed procedures for operating and maintaining the source to minimize emissions during a qualifying SSM event for which the source chooses the 40 CFR 63.2850(e)(2) malfunction period, or the 40 CFR 63.2850(c)(2) or (d)(2) initial startup period. The SSM plan must specify a program of corrective action for malfunctioning process and air pollution control equipment and reflect the best practices now in use by the industry to minimize emissions.~~

D.1.14 7 VOC Compliance - Consent Decree Compliance and PSD [326 IAC 2-2]

- (a) Compliance with the interim and final VOC SLR limits in the Consent Decree **Conditions D.1.1(b) and D.1.4** shall be determined in accordance with 40 CFR Part 63, Subpart GGGG, with the following exceptions:
- (1) provisions pertaining to HAP content shall not apply;
 - (2) monitoring and recordkeeping of solvent losses at the plant shall be conducted

daily;

- (3) solvent losses and quantities of oilseed processed during startup and shutdown periods shall not be excluded in determining solvent losses; and
- (4) records shall be kept in the form of the table included in Section 8.0 of Attachment 9 of the Consent Decree and presented here that show total solvent losses, solvent losses during malfunction periods, adjusted solvent losses (i.e., total solvent losses minus malfunction losses) monthly and on a twelve-month rolling basis as follows:

Solvent Loss Record for ADM Oilseed Plant X

Date	Total Crush (tons)		Total Solvent Loss (gallons)		Malfunction Period Solvent Loss (gallons)		Adjusted Solvent Loss ^a (gallons)		SLR ^b (gal/ton)
	Monthly	12-Month Rolling	Monthly	12-Month Rolling	Monthly	12-Month Rolling	Monthly	12-Month Rolling	12-Month Rolling
Month, Year									

a -Adjusted Solvent Loss is equal to Total Solvent Loss minus Malfunction Period Loss.

b -Solvent Loss Ratio is equal to 12-month rolling Adjusted Solvent Loss divided by 12-Month Rolling Total Crush.

Compliance determination for each plant is based on 12-Month Rolling SLR value compared to Final VOC SLR Limit.

- (b) For plants with interim or final solvent loss limits, ADM may apply the provisions of 40 CFR Part 63, Subpart GGGG pertaining to malfunction periods only when the conditions in both paragraphs (1) and (2) below are met:
 - (1) The malfunction results in a total plant shutdown. For purposes of the Consent Decree, a "total plant shutdown" means a shutdown of the solvent extraction system.
 - (2) Cumulative solvent losses during malfunction periods at a plant do not exceed 4,000 gallons in a 12-month rolling period.

At all other times, ADM must include all solvent losses when determining compliance with its interim or final VOC SLR limits at this plant.

During a malfunction period, ADM shall comply with the startup, shutdown and malfunction (SSM) plan as required under Subpart GGGG for the plant. The solvent loss corresponding to a malfunction period will be calculated as the difference in the total solvent inventories for the day before the malfunction period began and the day the plant resumes normal operation.

D.1.12 8 Particulate Control

- (a) In order to comply with ~~Conditions D.1.2 and D.1.5~~ **D.1.3**, baghouses **BH-06A**, CE-05, ML-1, **MC-1**, BH-2A, **CE-20A**, and CE-21 and cyclones CE-06, CE-07, CE-09, CE-10, **CE-10A**, CE-11, CE-18, CE-19, **CE-19A**, **CE-19B**, and CE-20 and **CE-44** for particulate control shall be in operation and control emissions from the associated facilities at all times that the associated facilities are in operation.
- (b) In order to comply with ~~Condition D.1.2~~ **D.1.3**, baghouse GR-1 for particulate control shall be in operation and control emissions ~~from the rail unloading operation (EU01)~~ **from EU01, EU02, EU03 and EU04** at all times ~~that the rail unloading operation~~ **at least one of the respective units are** 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.1.9 VOC Control

Pursuant to 326 IAC 2-2-3, and in order to comply with Conditions D.1.1(b) and D.1.4, the condenser and mineral oil absorber/scrubber system (CE-22) shall be operated at all times that the hexane solvent oil extraction process (EU38) is in operation.

D.1.13 10 Particulate Control

The cyclone CE-08 for particulate control shall be in operation and control emissions from the pellet mill (EU20) and the pellet cooler (EU21) at all times that the pellet mill (EU20) and the pellet cooler (EU21) are in operation. This source has accepted this requirement on a voluntary basis.

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

D.1.14 ~~VOC Control~~

~~In order to comply with condition D.1.6, the mineral oil absorber/scrubber (CE-22) and the once-through cold water condenser located between the vent condenser and the mineral oil absorber/scrubber shall be operated at all times that the hexane solvent oil extraction process (EU38) is in operation.~~

D.1.15 11 Visible Emissions Notations

- (a) Visible emission notations of the stack exhausts for baghouses GR-1, **BH-06A**, CE-05, **BH-2A**, ML-1, MC-1, RCB, **CE-20A** and CE-21 and the stack exhausts for cyclones CE-06, CE-07, CE-08, CE-09, CE-10, **CE-10A**, and CE-11, **CE-18**, **CE-19**, **CE-19A**, **CE-19B**, **CE-20** and **CE-44** shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.1.16 12 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across each of the baghouses GR-1, **BH-06A**, CE-05, **BH-2A**, ML-1, MC-1, RCB, **CE-20A** and CE-21 used in conjunction with emission units EU-01 through EU-05, EU-07, EU-09, EU-16 through EU-19, EU-22, EU-26 through EU-32, EU-34 through EU-37, and EU-43, at least once per day when these emission units are in operation ~~when venting to the atmosphere~~. When for any one reading, the pressure drop across the any of the baghouses is outside the normal range of 0.5 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in

accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.1.47 13 Broken or Failed Bag Detection

For single compartment baghouses, failed units and the associated process shall be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

D.1.48 14 Cyclone Failure Detection

In the event that cyclone failure has been observed:

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

D.1.49 15 Parametric Monitoring

- (a) The Permittee shall record the following for the scrubber (**CE-22**) used in conjunction with the oil extraction process, identified as EU38, at least once per day when the oil extraction process is in operation:

- (1) the total static pressure drop across the scrubber;
- (2) the inlet gas temperature of the scrubber;
- (3) the outlet gas flow rate of the scrubber; and
- (4) the mineral oil flow rate in the scrubber.

- (b) When for any one reading:

- (1) the pressure drop across the scrubber is outside the normal range of 0.2 and 10.0 inches of water or a range established during the latest stack test;
- (2) the inlet gas temperature is outside the normal range of 45 and 100 degrees F or a range established during the latest stack test;
- (3) the outlet gas flow rate is outside the normal range of 50 and 250 cubic feet per minute (cfm) or a range established during the latest stack test; or
- (4) the mineral oil flow rate is outside the normal range of 10.0 and ~~25.0~~ **75.0** gallons per minute (gpm) 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, inlet gas temperature, outlet gas flow rate, or a mineral oil flow rate 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.

- (c) The instruments used for determining the pressure, temperature, and flow rates 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.1.20 Record Keeping Requirements [40 CFR 63.2862, Subpart GGGG]~~

- ~~(a) This source must satisfy the recordkeeping requirements of 40 CFR 63.2862 by no later than April 12, 2004. Pursuant to 40 CFR 63.2862(b), the source must prepare a plan for demonstrating compliance (as described in 40 CFR 63.2851) and a SSM plan (as described in 40 CFR 63.2852). In these two plans, the source must describe the procedures that will be followed in obtaining and recording data, and determining compliance under normal operations or a SSM subject to the 40 CFR 63.2850(c)(2) or (d)(2) initial startup period or the 40 CFR 63.2850(e)(2) malfunction period. Both plans must be completed before the compliance date for the source and must be kept on-site and readily available as long as the source is operational.~~
- ~~(b) The source must also record the items in paragraphs (c)(1) through (5) of 40 CFR 63.2862.~~
- ~~(c) After the source has processed soybeans for 12 operating months, and is not operating during an initial startup period as described in 40 CFR 63.2850(c)(2) or (d)(2), or a malfunction period as described in 40 CFR 63.2850(e)(2), the source must record the items in paragraphs (d)(1) through (5) of 40 CFR 63.2862 by the end of the calendar month following each operating month.~~
- ~~(d) For each SSM event subject to an initial startup period as described in 40 CFR 63.2850(c)(2) or (d)(2), or a malfunction period as described in 40 CFR 63.2850(e)(2), the source shall record the items in paragraphs (e)(1) through (3) of 40 CFR 63.2862 by the end of the calendar month following each month in which the initial startup period or malfunction period occurred.~~
- ~~(e) The records must be in a form suitable and readily available for review in accordance with 40 CFR 63.10(b)(1). As specified in 40 CFR 63.10(b)(1), each record must be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Each record must be kept on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, in accordance with 40 CFR 63.10(b)(1). The records can be kept off-site for the remaining 3 years.~~

D.1.24 16 Record Keeping Requirements

- (a) To demonstrate **and document** compliance with the final VOC SLR limits at this oilseed plant pursuant to ~~e~~**Conditions D.1.6 D.1.1(b) and D.1.4**, ADM shall:
- (1) maintain the records required by 40 CFR Part 63, Subpart GGGG on solvent loss and quantity of oilseed processed; and
 - (2) maintain the records required by 40 CFR Part 63, Subpart GGGG, for any malfunction period as defined in Section 8.0 of Attachment 9 of the Consent Decree.
 - (3) keep daily records in the form of the table included in Section 8.0 of Attachment 9 of the Consent Decree and at the end of this permit that show total solvent losses, solvent losses during malfunction periods, adjusted solvent losses (i.e., total solvent losses minus malfunction losses) monthly and on a twelve-month rolling basis.
- (b) To document compliance with Condition D.1.15, the Permittee shall maintain records of

~~once per day visible emission notations of the stack exhausts for baghouses GR-1, CE-05, BH-2, ML-1, MC-1, RCB, and CE-21 and the stack exhausts for cyclones CE-06, CE-07, CE-08, CE-09, CE-10, and CE-11. To document compliance with Condition D.1.11, the Permittee shall maintain a daily record of 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) ~~To document compliance with Condition D.1.16, the Permittee shall maintain records once per day of the pressure drop for each baghouse during normal operation when venting to the atmosphere. To document compliance with Condition D.1.12, the Permittee shall maintain a daily record of the pressure drop across the baghouses 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.1.21, the Permittee shall maintain records once per day of the following for the mineral oil scrubber:~~
- ~~(1) — the total static pressure drop across the scrubber;~~
 - ~~(2) — the inlet gas temperature of the scrubber;~~
 - ~~(3) — the outlet gas flow rate of the scrubber; and~~
 - ~~(4) — the mineral oil flow rate in the scrubber.~~

~~To document compliance with Condition D.1.15, the Permittee shall maintain 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).~~

- ~~(e) — To document compliance with Condition D.1.7, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.~~
- (e) **To document compliance with Condition D.1.1(d), the Permittee shall maintain records required by the leak detection and correction program; included as Attachment A to this permit.**
- (f) **To document compliance with Conditions D.1.1(e) and D.1.2(b), the Permittee shall maintain daily records of the amount of soybeans processed by the plant.**
- (g) **To document compliance with Condition D.1.6, the Permittee shall maintain records of the results from tests required by that condition.**
- (f h) **All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.**

D.1.17 Reporting Requirements

A summary of the information to document compliance with Conditions D.1.1(e) and D.1.2(b) 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 reporting period 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).

D.1.22 Reporting Requirements [40 CFR 63.2860 - 63.2861, Subpart GGGG]

-
- (a) ~~The Permittee must submit a notification of compliance status report to the OAQ no later than 60 days after determining the initial 12 operating months compliance ratio.~~

~~The notification of compliance status must contain the items in paragraphs (d)(1) through (6) of 40 CFR 63.2860 which are as follows:~~

- ~~(1) — The name and address of the owner or operator.~~
- ~~(2) — The physical address of the vegetable oil production process.~~
- ~~(3) — Each listed oilseed type processed during the previous 12 operating months.~~
- ~~(4) — Each HAP identified under 40 CFR 63.2854(a) as being present in concentrations greater than 1 percent by volume in each delivery of solvent received during the 12 operating months period used for the initial compliance determination.~~
- ~~(5) — A statement designating the source as a major source of HAP or a demonstration that the source qualifies as an area source. An area source is a source that is not a major source and is not collocated within a plant site with other sources that are individually or collectively a major source.~~
- ~~(6) — A compliance certification indicating whether the source complied with all of the requirements of this subpart throughout the 12 operating months used for the initial source compliance determination. This certification must include a certification of the items in paragraphs (d)(6)(i) through (iii) of this section:
 - ~~(i) — The plan for demonstrating compliance (as described in 40 CFR 63.2851) and SSM plan (as described in 40 CFR 63.2852) are complete and available on-site for inspection.~~
 - ~~(ii) — The source is following the procedures described in the plan for demonstrating compliance.~~
 - ~~(iii) — The compliance ratio is less than or equal to 1.00.~~~~

~~(b) — The Permittee must submit the reports in paragraphs (a) through (d) of 40 CFR 63.2861 to the OAQ as follows:~~

- ~~(1) — Annual compliance certification — The first annual compliance certification is due 12 calendar months after the Permittee submits the notification of compliance status. Each subsequent annual compliance certification is due 12 calendar months after the previous annual compliance certification. The annual compliance certification provides the compliance status for each operating month during the 12 calendar months period ending 60 days prior to the date on which the report is due. The report shall include the information in paragraphs (a)(1) through (6) of 40 CFR 63.2861.~~
- ~~(2) — Deviation notification report — The Permittee shall submit a deviation notification report for each compliance determination in which the compliance ratio exceeds 1.0 as determined under 40 CFR 63.2840(c). The deviation report shall be submitted by the end of the month following the calendar month in which the source determined the deviation. The deviation notification report must include the items in paragraphs (b)(1) through (4) of 40 CFR 63.2861.~~
- ~~(3) — Periodic startup, shutdown, and malfunction report — If the source is operating under an initial startup period subject to 40 CFR 63.2850(c)(2) or (d)(2) or a malfunction period subject to 40 CFR 63.2850(e)(2), the Permittee must submit a periodic SSM report by the end of the calendar month following each month in which the initial startup period or malfunction period occurred. The periodic SSM report must include the items in paragraphs (c)(1) through (3) of 40 CFR 63.2861.~~

- ~~(4) Immediate SSM reports — If the source handles a SSM during an initial startup period subject to 40 CFR 63.2850(e)(2) or (d)(2) or a malfunction period subject to 40 CFR 63.2850(e)(2) differently from procedures in the SSM plan and the relevant emission requirements in 40 CFR 63.2840 are exceeded, then the Permittee must submit an immediate SSM report. Immediate SSM reports consist of a telephone call or facsimile transmission to the responsible agency within 2 working days after starting actions consistent with the SSM plan, followed by a letter within 7 working days after the end of the event. The letter must include the items in paragraphs (d)(1) through (3) of 40 CFR 63.2861.~~

SECTION D.2

FACILITY OPERATION CONDITIONS

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

- ~~(nn oo)~~ Boiler #1, identified as EU39, constructed in 1960, firing natural gas, vegetable oil, No. 2 distillate fuel oil, or blends of vegetable oil and No. 2 distillate fuel oil, exhausting to one (1) stack (EP15);
- ~~(oo)~~ Boiler #2, identified as EU40, constructed in 1987, firing natural gas or No. 2 distillate fuel oil, exhausting to one (1) stack (EP16);
- (pp) Boiler #3, identified as EU41, constructed in 1992, firing natural gas, vegetable oil, No. 2 distillate fuel oil, or blends of vegetable oil and No. 2 distillate fuel oil, exhausting to one (1) stack (EP17);
- (qq) One (1) Refinery Boiler, identified as EU42, constructed in 2000, firing natural gas or No. 2 distillate fuel oil, exhausting to one (1) stack (EP18).
- (rr) Boiler #4, identified as EU46, constructed in 1995 and approved for installation in 2008, firing natural gas, vegetable oil, No. 2 distillate fuel oil or blends of vegetable oil and No. 2 distillate fuel oil, with emissions uncontrolled, and exhausting to one (1) stack (EP46).**

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

D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

- (a) Pursuant to PSD SSM 023-24843-00011, emissions from EU46 are limited as follows:

- (1) The PM emissions shall not exceed 32.7 tons per twelve consecutive month period with compliance determined at the end of each month.
- (2) The PM10 emissions shall not exceed 12.8 tons per twelve consecutive month period with compliance determined at the end of each month.
- (3) The NOx emissions shall not exceed 37.0 tons per twelve consecutive month period with compliance determined at the end of each month.

Compliance with these limits will render the requirements of 326 IAC 2-2 not applicable with respect to PM, PM10 and NOx to the modification described in PSD SSM 023-24843-00011.

- (b) Pursuant to PSD SSM 023-24843-00011 and 326 IAC 2-2-3 (BACT):

- (1) VOC emissions from EU46 shall be minimized using good combustion practices;
- (2) VOC emissions shall not exceed 0.0014 pounds per MMBTU when firing distillate oil; and

(3) VOC emissions shall not exceed 0.0054 pounds per MMBTU when firing natural gas or vegetable oil.

D.2.4 2 Particulate [326 IAC 6-2-3]

- (a) Pursuant to 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating) the PM **emissions** from ~~the boiler identified as EU39~~ shall be limited to 0.59 pounds per MMBtu heat input.

...

D.2.2 3 Particulate [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating) the PM **emissions** from ~~each of the boilers identified as EU40, EU41, and EU42~~ **and EU46** shall be limited to ~~0.33, 0.28, and 0.28~~ **and 0.24** pounds per MMBtu heat input, respectively.

These limitations are based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} \quad \text{where: } Pt = \text{Pounds of particulate matter emitted per million Btu heat input}$$

Q = Total source maximum operating capacity rating in million Btu per hour heat input.

~~Note: This information is a confidential trade secret.~~

D.2.3 4 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 12-1]

Pursuant to 326 IAC 7-1.1 (SO₂ Emissions Limitations) and 40 CFR **Part** 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units):

- (a) The SO₂ emissions from ~~each of boiler #3 (EU41) and the refinery boiler (EU42)~~ **EU41 and EU42** shall not exceed five tenths (0.5) pounds per million Btu heat input; or
- (b) The sulfur content of the fuel oil shall not exceed five-tenths percent (0.5%) by weight. [40 CFR 60.42c(d)]

Pursuant to 40 CFR **Part** 60, Subpart Dc, the fuel oil sulfur content limit applies at all times, including periods of startup, shutdown, and malfunction.

D.2.4 5 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO₂ Emissions Limitations) the SO₂ emissions from ~~each of boiler #1 (EU39) and boiler #2 (EU40)~~ **EU39 and EU46** shall not exceed five tenths (0.5) pound per MMBtu heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.2.5 6 Distillate Fuel Oil / Vegetable Oil Usage Limitations [326 IAC 1-7] [326 IAC 2-2]

- ~~(a) Pursuant to OP 12-09-90-0136, issued on January 18, 1988, the usage of No. 2 fuel oil with a sulfur content of 0.3% in the boiler #2 (EU40) shall not exceed 1.17 million gallons per twelve (12) consecutive month period, with compliance determined at the end of each month, so that SO₂ emissions are limited to less than 25 tons per year. Compliance with this usage limit shall render 326 IAC 1-7 as not applicable.~~

Pursuant to SSM 023-21838-00011, issued December 22, 2005:

- (b a) The usage of vegetable oil in boiler #1 and boiler #3 (**EU39 and EU41**) shall not exceed a total of 4.10 million gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. When using blends of vegetable oil and distillate fuel oil, only the volume of fuel which is vegetable oil shall count toward the usage limit.

- (e b) For boiler #1 and boiler #3 (**EU39 and EU41**), when burning vegetable oil or blends of vegetable oil and distillate fuel oil, PM₁₀ emissions shall not exceed 0.07 pounds per million Btu heat input. This condition, along with the vegetable oil usage limit, limits increases in PM₁₀ emissions due to vegetable oil combustion to less than 15 tons per year. Compliance with both the emission limit and usage limit shall render 326 IAC 2-2 as not applicable.

~~D.2.6 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]~~

~~The provisions of 40 CFR 63 Subpart A—General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source, as designated by 40 CFR 63.7506(b). The Permittee must comply with these requirements on and after the effective date of 40 CFR 63, Subpart DDDDD.~~

~~D.2.7 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]~~

- ~~(a) The affected source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD), as of the effective date of 40 CFR 63, Subpart DDDDD. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart DDDDD on and after three years after the effective date of 40 CFR 63, Subpart DDDDD.~~
- ~~(b) The following emissions units comprise the affected source for the large liquid fuel subcategory: four (4) boilers, EU39, EU40, EU41, and EU42.~~
- ~~(c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected source.~~

~~D.2.8 7 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 this facility **EU39, EU41, EU42 and EU46** and its control device.~~

Compliance Determination Requirements

D.2.8 PM and PM10 Emissions Determination [326 IAC 2-2]

Pursuant PSD SSM 023-24843-00011:

Compliance with Condition D.2.1(a)(1) and (2) shall be determined through stack testing pursuant to Condition D.2.12 and by calculating the PM and PM10 emissions using the following equation:

$$\text{PM/PM10} = \frac{[(\text{EF}_{\#2\text{oil}} \times \text{FU}_{\#2\text{oil}} \times \text{HC}_{\#2\text{oil}}) + (\text{EF}_{\text{veg}} \times \text{FU}_{\text{veg}} \times \text{HC}_{\text{veg}}) + (\text{EF}_{\text{gas}} \times \text{FU}_{\text{gas}} \times \text{HC}_{\text{gas}})]}{1/2000} \times (\text{ton/lb})$$

Where:

PM/PM10 = The PM/PM10 emissions from EU46 for a calendar month.

EF_{#2oil} = PM or PM10 emission factor for distillate fuel oil combustion (lb/MMBtu). This value is equal to 0.0236 (PM) and 0.0164 (PM10) until the OAQ approves other emission factors.

FU_{#2oil} = The amount of distillate fuel oil combusted by the boiler in a calendar month (gal/month).

HC_{#2oil} = Heating value of distillate fuel oil (MMBtu/gal). This value is equal to 0.14 until the OAQ approves another.

EF_{veg} = PM/PM10 emission factor for vegetable oil combustion (lb/MMBtu). This value is equal to 0.07 until the OAQ approves another.

FU_{veg} = The amount of vegetable oil combusted by the boiler in a calendar month (gal/month).

HC_{veg} = Heating value of vegetable oil (MMBtu/gal).

EF_{gas} = PM/PM10 emission factor for natural gas combustion (lb/MMBtu). This value is equal to 0.0075 until the OAQ approves another.

FU_{gas} = The amount of natural gas combusted by the boiler in a calendar month (MMCF/month).

HC_{gas} = Heating value of natural gas (MMBtu/MMCF). This value is equal to 1020 until the OAQ approves another.

D.2.9 NOx Emissions Determination [326 IAC 2-2]

Pursuant to PSD SSM 023-24843-00011, the Permittee shall use a NOx CEMS to determine compliance with Condition D.2.1(a)(3).

D.2.9 10 Sulfur Dioxide Emissions and Sulfur Content

Pursuant to 40 CFR Part 60, Subpart Dc, the Permittee shall demonstrate compliance for ~~boiler #3 (EU41) and the refinery boiler (EU42)~~ **EU41 and EU42** utilizing one of the following options:

- (a) Providing vendor analysis of fuel oil delivered, if accompanied by a certification; or
- (b) Analyzing the fuel oil sample to determine the sulfur content of the fuel oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (1) Fuel oil samples may be collected from the fuel oil tank immediately after the fuel oil tank is filled and before any fuel oil is combusted; and
 - (2) If a partially empty fuel oil tank is refilled, a new sample and analysis would be required upon filling.

D.2.10-11 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined for ~~boiler #1 (EU39) and boiler #2 (EU40)~~ **EU39 and EU46** utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu heat input by:
 - (1) Providing vendor analysis of fuel oil delivered, if accompanied by a vendor certification, or;
 - (2) Analyzing the fuel oil sample to determine the sulfur content of the fuel oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Fuel oil samples may be collected from the fuel oil tank immediately after the fuel oil tank is filled and before any fuel oil is combusted; and
 - (B) If a partially empty fuel oil tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from ~~boiler #1 (EU39) and boiler #2 (EU40)~~, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.2.44 12 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

- (a) In order to demonstrate compliance with Condition D.2.5(6)(e b), no later than 180 days from the commencement of soybean oil combustion, the Permittee shall conduct performance tests for PM₁₀ on either boiler #1 or boiler #3 **EU39 or EU41** during soybean oil combustion, and furnish the Commissioner a written report of the results of such performance tests. **This testing shall be repeated at least once every five (5) years from the date of valid compliance demonstration.**
- (b) **Within 180 days after initial startup of EU46 and in order to demonstrate compliance with Condition D.2.1, the Permittee shall perform PM and PM10 testing on EU46 utilizing methods as approved by the Commissioner in accordance with Section C - Performance Testing. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.**

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

D.2.42 13 Visible Emissions Notations

- (a) Visible emission notations of the boiler #1 (EU39), boiler #2 (EU40), boiler #3 (EU41) and refinery boiler (EU42) stack exhausts **from EU39, EU41, EU42 and EU46** shall be performed once per day, when combusting fuel oil and/or vegetable oil, during normal daylight operations ~~when exhausting to the atmosphere~~. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.2.14 Continuous Emissions Monitoring

- (a) **Continuous emission monitoring systems (CEMS) for EU46 shall be installed, calibrated, maintained, and operated for measuring NO_x and O₂ which meet all applicable performance specifications of 326 IAC 3-5-2.**
- (b) **The continuous emission monitoring systems must meet the certification requirements pursuant to 326 IAC 3-5-3.**
- (c) **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 40 CFR Part 60.**

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

D.2.13 15 Record Keeping Requirements

- (a) **To document compliance with Condition D.2.1(a)(3), the Permittee shall maintain records of the amount of fuels combusted by EU46.**

- (a b) To document compliance with Conditions ~~D.2.3~~, D.2.4, and D.2.5, the Permittee shall maintain records in accordance with (1) through (7) below. Note that pursuant to 40 CFR Part 60, Subpart Dc, the fuel oil sulfur limit for boiler #3 (EU41) and the refinery boiler (EU42) **EU41, EU42 and EU46** applies at all times including periods of startup, shutdown, and malfunction.

- (1) Calendar dates covered in the compliance determination period;
- (2) Actual No. 2 fuel oil usage in boiler #2 (EU40) since last compliance determination period and equivalent sulfur dioxide emissions;
- (3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.

If the fuel supplier certification is used to demonstrate compliance, when burning distillate fuel oil or blends of distillate fuel oil and vegetable oil and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

- (4) Fuel supplier certifications;
- (5) The name of the fuel supplier;
- (6) The percentage of distillate fuel oil in the fuel; and
- (7) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (c) **To document compliance with Condition D.2.8, the Permittee shall maintain monthly records of the PM and PM10 emissions from EU46.**

- (b d) The Permittee shall maintain records sufficient to verify compliance with the procedures specified in ~~Conditions D.2.9 and D.2.10~~ **D.2.10 and D.2.11**. Records shall be maintained for a period of five (5) years and shall be made available upon request by IDEM.

- (e e) ~~To document compliance with Condition D.2.12, the Permittee shall maintain records of visible emission notations of the boiler #1 (EU39), boiler #2 (EU40), boiler #3 (EU41) and refinery boiler (EU42) stack exhausts once per day when combusting fuel oil and/or vegetable oil.~~

To document compliance with Condition D.2.13, the Permittee shall maintain a record 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).

(f) To document compliance with Condition D.2.14, the Permittee shall maintain a record of the NOx CEMs readings required by that condition.

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

~~D.2.14 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements [40 CFR 63, Subpart DDDDD]~~

~~(a) Pursuant to 40 CFR 63.7545(a) and 40 CFR 63.7506(b), the Permittee shall submit an Initial Notification containing the information specified in 40 CFR 63.9(b)(2) not later than 120 days after the effective date of 40 CFR 63, Subpart DDDDD as required by 40 CFR 63.7545(b).~~

~~(b) The notification required by paragraph (a) shall be submitted to:~~

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

~~and~~

~~United States Environmental Protection Agency, Region V
Director, Air and Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604-3590~~

~~The notification requires the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~

D.2.15 16 Reporting Requirements

(a) The natural gas boiler certification 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 its equivalent, within thirty (30) days after the end of the six (6) month period being reported. The natural gas-fired boiler certification does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A quarterly summary of the information to document compliance with Conditions **D.2.1 D.2.5 and D.2.6** 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 six (6) month period 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.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Specifically Regulated Insignificant Activities

...

(ee c) The following activities with emissions equal to or less than insignificant thresholds:

- (1) one (1) silica clay storage silo, identified as EU44 EU47, constructed in 2002, with particulate emissions controlled by a baghouse (RC-2), exhausting through one (1) stack (EP19). [326 IAC 6-3-2] [326 IAC 2-2]
- (2) one (1) cooling tower, identified as EU45, with a design recirculation rate of 1,500 gal/min. [326 IAC 2-2]

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

....

D.3.4 Particulate [326 IAC 2-2]

Pursuant to PSD SSM 023-24843-00011 and in order to render the requirements of 326 IAC 2-2 not applicable to the modification permitted by that approval, the PM and PM10 emissions from:

- (a) The silica clay storage silo (EU47) shall be less than 0.571 and 0.40 pounds per ton of clay received, respectively.
- (b) The cooling tower (EU45) shall be less than 0.03 pounds per hour.

D.3.5 Record Keeping Requirements

- (a) To document compliance with Condition D.3.4, the Permittee shall maintain records of the clay received by EU47.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION E.1 FACILITY OPERATION CONDITIONS

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

Boiler #4 (EU46). Full facility description in Section D.2.

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

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

- (a) The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facilities described in this Section E.1 except when otherwise specified in 40 CFR 60, Subpart Db.
- (b) Pursuant to 40 CFR 60.19, 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 (NSPS) for Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Db] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Db (New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units) (included as Attachment B of this permit) which are incorporated by reference as 326 IAC 12:

- (1) 40 CFR 60.40b (a)
- (2) 40 CFR 60.41b
- (3) 40 CFR 60.42b (a), (e), (g) and (j)
- (4) 40 CFR 60.43b (f) and (g)
- (5) 40 CFR 60.44b (a)(1)(ii), (b), (c), (e), (f), (h) and (i)
- (6) 40 CFR 60.45b (b), (j) and (k)
- (7) 40 CFR 60.46b (a), (c), (d)(7), and (e)
- (8) 40 CFR 60.47b (f)
- (9) 40 CFR 60.48b (a) through (g), (i), (j)(2), (j)(4) and (j)(5)
- (10) 40 CFR 60.49b (b), (c), (d), (f) through (j), (o) and (r)

SECTION E.2 FACILITY OPERATION CONDITIONS

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

Facilities EU01, EU04, EU07 and EU09. Full facility descriptions in Section D.1.

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

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

- (a) The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facilities described in this Section E.2 except when otherwise specified in 40 CFR 60, Subpart DD.
- (b) Pursuant to 40 CFR 60.19, 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 (NSPS) for Grain Elevators [40 CFR Part 60, Subpart DD] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart DD (New Source Performance Standards (NSPS) for Grain Elevators) (included as Attachment C of this permit) which are incorporated by reference as 326 IAC 12:

- (1) 40 CFR 60.300
- (2) 40 CFR 60.301
- (3) 40 CFR 60.302 (b)(1), (b)(2), and (c)(2)
- (4) 40 CFR 60.303
- (5) 40 CFR 60.304

SECTION E.3

FACILITY OPERATION CONDITIONS

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

The vegetable oil production process as defined in 40 CFR 63.2872.

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

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

- (a) The provisions of 40 CFR Part 63, Subpart A (General Provisions), which are incorporated by reference in 326 IAC 20-1, apply to the facilities described in this Section E.3 except when otherwise specified in 40 CFR Part 63, Subpart GGGG.
- (b) Pursuant to 40 CFR 63.9, 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 (NESHAPs): Solvent Extraction for Vegetable Oil Production [40 CFR Part 63, Subpart GGGG] [326 IAC 20]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart GGGG (National Emission Standards for Hazardous Air Pollutants (NESHAPs): Solvent Extraction for Vegetable Oil Production (included as Attachment D of this permit) which are incorporated by reference as 326 IAC 20:

- (1) 40 CFR 63.2832 (a)
- (2) 40 CFR 63.2833
- (3) 40 CFR 63.2834 (a)
- (4) 40 CFR 63.2840 (a), (b)(1) through (b)(5), and (e) through (f)
- (5) 40 CFR 63.2850 (a), (b), (d) (e)(1)(i), (e)(1)(iii) and (e)(2)
- (6) 40 CFR 63.2851
- (7) 40 CFR 63.2852
- (8) 40 CFR 63.2853
- (9) 40 CFR 63.2854
- (10) 40 CFR 63.2855
- (11) 40 CFR 63.2860 (a), (c) and (d)
- (12) 40 CFR 63.2861
- (13) 40 CFR 63.2862
- (14) 40 CFR 63.2863
- (15) 40 CFR 63.2870
- (16) 40 CFR 63.2871
- (17) 40 CFR 63.2872
- (18) Table 1 of 63.2833
- (19) Item (a) of Table 1 of 63.2834
- (20) Item (ix) of Table 1 of 63.2840
- (21) Table 1 of 63.2850
- (22) Items (a) and (c) of Table 2 of 63.2850
- (23) Table 1 of 63.2853
- (24) Table 1 of 63.2870

OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: Entire source
Limit: The amount of soybeans processed by the source shall not exceed 1,314,000 tons twelve consecutive month period with compliance determined at the end of each month.

QUARTER :

YEAR:

Month	Soybeans processed (tons)	Soybeans processed (tons)	Soybeans processed (tons)
	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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: EU46
Parameter: PM emissions
Limit: PM emissions shall not exceed 32.7 tons per twelve consecutive month period with compliance determined at the end of each month.

QUARTER :

YEAR:

Month	PM Emissions	PM Emissions	PM Emissions
	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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: EU46
Parameter: PM10 emissions
Limit: PM10 emissions shall not exceed 12.8 tons per twelve consecutive month period with compliance determined at the end of each month.

QUARTER :

YEAR:

Month	PM10 Emissions	PM10 Emissions	PM10 Emissions
	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: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address: P.O. Box 249, Frankfort, IN 46041
Part 70 Permit No.: T023-6066-00011
Facility: EU46
Parameter: NOx emissions

Limit: **NOx emissions shall not exceed 37.0 tons per twelve consecutive month period with compliance determined at the end of each month.**

QUARTER :

YEAR:

Month	NOx Emissions	NOx Emissions	NOx Emissions
	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.

2. Mail codes have been added through the permit to IDEM, OAQ's address in order to improve mail delivery.

Indiana Department of Environmental Management
 Compliance Branch: **MC 61-53 IGCN 1003**
 Permits Branch: **MC 61-53 IGCN 1003**
 Compliance Branch: **MC 61-53 IGCN 1003**
 Air Compliance Branch: **MC 61-53 IGCN 1003**
 Air Compliance Section: **MC 61-52 IGCN 1003**
 Asbestos Section: **MC 61-52 IGCN 1003**
 Technical Support and Modeling: **MC 61-50 IGCN 1003**
 100 North Senate Avenue
 Indianapolis, IN 46204-2251

3. The phone number and fax number for IDEM has been changed as shown below:

Phone: 317-233-5674 **0178**
 Fax: 317-233-5967 **6865**

4. The title of the responsible official has been removed from Section A.1 of the permit. This information is maintained by IDEM and does not need to be listed in the permit. The Permittee

must notify IDEM if the responsible official or the contact information for the responsible official changes.

A.2 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 soybean processing and oil refining operation.

Responsible Official:	Denis W. Oberg, Plant Manager
Source Address:	2191 West County Road 0 N/S, Frankfort, IN 46041
Mailing Address:	P.O. Box 249, Frankfort, IN 46041
General Source Phone Number:	(765) 654-8729
SIC Code:	2075
County Location:	Clinton
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

5. Section B (General Conditions) and Section C (Source Operation Conditions) have been revised, deleted or added to the permit to clarify the permit and condition terms. Rule citations have been updated as well. When conditions are added or deleted, the other conditions are renumbered accordingly and the Table of Contents modified to reflect these changes.

~~B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5]~~

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

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

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

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

B.4 Permit Term [326 IAC 2-7-5(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, T023-6066-00011, 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.5 Term of Conditions [326 IAC 2-1.1-9.5]

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

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

B.13B.16 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 T023-24846-00011 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 All previous registrations and permits are superseded by this combined new source review and part 70 operating permit.**

B.16B.19 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

...

- (b) ~~Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]~~
- ~~(4) A timely renewal application is one that is:~~
 - (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
 - ~~(2) If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.~~
- (c) ~~Right to Operate After Application for Renewal [326 IAC 2-7-3]~~
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.

- ~~(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]
If IDEM, OAQ, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.~~

B.17B.20 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

...

- ~~(d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.~~

B.20B.23 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.**

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. ~~326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.~~

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. ~~326 IAC 9-1-2 is not federally enforceable.~~

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

C.8 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.

...

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

C.18 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(II)) 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(II)) 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.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2]

...

- (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 (II)) 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.

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 023-24843-00011. The operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Permit Modification No. 023-25870-00011.

The staff recommends to the Commissioner that this Part 70 Significant Source Modification and Significant Permit Modification be approved.

Appendix A: Emission Calculations Summary

Page 1 of 10, Appendix A

Soybean Processing

Company Name: Archer Daniels Midland Company
 Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
 Permit #: SPM 023-25870-00011
 Reviewer: ERG/BS
 Date: January 5, 2008

Emissions Change (tpy)

Process/Unit (ID)	stack ID(s)	PM	PM10	NOx	SO2	CO	VOC
New Emissions Units [Emissions Change = Potential to Emit]							
Vertical Seed Conditioner (EU44)	EP44	0.66	0.66	-	-	-	-
DTDC (EU23/24/24A/25)	EP08/09/09A/10	6.30	6.30	-	-	-	-
Cooling Tower (insignificant activity)	EU45	0.13	0.13	-	-	-	-
Boiler (EU46) ^(a)	EP46	32.70	12.80	37.00	34.38	74.25	3.42
Modified Emissions Units [Emission Change = Projected Actual - Baseline Actual]							
Grain Conveying (EU04)	EP01	0.100	0.056	-	-	-	-
Cracking & Conditioning (EU10, EU11 and EU13)	EP04	-48.52	-31.18	-	-	-	-
Soybean Conveying to Processing (EU07)	EP03	0.081	0.045	-	-	-	-
Grain Cleaner (EU09)	EP03	0.265	0.265	-	-	-	-
Hull Screening (EU16)	EP03	0.153	0.153	-	-	-	-
Hull Grinder (EU17)	EP20	0.153	0.153	-	-	-	-
Hull Conveyor (EU19)	EP03	0.014	0.008	-	-	-	-
Hull Separator & Flaking (EU12 and EU14)	EP05	12.898	8.384	-	-	-	-
Meal Conveyor (EU26)	EP11	0.073	0.041	-	-	-	-
Meal Sifter and Grinder (EU27 and EU28)	EP11	1.271	1.271	-	-	-	-
Meal Storage Conveyor (EU29)	EP11	0.073	0.041	-	-	-	-
Extractor / Hexane Bubble (EU38)	Various	-	-	-	-	-	321.7
Meal Surge Tank (EU31)	EP12	0.030	0.008	-	-	-	-
Existing Units Experiencing Increased Utilization [Emissions Change = Change in Utilization x Emission Factor]							
Truck and Rail Receiving (EU01/02) ^(c)	EP01/01F	1.256	0.274	-	-	-	-
Elevator leg vents (EU03)	EP01	0.100	0.056	-	-	-	-
Grain Storage (EU05)	EP01	0.041	0.010	-	-	-	-
Hull Storage Unit (EU18)	EP03	0.003	0.001	-	-	-	-
Pellet Storage Unit (EU22)	EP03	0.003	0.001	-	-	-	-
Pellet Mill and Cooler (EU20 and EU21)	EP07	0.684	0.684	-	-	-	-
Meal Storage Unit (EU30)	EP11	0.030	0.008	-	-	-	-
Truck Meal and Hull Pellet Loadout (EU34)	EP12	0.080	0.045	-	-	-	-
Rail Meal and Hull Pellet Loadout (EU35) and Storage (EU36) ^(c)	EP12	3.858	2.508	-	-	-	-
Hull Surge Tank (EU32)	EP12	0.003	0.001	-	-	-	-
Meal Clay Storage Unit (EU36)	EP13	0.005	0.004	-	-	-	-
Plant Roads (fugitive)	-	1.93	0.38	-	-	-	-
Contemporaneous Increases [Emissions Change = Increase in Actual Emissions from modifications during the period] ^(b)							
Vegetable Oil Firing in Boilers #1 & #3 (EU39 and EU41) (2006)	EP15/17	14.68	14.68	1.63	-	-	0
Rail Unloading Drag Conveyor (EU01) (2004)	EP01/01F	0.00	0.00	0	0	0	0
Silica Clay Silo (EU47) (2002)	EP19	0.26	0.18	0	0	0	0
Project Emissions Summary							
Projected Actual Emissions Increase (tpy)		14.4	3.1	37.0	34.4	74.2	325.1
Excluded From Projected Actual (tpy)		4.5	3.1	0.0	0.0	0.0	152.7
Project Related Emissions Increase (tpy)		9.9	0.0	37.0	34.4	74.2	172.3
Contemporaneous Increases & Decreases		14.9	14.9	1.6	0.0	0.0	0.0
Net Emissions Increase		24.8	14.8	38.6	34.4	74.2	172.3
PSD Significant Threshold		25	15	40	40	100	40
Project Increase Significant?		NO	NO	NO	NO	NO	YES
^(a) The listed PM, PM10 and NOx emissions change represents limited emissions.							
^(b) There are no creditable decreases within the contemporaneous period.							
^(c) Includes fugitives.							

Appendix A: Emission Calculations

Archer Daniels Midland Company
2191 West County Road 0 N/S, Frankfort, IN 46041
SSM 023-24843-00011

Emission Point (stack) ID(s)	Emission Unit ID(s)	Control Device ID(s)	Process/Unit Name	Baseline Actual Throughput (tpy)	Baseline "Could Have Accommodated" Throughput (tpy)	Projected Actual / Potential Throughput (tpy)	Emission Factors		Emission Factor Basis / Source	Controls	Control Efficiency (%)		Capture Efficiency (%)	Baseline Actual (BA) Emissions (tpy)		Baseline "Could Have Accommodated" (CHA) Emissions (tpy)		Projected Actual (PA) Emissions (tpy)		PA-BA Increase		PA-CHA Increase		Notes	Comments		
							PM	PM10			Units	PM		PM10	PM	PM10	PM	PM10	PM	PM10	PM	PM10	PM			PM10	
GR/BS																											
Grain Receiving																											
EP01	EU02	GR-1	Truck - Point Source	643,102	1,006,500	1,444,500	0.0350	0.0078	lb/ton of grain rec'd via truck	AP-42; Table 9.9.1-1; Hopper trucks; 3/2003.	Uncontrolled factor	99.0%	99.0%	90%	0.101	0.023	0.159	0.035	0.228	0.051	0.126	0.028	0.069	0.015	a, d	Worst-case PM emissions are from 100% truck receiving.	
EP01	EU01	GR-1	Rail - Point Source	156,332	0	0	0.0320	0.0078	lb/ton of grain rec'd via rail	AP-42; Table 9.9.1-1; Railcar; 3/2003.	Uncontrolled factor	99.0%	99.0%	90%	0.023	0.005	0.000	0.000	0.000	0.000	-0.023	-0.005	0.000	0.000	a, d	Worst-case PM emissions are from 100% truck receiving.	
EP02F	EU02	Fugitive	Truck (fugitive)	643,102	1,006,500	1,444,500	0.0350	0.0078	lb/ton of grain rec'd via truck	AP-42; Table 9.9.1-1; Hopper trucks; 3/2003.	Uncontrolled factor	0.0%	0.0%	90%	1.125	0.251	1.761	0.393	2.528	0.563	1.402	0.313	0.767	0.171	b, d	Worst-case PM emissions are from 100% truck receiving.	
EP01F	EU01	Fugitive	Rail (fugitive)	156,332	0	0	0.0320	0.0078	lb/ton of grain rec'd via rail	AP-42; Table 9.9.1-1; Railcar; 3/2003.	Uncontrolled factor	0.0%	0.0%	90%	0.250	0.061	0.000	0.000	0.000	0.000	-0.250	-0.061	0.000	0.000	b, d	Worst-case PM emissions are from 100% truck receiving.	
EP01	EU04	GR-1	Grain Conveying	799,434	1,006,500	1,444,500	0.061	0.034	lb/ton of grain rec'd	AP-42; Table 9.9.1-1; Grain handling; 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.124	0.069	0.157	0.087	0.225	0.125	0.100	0.056	0.068	0.038	a	Total beans received (crush + storage capacity = max rate).	
-	EU06	-	Grain Storage	120,000	120,000	120,000	0.025	0.0063	lb/ton of grain to bin	AP-42; Table 9.9.1-1; Storage Bin (vent); 3/2003.	Uncontrolled factor	0%	0%	100%	1.500	0.378	1.500	0.378	1.500	0.378	0.000	0.000	0.000	0.000	a	Use of these storage bins is based on market conditions and throughput will not be affected by the project.	
EP01	EU03	GR-1	Elevator Leg Vents	799,434	1,006,500	1,444,500	0.061	0.034	lb/ton of grain rec'd	AP-42; Table 9.9.1-1; Grain handling; 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.124	0.069	0.157	0.087	0.225	0.125	0.100	0.056	0.068	0.038	a, d	Total beans received (crush + storage capacity = max rate).	
Grain Storage Bins																											
EP01	EU05	GR-1	Grain Storage Bins	799,434	1,006,500	1,444,500	0.025	0.0063	lb/ton of grain rec'd	AP-42; Table 9.9.1-1; Storage Bin (vent); 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.051	0.013	0.064	0.016	0.092	0.023	0.041	0.010	0.028	0.007	a, d	Total beans received (crush + storage capacity = max rate).	
Grain Cleaner/Hull Grinder																											
EP03	EU07	CE-18 & CE-05	Grain Conveyor	792,898	876,000	1,314,000	0.061	0.034	lb/ton of beans processed	AP-42; Table 9.9.1-1; Grain handling; 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.123	0.069	0.136	0.076	0.204	0.114	0.081	0.045	0.068	0.038	a	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
EP03	EU09	CE-18 & CE-05	Grain Cleaner	792,898	876,000	1,314,000	0.00102	0.00102	lb/ton of beans processed	PM/PM10 EF based on stack test from bean cleaner at Frankfort (see "Stack Test Data" sheet; 95th percentile value).	Controlled factor	Included in EF	Included in EF	100%	0.403	0.403	0.445	0.445	0.668	0.668	0.265	0.265	0.223	0.223	c	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
EP44	EU44	CE-44	Vertical Seed Conditioner (bean heater)	0	0	1,314,000	0.0010	0.0010	lb/ton of beans processed	PM/PM10 EF based on stack test from bean heater at another facility (see "Stack Test Data" sheet; 95th percentile value).	Controlled factor	Included in EF	Included in EF	100%	0.000	0.000	0.000	0.000	0.664	0.664	0.664	0.664	0.664	0.664	c	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
EP03	EU16	CE-19, CE-19A, CE-19B and CE-05	Hull Screening	46,502	61,320	91,980	0.00674	0.00674	lb/ton of hulls processed	PM/PM10 EF based on stack test from hull grinding source at another facility (see "Stack Test Data" sheet; 95th percentile value).	Controlled factor	Included in EF	Included in EF	100%	0.157	0.157	0.207	0.207	0.310	0.310	0.153	0.153	0.103	0.103	c	BA Throughput = total hulls produced; for CHA and PA, Throughput = crush x hull factor (see "Constants" tab). Control efficiency is for baghouse only. Cyclone efficiency is included in the emission factors.	
EP20	EU17	CE-20 & 20A	Hull Grinder	46,502	61,320	91,980	0.00674	0.00674	lb/ton of hulls processed	PM/PM10 EF based on stack test from hull grinding source at another facility (see "Stack Test Data" sheet; 95th percentile value).	Controlled factor	Included in EF	Included in EF	100%	0.157	0.157	0.207	0.207	0.310	0.310	0.153	0.153	0.103	0.103	c	BA Throughput = total hulls produced; for CHA and PA, Throughput = crush x hull factor (see "Constants" tab). Control efficiency is for baghouse only. Cyclone efficiency is included in the emission factors.	
EP03	EU19	CE18 & CE-05	Hull Conveyor (baseline configuration)	46,502	61,320	-	0.061	0.034	lb/ton of hulls processed	AP-42; Table 9.9.1-1; Grain handling; 3/2003.	Uncontrolled factor	99.00%	99.00%	100%	0.014	0.008	0.019	0.010	-	-	-	-	-	-	a	BA Throughput = total hulls produced	
EP03	EU19	CE18 & CE-05	Hull Conveyor (post-project configuration)	-	-	91,980	0.061	0.034	lb/ton of hulls processed	AP-42; Table 9.9.1-1; Grain handling; 3/2003.	Uncontrolled factor	99.00%	99.00%	100%	-	-	-	-	0.028	0.016	0.014	0.008	0.009	0.005	a	Throughput = crush x hull factor (see "Constants" tab).	
EP03	EU22	CE18 & CE-05	Pellet Storage Unit	46,502	61,320	91,980	0.025	0.0063	lb/ton of hulls processed	AP-42; Table 9.9.1-1; Storage Bin (vent); 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.003	0.001	0.004	0.001	0.006	0.001	0.003	0.001	0.002	0.000	a, d	BA Throughput = total hulls produced; for CHA and PA, Throughput = crush x hull factor (see "Constants" tab).	
EP03	EU18	CE18 & CE-05	Hull Storage Unit	46,502	61,320	91,980	0.025	0.0063	lb/ton of hulls processed	AP-42; Table 9.9.1-1; Storage Bin (vent); 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.003	0.001	0.004	0.001	0.006	0.001	0.003	0.001	0.002	0.000	a, d	BA Throughput = total hulls produced; for CHA and PA, Throughput = crush x hull factor (see "Constants" tab).	
Grain Dryer																											
N/A	EU-08	N/A	Grain Dryer	-	-	-	0.220	0.0550	lb/ton of beans dried	AP-42; Table 9.9.1-1 Column Dryer; 3/2003.	Uncontrolled factor	0.00%	0.00%	100%	-	-	-	-	-	-	-	-	-	-	-	-	Grain drying unrelated to crush; need for drying is based only on properties of raw matl.
N/A	EU-08	N/A	Grain Dryer (Gas Burned)	-	-	-	7.600	7.6000	lb/MMSCF	AP-42; Table 1.4-2; 7/98.	Uncontrolled factor	0.00%	0.00%	100%	-	-	-	-	-	-	-	-	-	-	-	-	Grain drying unrelated to crush; need for drying is based only on properties of raw matl.
EP24	EU-43	CE-21	Bean Cleaner	-	-	-	0.75	0.19	lb/ton of beans processed	AP-42; Table 9.9.1-1; Grain Cleaning (converted to an uncontrolled factor assuming 90% control eff.); 3/2003.	Uncontrolled factor	99.00%	99.00%	100%	-	-	-	-	-	-	-	-	-	-	-	-	Bean cleaner use unrelated to crush; need for cleaning is based only on properties of raw matl.
Esher Wyss & Cracking																											
EP04	EU10, EU11 & EU13	CE-06 and BH-06A	Esher Wyss Cracking Conditioning (baseline configuration w/ cyclone)	792,898	876,000	36,000	0.131	0.085	lb/ton of beans processed	PM emission factor is based on 95th percentile value from 7/8/05 stack test (see "Stack Test Data" sheet); PM10 = 65% of PM (AP42; Table B.2.2; Category 7; 9/90).	Controlled factor	Included in EF	Included in EF	100%	51.911	33.742	51.911	33.742	2.357	1.532	-	-	-	-	c	Throughput = total beans processed (Crush Rate). PA emissions from cyclone only control for 200 hr/yr of baghouse bypass. No credit taken for CHA emissions.	
			Esher Wyss Cracking Conditioning (post-project configuration w/ baghouse)	-	-	1,278,000	0.00161	0.00161	lb/ton of beans processed	PM/PM10 EF based on stack test from similar unit at another facility (see "Stack Test Data" sheet; 95th percentile value).	Controlled factor	Included in EF	Included in EF	100%	-	-	-	-	1.030	1.030	-48.524	-31.180	-48.524	-31.180	a	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
Dehulling and Flaking																											
EP05	EU12 & EU14	CE-07	Hull Separator & Flaking	792,898	876,000	1,314,000	0.050	0.032	lb/ton of beans processed	PM EF (see "Stack Test Data" sheet; 95th percentile value); PM10 = 65% of PM (AP42; Table B.2.2; Category 7; 9/90).	Controlled factor	Included in EF	Included in EF	100%	19.625	12.757	21.682	14.094	32.524	21.140	12.898	8.384	10.841	7.047	c	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
Pellet Mill Cooler																											
EP07	EU20 & EU21	CE-08	Pellet Mill & Cooler	46,502	61,320	91,980	0.030	0.030	lb/ton of hulls processed	PM/PM10 EF based on stack test from similar unit at another facility (see "Stack Test Data" sheet; 95th percentile value).	Controlled factor	Included in EF	Included in EF	100%	0.699	0.699	0.922	0.922	1.383	1.383	0.684	0.684	0.461	0.461	c, d	Throughput = total pellets produced; for CHA and PA, Throughput = crush x pellet factor (see "Constants" tab).	
DTDC																											
EP08	EU23	CE-09	Meal Dryer Deck #1	792,898	876,000	1,314,000	0.00017	0.00017	lb/ton of beans processed	PM EF (see "Stack Test Data" sheet; 95th percentile value); PM10 = assumed equal to PM based on other testing.	Controlled factor	Included in EF	Included in EF	100%	0.068	0.068	0.075	0.075	0.113	0.113	0.045	0.045	0.038	0.038	c	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
EP09	EU24	CE-10	Meal Dryer Deck #2	792,898	876,000	1,314,000	0.0063	0.0063	lb/ton of beans processed	PM EF (see "Stack Test Data" sheet; 95th percentile value); PM10 = assumed equal to PM based on other testing.	Cyclone Controlled factor	Included in EF	Included in EF	100%	2.504	2.504	2.766	2.766	4.149	4.149	1.646	1.646	1.383	1.383	c	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	

Appendix A: Emission Calculations

Archer Daniels Midland Company
 2191 West County Road 0 N/S, Frankfort, IN 46041
 SSM 023-24843-00011
 ERG/BS

Emission Point (stack) ID(s)	Emission Unit ID(s)	Control Device ID(s)	Process/Unit Name	Baseline Actual Throughput (tpy)	Baseline "Could Have Accomodated" Throughput (tpy)	Projected Actual / Potential Throughput (tpy)	Emission Factors			Emission Factor Basis / Source	Controls	Control Efficiency (%)		Capture Efficiency (%)	Baseline Actual (BA) Emissions (tpy)		Baseline "Could Have Accomodated" (CHA) Emissions (tpy)		Projected Actual (PA) Emissions (tpy)		PA-BA Increase		PA-CHA Increase		Notes	Comments	
							PM	PM10	Units			PM	PM10		PM	PM10	PM	PM10	PM	PM10	PM	PM10	PM	PM10			PM
EP09A	EU24A	CE10A	Meal Dryer Deck #3	0	0	1,314,000	0.0063	0.0063	lb/ton of beans processed	PM/PM10 EF - assumed equal to EF for Dryer Deck #2	Controlled factor	Included in EF	Included in EF	100%	0.000	0.000	0.000	0.000	4.149	4.149	4.149	4.149	4.149	4.149	c	Throughput = total beans processed (Crush Rate) x bean density (lb/bu). Unit does not currently have 3rd Dryer Deck.	
EP10	EU25	CE-11	Meal Cooler Deck	792,898	876,000	1,314,000	0.0018	0.0018	lb/ton of beans processed	PM EF (see "Stack Test Data" sheet; 95th percentile value); PM10 = assumed equal to PM based on other testing.	Controlled factor	Included in EF	Included in EF	100%	0.699	0.699	0.772	0.772	1.158	1.158	0.459	0.459	0.386	0.386	c	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
Meal Grind/Sift/Storage																											
EP11	EU26	BH-2	Meal Conveyor	581,114	700,800	1,051,200	0.0610	0.03400	lb/ton of meal produced	AP-42; Table 9.9.1-1; Grain handling; 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.090	0.050	0.109	0.061	0.164	0.091	0.073	0.041	0.055	0.030	a	BA Throughput from plant records; for CHA and PA, Throughput = Crush Rate x meal-to-crush ratio.	
EP11	EU27 & EU28	BH-2	Meal Grinder and Sifter	581,114	876,000	1,314,000	0.00347	0.00347	lb/ton of beans processed	PM/PM10 EF based on stack test from similar unit at another facility (see "Stack Test Data" sheet; 95th percentile value).	Controlled factor	Included in EF	Included in EF	100%	1.007	1.007	1.519	1.519	2.278	2.278	1.271	1.271	0.759	0.759	c	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
EP11	EU30	BH-2	Meal Storage Unit	581,114	700,800	1,051,200	0.025	0.0063	lb/ton of meal produced	AP-42; Table 9.9.1-1; Storage Bin (vent); 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.037	0.009	0.045	0.011	0.067	0.017	0.030	0.008	0.022	0.006	a, d	BA Throughput from plant records; for CHA and PA, Throughput = Crush Rate x meal-to-crush ratio.	
EP11	EU29	BH-2	Meal Storage Conveyor	581,114	700,800	1,051,200	0.061	0.034	lb/ton of meal produced	AP-42; Table 9.9.1-1; Grain handling; 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.090	0.050	0.109	0.061	0.164	0.091	0.073	0.041	0.055	0.030	a	BA Throughput from plant records; for CHA and PA, Throughput = Crush Rate x meal-to-crush ratio.	
Meal Loadout																											
EP12	EU34	ML-1	Truck Meal and Hull Pellet Loadout	627,616	762,120	1,143,180	0.061	0.034	lb/ton of meal produced	AP-42; Table 9.9.1-1; Grain handling; 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.098	0.054	0.119	0.066	0.178	0.099	0.080	0.045	0.059	0.033	a, d	BA Throughput from plant records; for CHA and PA, Throughput = Crush Rate x (meal-to-crush ratio + hull-to-crush ratio)	
EP12	EU35 & EU36	ML-1	Rail Meal and Hull Pellet Loadout	792,898	876,000	1,314,000	0.270	0.1755	lb/ton of beans processed	PM - AP-42; Table 9.11.1-1; Meal loadout; 11/95; PM10 = 65% of PM (AP42; Table B.2.2; Category 7; 9/90).	Uncontrolled factor	99.49%	99.49%	95%	0.519	0.337	0.573	0.372	0.859	0.559	0.341	0.222	0.286	0.186	a, d	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
Fugitive	EU35 & EU36	Fugitive	Rail Meal and Hull Pellet Loadout	792,898	876,000	1,314,000	0.270	0.1755	lb/ton of beans processed	PM - AP-42; Table 9.11.1-1; Meal loadout; 11/95; PM10 = 65% of PM (AP42; Table B.2.2; Category 7; 9/90).	Uncontrolled factor	0.00%	0.00%	95%	5.352	3.479	5.913	3.843	8.870	5.765	3.517	2.286	2.957	1.922	b, d	Throughput = total beans processed (Crush Rate) x bean density (lb/bu).	
EP12	EU31	ML-1	Meal Surge Tank	581,114	700,800	1,051,200	0.025	0.0063	lb/ton of meal produced	AP-42; Table 9.9.1-1; Storage Bin (vent); 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.037	0.009	0.045	0.011	0.067	0.017	0.030	0.008	0.022	0.006	a	BA Throughput from plant records; for CHA and PA, Throughput = Crush Rate x meal-to-crush ratio.	
EP12	EU32	ML-1	Hull Surge Tank	46,502	61,320	91,980	0.025	0.0063	lb/ton of hulls processed	AP-42; Table 9.9.1-1; Storage Bin (vent); 3/2003.	Uncontrolled factor	99.49%	99.49%	100%	0.003	0.001	0.004	0.001	0.006	0.001	0.003	0.001	0.002	0.000	a, d	BA Throughput = total hulls produced; for CHA and PA, Throughput = crush x hull factor (see "Constants" tab).	
Meal Clay Storage																											
EP13	EU36	MC-1	Meal Clay Storage Unit	2,927	4,380	6,570	0.571	0.4000	lb/ton of clay rec'd	WebFIRE; SCC 3-05-009-05; Raw clay transfer. PM10 assumed to equal 70% of PM (minimum value from AP42; Table B.2.2; Category 4; 9/90).	Uncontrolled factor	99.49%	99.49%	100%	0.004	0.003	0.006	0.004	0.010	0.007	0.005	0.004	0.003	0.002	a, d	BA Throughput = total meal clay used; for CHA and FA, Throughput = crush x meal clay factor (see "Constants" tab).	

Totals = -20.39 -10.20 -24.87 -13.33
 Excluded from Increase = 4.49 3.13

- NOTES:
 a Emissions = Throughput (tons/yr) x EF (lb/ton) x (Capture Efficiency) x (1 - Control Efficiency) x (1 ton/2000 lb)
 b Emissions = Throughput (tons/yr) x EF (lb/ton) x (1 - Capture Efficiency) x (1 - Control Efficiency) x (1 ton/2000 lb)
 c Emissions = Throughput (tons/yr) x EF (lb/ton) x (Capture Efficiency) x (1 ton/2000 lb)
 d These units are not being modified; instead they will experience increased utilization. Since the respective emission factors for PA, BA and CHA are the same for a given unit, calculation of PA - CHA is an adequate measure of the increased emissions from these units.

Natural Gas, No. 2 and Vegetable Oil fired Boiler

Company Name: Archer Daniels Midland Company
 Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
 Permit #: SPM 023-25870-00011
 Reviewer: ERG/BS
 Date: January 5, 2008

Emission Unit ID = EU46		Gas/Oil Fired Boiler (no controls)	
Parameter	Value	Units	Basis
Boiler Capacity (No. 2 & Veg Oil)	= 140	MMBtu/hr	Design value.
Boiler Capacity (Nat. Gas)	= 145	MMBtu/hr	Design value.
No. 2 Oil PM EF	= 0.0236	lb/MMBtu	AP-42; (sum of filterable and condensable PM); Tables 1.3-1 and 1.3-2; 9/98.
No. 2 Oil PM10 EF	= 0.0164	lb/MMBtu	Based on 50% of filterable PM = PM10 (AP-42 Table 1.3-6); 9/98.
No. 2 Oil NOx EF	= 0.1428	lb/MMBtu	AP-42, Table 1.3-1; 9/98.
No. 2 Oil SO2 EF	= 0.0561	lb/MMBtu	0.05 wt. % S.
No. 2 Oil CO EF	= 0.1108	lb/MMBtu	Burner spec is 150 ppmvd @ 3% O2; Converted using Fd = 8,710 dscf/MMBtu.
No. 2 Oil VOC EF	= 0.0014	lb/MMBtu	AP-42, Table 1.3-3; 9/98.
No. 2 Oil HAP (total) EF	= 5.0E-05	lb/MMBtu	AP-42, Tables 1.3-9 through 1.3-11; 9/98.
Nat. Gas PM/PM10 EF	= 0.0075	lb/MMBtu	AP-42, Table 1.4-2; 7/98.
Nat. Gas NOx EF	= 0.0350	lb/MMBtu	Design data.
Nat. Gas SO2 EF	= 0.0006	lb/MMBtu	AP-42, Table 1.4-2; 7/98.
Nat. Gas CO EF	= 0.1169	lb/MMBtu	Burner spec is 150 ppmvd @ 3% O2; Converted using Fd = 9190 dscf/MMBtu.
Nat. Gas VOC EF	= 0.0054	lb/MMBtu	AP-42, Table 1.4-2; 7/98.
Veg. Oil PM EF	= 0.0700	lb/MMBtu	Source testing data + compliance margin.
Veg. Oil PM10 EF	= 0.0700	lb/MMBtu	Source testing data + compliance margin.
Veg. Oil NOx EF	= 0.1776	lb/MMBtu	Source testing data + compliance margin.
Veg. Oil SO2 EF	= 0.0010	lb/MMBtu	Source testing data + compliance margin.
Veg. Oil CO EF	= 0.0047	lb/MMBtu	Source testing data + compliance margin.
Veg. Oil VOC EF	= 0.0054	lb/MMBtu	AP-42, Table 1.4-2; 7/98.
No. 2 Oil PM Emissions	= 14.45	tpy	= Boiler Capacity (No. 2 & Veg Oil) * No. 2 Oil PM EF * (8,760 hr/yr) / (2,000 lb/ton)
No. 2 Oil PM10 Emissions	= 10.07	tpy	= Boiler Capacity (No. 2 & Veg Oil) * No. 2 Oil PM10 EF * (8,760 hr/yr) / (2,000 lb/ton)
No. 2 Oil NOx Emissions	= 87.56	tpy	= Boiler Capacity (No. 2 & Veg Oil) * No. 2 Oil NOx EF * (8,760 hr/yr) / (2,000 lb/ton)
No. 2 Oil SO2 Emissions	= 34.38	tpy	= Boiler Capacity (No. 2 & Veg Oil) * No. 2 Oil SO2 EF * (8,760 hr/yr) / (2,000 lb/ton)
No. 2 Oil CO Emissions	= 67.94	tpy	= Boiler Capacity (No. 2 & Veg Oil) * No. 2 Oil CO EF * (8,760 hr/yr) / (2,000 lb/ton)
No. 2 Oil VOC Emissions	= 0.88	tpy	= Boiler Capacity (No. 2 & Veg Oil) * No. 2 Oil VOC EF * (8,760 hr/yr) / (2,000 lb/ton)
Nat. Gas PM/PM10 Emissions	= 4.73	tpy	= Boiler Capacity (Nat. Gas) * Nat. Gas PM/PM10 EF * (8,760 hr/yr) / (2,000 lb/ton)
Nat. Gas NOx Emissions	= 22.23	tpy	= Boiler Capacity (Nat. Gas) * Nat. Gas NOx EF * (8,760 hr/yr) / (2,000 lb/ton)
Nat. Gas SO2 Emissions	= 0.37	tpy	= Boiler Capacity (Nat. Gas) * Nat. Gas SO2 EF * (8,760 hr/yr) / (2,000 lb/ton)
Nat. Gas CO Emissions	= 74.25	tpy	= Boiler Capacity (Nat. Gas) * Nat. Gas CO EF * (8,760 hr/yr) / (2,000 lb/ton)
Nat. Gas VOC Emissions	= 3.42	tpy	= Boiler Capacity (Nat. Gas) * Nat. Gas VOC EF * (8,760 hr/yr) / (2,000 lb/ton)
Veg. Oil PM Emissions	= 42.92	tpy	= Boiler Capacity (No. 2 & Veg Oil) * Veg. Oil PM EF * (8,760 hr/yr) / (2,000 lb/ton)
Veg. Oil PM10 Emissions	= 42.92	tpy	= Boiler Capacity (No. 2 & Veg Oil) * Veg. Oil PM10 EF * (8,760 hr/yr) / (2,000 lb/ton)
Veg. Oil NOx Emissions	= 108.90	tpy	= Boiler Capacity (No. 2 & Veg Oil) * Veg. Oil NOx EF * (8,760 hr/yr) / (2,000 lb/ton)
Veg. Oil SO2 Emissions	= 0.61	tpy	= Boiler Capacity (No. 2 & Veg Oil) * Veg. Oil SO2 EF * (8,760 hr/yr) / (2,000 lb/ton)
Veg. Oil CO Emissions	= 2.88	tpy	= Boiler Capacity (No. 2 & Veg Oil) * Veg. Oil CO EF * (8,760 hr/yr) / (2,000 lb/ton)
Veg. Oil VOC Emissions	= 3.31	tpy	= Boiler Capacity (No. 2 & Veg Oil) * Veg. Oil VOC EF * (8,760 hr/yr) / (2,000 lb/ton)
Total HAP Emissions	= 0.03	tpy	= Boiler Capacity (No. 2 & Veg Oil) * No. 2 Oil HAP (total) EF * (8,760 hr/yr) / (2,000 lb/ton)
worst case emissions in BOLD			

Fugitive Emissions from Vehicular Traffic

Company Name: Archer Daniels Midland Company
 Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
 Permit #: SPM 023-25870-00011
 Reviewer: ERG/BS
 Date: January 5, 2008

Road Description	Travel Distance (miles)		Potential Rate (trucks/yr)	Paved PM EF* (lb/VMT)	Paved PM10 EF* (lb/VMT)	PM Emissions Increase (tpy)	PM10 Emissions Increase (tpy)	
	paved	unpaved						
Meal Transportation								
property line to loading	0.25	0.00	6,489	0.06	0.01	0.05	0.01	
loading to property line	0.14	0.00	6,489	0.33	0.06	0.15	0.03	
Oil Transportation								
property line to loading	0.09	0.00	1,622	0.06	0.01	0.00	0.00	
loading to property line	0.21	0.00	1,622	0.33	0.06	0.06	0.01	
Raw Material Transportation								
property line to unloading	0.59	0.00	16,222	0.33	0.06	1.58	0.31	
unloading to property line	0.18	0.00	16,222	0.06	0.01	0.09	0.02	
						Total	1.93	0.38

Constants	Value	Units
Truck Empty Weight	13	tons
Truck Full Weight	40	tons
Fraction of Oil by Truck	50%	wt. %
Fraction of Meal by Truck	50%	wt. %
Rainy Days	130	days/yr **
Days in Period	365	days/yr
Paved Road Silt Loading	1.5	g/m2
Unpaved Road Silt Fraction	8	wt. %
Unpaved TSP particle size factor (k)	4.9	lb/VMT
Unpaved PM10 particle size factor (k)	1.5	lb/VMT
Unpaved TSP "a" constant	0.7	
Unpaved TSP "b" constant	0.45	
Unpaved PM10 "a" constant	0.9	
Unpaved PM10 "b" constant	0.45	
Paved TSP particle size factor (k)	0.082	lb/VMT
Paved PM10 particle size factor (k)	0.016	lb/VMT
Brake wear emission factor	0.00047	lb/VMT

* Paved road emissions estimated using Equations in AP-42, Section 13.2.1 (12/03 Version) adjusted based on testing at ADM's Columbus & Marshall corn wet mills. Development of the adjustment factor is shown in the table below.

** AP-42, Figure 13.2.1-2; 11/2006 Version.

Test ID	Plant	AP42	Measured	Ratio	Notes
		(lb/VMT)	(lb/VMT)	AP42 / Measured	
CE-11	Marshall	0.10	0.3400	0.3	
CE-12	Marshall	0.11	0.0510	2.2	
CE-2	Marshall	0.38	0.1400	2.7	
CM-2	Marshall	0.40	0.1400	2.9	
CF-2S	Columbus	0.44	0.1400	3.1	
CE-16	Marshall	0.62	0.1700	3.6	
CE-3	Marshall	0.43	0.1000	4.3	
CE-15	Marshall	0.76	0.1400	5.4	
CF-3S	Columbus	0.38	0.0510	7.5	
CE-1	Marshall	0.46	0.0590	7.8	
CE-19	Marshall	0.39	0.0410	9.5	
CE-17	Marshall	1.00	0.0910	11.0	
CF-1S	Columbus	0.49	0.0430	11.4	
CF-2N	Columbus	0.44	0.0360	12.2	
CF-5N	Columbus	0.64	0.0360	17.8	
CM-4	Marshall	0.39	0.0160	24.4	
CM-1	Marshall	0.40	0.0140	28.6	
CF-1N	Columbus	0.49	0.0110	44.5	**
CF-4N	Columbus	0.53	0.0068	77.9	**
CF-3N	Columbus	0.38	0.0024	158.3	**
Average (excluding outliers) =				9.1	

** Rejected as an outlier per Dixon Criterion (Section 17-3.2.1 of Experimental Statistics Handbook; US Bureau of Commerce; NBS; 1963).
 NOTE - only high-end outliers rejected.

**Appendix A: Emission Calculations
Cooling Tower**

Company Name: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Permit #: SPM 023-25870-00011
Reviewer: ERG/BS
Date: January 5, 2008

Parameter	Value	Units	Source / Basis
Emission Unit(s) ID = Cooling Tower (EU45)			
Number of Cells	=	1	Design Specification
Cell Recirculation Rate	=	1,500 gal/min	Design Specification
Annual Operating Hours	=	8,760 hrs/yr	Basis for proposed permit limit.
Drift Loss Factor	=	0.001% wt. %	Design specification. Basis for proposed BACT limit.
Cooling Water Rate	=	1,500 gal/min	= Cell Recirculation Rate * Number of Cells
Cooling Water TDS	=	4,000 ppmw	Design Specification
PM10 Fraction of PM	=	100% wt. %	Worst-case assumption.
PM PTE (per cell)	=	0.030 lb/hr	= Cell Recirculation Rate * 60 * 8.34 lb/gal * Drift Loss Factor * Cooling Water TDS / 1000000
PM PTE (hourly total)	=	0.030 lb/hr	= Number of Cells * PM PTE (per cell)
PM PTE (annual total)	=	0.132 tpy	= PM PTE (per cell) * Annual Operating Hours / 2000 * Number of Cells
PM10 PTE (per cell)	=	0.030 lb/hr	= PM PTE (per cell) * PM10 Fraction of PM
PM10 PTE (hourly total)	=	0.030 lb/hr	= PM10 PTE (per cell) * Number of Cells
PM10 PTE (annual total)	=	0.132 tpy	= PM PTE (annual total) * PM10 Fraction of PM

**Appendix A: Emission Calculations
Hexane Emissions**

Company Name: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Permit #: SPM 023-25870-00011
Reviewer: ERG/BS
Date: January 5, 2008

Parameter	Value	Units	Basis
Future Plant Capacity	= 1,314,000	tpy	120,000 bu/day @ 60 lb/bu
Hexane Density	= 5.63	lb/gal	Industry standard factor.
Future Max Solvent Loss Ratio	= 0.179	gal/ton	Proposed BACT Limit
Future Max Solvent Loss Rate (FA)	= 662.1	tpy	= Future Max Solvent Loss Ratio * Hexane Density * Future Plant Capacity / (2,000 lb/ton)
Baseline Solvent Loss Rate	= 340.4	tpy	2005/2006 Average Hexane Use
Potential Increase	= 321.7	tpy	= Future Max Solvent Loss Rate (FA) - Baseline Solvent Loss Rate
HAP Fraction	= 64%	wt. %	Industry standard factor (see for example, 40 CFR 63, Subpart GGGG)
HAP Projected Actual Emissions	= 423.7	tpy	= Future Max Solvent Loss Rate (FA) * HAP Fraction
Could Have Accomodated (CHA)	= 493	tpy	= Baseline Production Rate (tpy) x 0.2 gal/ton x Hexane Density / (2,000 lb/ton)
Excludable	= 152.7	tpy	= Could Have Accomodated (CHA) - Baseline Solvent Loss Rate
FA-CHA	= 168.9	tpy	= Potential Increase - Excludable

Main Vent Ctrl. Eff.	= 99%	%
Main Vent Fxn. (uncontrolled)	= 73.84	%
Dryer/Cooler Vent Fxn.	= 6.88	%
Fugitives Fxn.	= 19.28	%
Main Vent Fxn. (controlled)	= 0.74	%
Dryer/Cooler Emissions	= 108.4	tpy
Fugitive Emissions	= 303.7	tpy
Main Vent Emissions	= 11.6	tpy

Hexane BACT Data

Appendix A: Emission Calculations Hexane Loss (Solvent Loss Rate)

Page 8 of 10, Appendix A

Company Name: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Permit #: SPM 023-25870-00011
Reviewer: ERG/BS
Date: January 5, 2008

Statistical Analysis of Data from May 2002 to April 2007

Parameter	Value	Units	Basis
Number of Data Points =	49	-	No. of 12-month rolling averages in 60 months
Pearson Coefficient =	0.909	-	Auto-correlation factor; See MACT BID.
Arithmetic Mean =	0.147	gal/ton	Average of 49 data points.
Arithmetic Std. Dev. =	0.011	gal/ton	Std. Deviation of 49 data points.
Variance Inflation Factor =	1.48	gal/ton	See MACT BID for formula.
Adj Arithmetic Std. Dev. =	0.014	gal/ton	= (Variance Inflation Factor) ^{0.5} x Arithmetic Std. Dev.
Adj 99th Percentile =	0.179	gal/ton	= (Arithmetic Mean) + (2.326 x (Adj Arithmetic Std. Dev.))

Month	1-Month	12-Month
	SLR (gal/ton)	SLR (gal/ton)
May-2002	0.19	-
June-2002	0.05	-
July-2002	0.07	-
August-2002	0.03	-
September-2002	0.25	-
October-2002	0.15	-
November-2002	0.18	-
December-2002	0.12	-
January-2003	0.19	-
February-2003	0.14	-
March-2003	0.13	-
April-2003	0.17	0.139
May-2003	0.13	0.134
June-2003	0.08	0.137
July-2003	0.14	0.142
August-2003	0.12	0.149
September-2003	0.17	0.144
October-2003	0.18	0.146
November-2003	0.21	0.149
December-2003	0.11	0.148
January-2004	0.19	0.148
February-2004	0.15	0.150
March-2004	0.10	0.148
April-2004	0.16	0.148
May-2004	0.14	0.149
June-2004	0.10	0.151
July-2004	0.08	0.147
August-2004	0.21	0.152
September-2004	0.11	0.147
October-2004	0.13	0.142
November-2004	0.17	0.138
December-2004	0.13	0.139
January-2005	0.12	0.133
February-2005	0.09	0.127
March-2005	0.15	0.131
April-2005	0.11	0.127
May-2005	0.13	0.127
June-2005	0.19	0.134
July-2005	0.14	0.137
August-2005	0.11	0.131
September-2005	0.34	0.146
October-2005	0.16	0.149
November-2005	0.13	0.145
December-2005	0.19	0.150
January-2006	0.14	0.152
February-2006	0.16	0.157
March-2006	0.20	0.162
April-2006	0.14	0.164
May-2006	0.20	0.170
June-2006	0.17	0.168
July-2006	0.16	0.170
August-2006	0.11	0.170
September-2006	0.17	0.161
October-2006	0.08	0.154
November-2006	0.16	0.157
December-2006	0.14	0.153
January-2007	0.14	0.153
February-2007	0.12	0.150
March-2007	0.13	0.144
April-2007	0.13	0.142

**Appendix A: Emission Calculations
Calculation Constants**

**Company Name: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Permit #: SPM 023-25870-00011
Reviewer: ERG/BS
Date: January 5, 2008**

Parameter	Value	Units	Basis
Bean Density	60	lb/bu	Industry Standard Factor
Baseline Capacity	80,000	bu/day	Current Permit Limit (12-month avg.)
Future Capacity	120,000	bu/day	Proposed Permit Limit (12-month avg.)
Current Potential Operating Days	365	days/yr	
Future Potential Operating Days	365	days/yr	
Collet Cooler Current Potential Throughput	0	tpy	Unit has been removed from plant.
Collet Cooler Future Potential Throughput	0	tpy	Unit has been removed from plant.
Current Plant Storage Capacity	130,500	tons	Equipment capacity.
Future Plant Storage Capacity	130,500	tons	Equipment capacity (not being modified).
Potential Hull-to-Crush Ratio	7.0%	wt. %	Industry Standard Factor
Potential Pellet-to-Crush Ratio	7.0%	wt. %	Industry Standard Factor
Potential Meal-to-Crush Ratio	80.0%	wt. %	Frankfort factor.
Potential Meal Clay-to-Crush Ratio	0.50%	wt. %	Based on allowable
Potential Filter Aid-to-Oil Ratio	0.58%	wt. %	2001-2006 Max x 1.5
Potential Bleaching Clay-to-Oil Ratio	0.56%	wt. %	2001-2006 Max x 1.5
Potential Slurry/Precoat-to-Oil Ratio	1.14%	wt. %	Sum of bleaching clay and filter aid
Vegetable Oil-to-Crush Ratio	11.5	lb/bu	Industry Standard Factor

**Appendix A: Emission Calculations
Baseline Data**

Company Name: Archer Daniels Midland Company
Source Address: 2191 West County Road 0 N/S, Frankfort, IN 46041
Permit #: SPM 023-25870-00011
Reviewer: ERG/BS
Date: January 5, 2008

Parameter	2004	2005	2006	2004/05 Avg.	2005/06 Avg.
Beans Received by Truck (bu)	17,884,334	20,789,940	22,083,511	19,337,137	21,436,726
Beans Received by Rail (bu)	5,467,847	5,012,974	5,409,159	5,240,411	5,211,067
Crush (bu)	23,705,588	25,497,519	27,362,378	24,601,554	26,429,949
Hulls Produced (lbs)	77,919,763	90,420,248	95,588,242	84,170,006	93,004,245
Pellets Produced (tpy)	77,919,763	90,420,248	74,026,550	84,170,006	82,223,399
Meal Produced (lbs)	1,054,726,434	1,128,849,238	1,195,604,831	1,091,787,836	1,162,227,035
Meal Clay Used (lbs)	5,782,590	6,229,200	5,480,340	6,005,895	5,854,770
Refinery Clay (lbs)	2,204,463	2,419,468	3,112,474	2,311,966	2,765,971
Hexane Loss (gal)	98,951	115,781	126,094	107,366	120,938
Select 350 Clay (lbs)		145,975	205,522		175,749

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

**APPENDIX B to the Technical Support Document (TSD) -
BEST AVAILABLE CONTROL TECHNOLOGY (BACT)
DETERMINATION**

Source Information and Description of Modification

Source Name:	Archer Daniels Midland Company
Source Location:	2191 West County Road 0 N/S, Frankfort, IN 46041
County:	Clinton
SIC Code:	2075
Operation Permit No.:	T023-6066-00011
Operation Permit Issuance Date:	July 13, 2004
Significant Source Modification No.:	023-24843-00011
Significant Permit Modification No.:	023-25870-00011
Permit Reviewer:	ERG/BS

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed the following federal BACT (Best Available Control Technology) review for a major modification relating to a stationary soybean processing and oil refining plant owned and operated by Archer Daniels Midland Company ("ADM") located in Frankfort, Indiana.

Specifically, ADM has proposed to expand the plant by increasing the production capacity of the vegetable oil extraction process. The proposed modification includes the addition of new units and the modification of existing units.

Background and Process Description

This section presents a general description of processes that have the potential to emit VOCs during vegetable oil extraction from soybeans. To facilitate the review, each process is evaluated separately.

Within a soybean processing plant, beans are received, cleaned and conditioned in preparation for the extraction of the oil. Vegetable oil is extracted from the beans using hexane (a VOC) as the extracting agent in a counter-flow extractor system. The oil is then separated from the hexane. The hexane is also removed from the residual soybean meal, and the meal is further processed prior to shipment. The hexane is recovered and reused in the extractor. The process information presented below is for those processes in which hexane is emitted.

Solvent Extraction

Soybeans that have been preconditioned (i.e., heated and flaked) are conveyed to a shallow bed, percolation type, continuous extractor in which they are washed with hexane and a mixture of hexane and oil, called miscella. The extractor, which operates under slightly negative pressure (vacuum), utilizes a drag chain and flight moving inside a stationary casing, conveying the flakes over sections of wedge wire screen. The flakes become saturated with hexane and the hexane extracts the oil contained in the flakes. The resulting oil and solvent mixture is recovered from the flakes. The flows of hexane and flakes are countercurrent to ensure maximum extraction. The miscella drains through the wedge wire

screens to lower compartments where it is pumped countercurrent to the traveling flakes. When the miscella is completely drained, the flakes are discharged into a vapor-tight conveyor system, which conveys the material to the desolventizer-toaster-dryer-cooler (DTDC). Vapors from the extraction process are vented under negative pressure through condensers and a mineral oil absorption system before being exhausted through the main vent. After extraction, the material consists of two streams: spent flakes and miscella. The spent flakes are conveyed to the DTDC for further processing. The miscella is processed in the distillation system.

Meal Product Processing

The spent flakes leaving the extractor contain hexane, which is removed in the DTDC to produce meal. The DTDC is one vessel consisting of several vertically stacked trays that hold the spent flakes during processing. The desolventizer-toaster section of the DTDC system operates under vacuum.

In the DTDC, hexane is removed from the spent flakes using steam as an energy source. This hexane is later recovered and recycled to ensure safe and economical operation of the process. Spent flakes are introduced into the upper trays of the DTDC, which are heated with indirect steam to vaporize the hexane and to initiate heating of the flakes. The flakes are transferred to the middle trays, where they are toasted to produce a high quality meal. Both of these processes are made possible by the introduction of steam through a deck positioned below these process areas. Vapor emissions from these areas are vented under vacuum through a series of evaporators, condensers, and a mineral oil absorption system before being exhausted through the main vent.

Following desolventizing, the flakes pass through a rotary valve to the dryer-cooler section of the DTDC. The dryer-cooler section consists of four decks, the top three for drying and the lower deck for cooling. The moisture content of the meal is reduced in this portion of the DTDC by passing hot air through the meal in the dryer decks. The cooler deck passes ambient air through the meal to affect cooling. Each deck is equipped with its own centrifugal collector (cyclone) and exhausted to the atmosphere. As part of the modification described in the Technical Support Document (TSD), a new DTDC will be installed. This unit will have up to four decks. Ambient air will pass through the meal on each deck and be exhausted to a cyclone collector before being vented to the atmosphere.

After the DTDC, the meal is sifted into coarse and fine particles. The coarse particles are ground in a meal grinder to achieve the desired size. After sizing and grinding, the meal is transferred to storage and loadout areas.

Solvent/Oil Distillation

Hexane is distilled from the vegetable oil using a combination of heat and vacuum. Miscella from the extractor is separated into oil and solvent by two-stage evaporation (i.e., vacuum distillation). After evaporation, the oil flows to an oil stripper, which removes the remaining traces of solvent by low pressure steam stripping and by applying vacuum. The stripped oil is cooled and collected.

The solvent/water vapors from the evaporators are condensed, and the condensate is transferred to the solvent-water separator, a continuous decanting system that discharges vapors to a series of condensers and then to the mineral oil absorption system. Hexane overflows from the solvent-water separator into the work tank and from there overflows to hexane storage. The water from the decanting system flows to the wastewater evaporator. Steam stripping and vacuum are incorporated in the steam-heated re-boiler to remove trace amounts of hexane from the wastewater. The hexane vapors generated in this step are also

routed through several condensers and then to mineral oil absorption system. The water flows from the wastewater evaporator to the wastewater treatment system prior to discharge.

Solvent Recovery

Due to the large quantities of hexane used in the extraction process and the ever increasing price of hexane, soybean processing plants incur significant costs associated with the use of hexane. Additionally, the hexane solvent must be removed from the products and recovered for safety reasons. Due to the flammable nature of hexane at relatively low concentrations, hexane emissions must be carefully controlled for safety. Because hexane can be recovered and recycled throughout the extraction process, these plants have an economic and safety incentive to capture and recover as much hexane as possible.

Sources of VOC Emissions from Soybean Oil Extraction

Relative to other large-scale industrial operations, very little information is available to quantify VOC emissions from specific operations within the vegetable oil extraction process.

The most comprehensive information is found in a U.S. Environmental Protection Agency (EPA) publication, as part of the Control Technology Guidelines series, titled *Control of Volatile Organic Emissions from Manufacture of Vegetable Oils* (Ref. 2). According to that document:

- VOC emissions are based on one ton of raw soybean input (see Table 1 below).
- Approximately 74 percent of the quantified VOC emissions were emitted from the uncontrolled main vent.
- Additional VOC emissions occur from the dryer-cooler vents, meal product, oil, wastewater, solvent storage, equipment leaks, and non-operational losses (start-up, shutdown, and downtime). Emissions from these other sources are fairly small (i.e., none of them alone exceeds seven percent of the total VOC emissions) and explain why so much of the VOC control and recovery efforts in the industry have focused on the main vent.

Table 1 - Estimated Average Solvent Losses from Reasonably Well-Operated Soybean Plants (Based on 1 Ton of Raw Soybean Input)

Point of Solvent Loss	Solvent Loss (lb/ton)	Solvent Loss (gal/ton)	Percentage of Overall Loss
Operational Losses			
Main Vent (uncontrolled)	11.80	2.13	73.84
Dryer/Cooler Vents	1.10	0.20	6.88
Meal Product	1.10	0.20	6.88
Oil	0.36	0.07	2.25
Waste Water	0.10	0.02	0.63
Solvent Storage	0.20	0.04	1.25
Equipment Leaks	0.66	0.12	4.13
Total Operational Losses	15.32	2.77	95.87
Non-Operational Losses			
Startup and Shutdown	0.33	0.06	2.07
Downtime	0.33	0.06	2.07
Total Uncontrolled Losses	15.98	2.89	100.00

Emission Units Subject to BACT review

ADM proposes to increase the capacity of the vegetable oil extraction process. There are three (3) main sources of VOC emissions that comprise the extraction process covered by this BACT review:

- (1) The 'main vent' which vents controlled emissions (via an absorber/scrubber system) from the solvent extractor, solvent recovery system, and desolventizer and toaster sections of the DTDC. These units are part of the collective emission unit designation EU38, also referred to as the "hexane bubble."
- (2) The meal processing operation. This operation includes the 'meal product' and 'dryer/cooler vent' emissions from Table 1 above and specifically includes: dryer deck #1 (EU23), dryer deck #2 (EU24), and new dryer deck #3 (EU24A), cooler deck (EU25), meal conveyor (EU26), meal sifter/grinder (EU27/EU28), meal storage conveyor (EU29), meal storage (EU30), and meal surge tank (EU31).
- (3) Equipment leaks.

These 3 sources will be modified as part of the proposed expansion. The remaining sources of VOC emissions (identified by the EPA and listed in Table 1 above) are not being modified and are therefore not subject to BACT review requirements.

In addition, the following process unit will be relocated to support the expanded oil extraction process:

One (1) natural gas, No. 2 fuel oil and vegetable oil-fired boiler (EU46). The boiler has a heat input capacity of 140 to 145 MMBtu/hr (depending on fuel) and currently exhausts to stack EP18. Once relocated, the boiler will exhaust to new stack EP46. The heat input capacity of the boiler will not be changed.

This unit has the potential to emit VOC and must be evaluated for VOC BACT.

BACT Description

This source is located in Clinton County which is designated as attainment for all criteria pollutants. Based upon emission calculations completed by the IDEM, OAQ, the emission increase of the modification exceeds the Prevention of Significant Deterioration (PSD) significance threshold levels in 326 IAC 2-2-1 for VOC.

Therefore, VOC emissions have been reviewed pursuant to 326 IAC 2-2-3, which requires a BACT determination.

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.

BACT for VOC – Solvent Extraction and Recovery Process Main Vent

As described in the *Background and Process Description* section of this document, preconditioned soybeans at ADM are conveyed to a continuous extractor in which they are washed with hexane and a mixture of hexane and oil. The flakes become saturated with hexane and the hexane extracts the oil contained in the flakes. The resulting oil and solvent mixture is recovered from the flakes and the soybean flakes are discharged to the desolventizer-toaster-dryer-cooler (DTDC). Spent flakes, which contain residual hexane, are initially heated in the upper trays of the DTDC. The heated flakes are transferred to the middle trays where they are toasted to produce a high quality meal.

Emissions from the solvent extraction process, solvent recovery process and DT sections of the DTDC are vented through a condenser and mineral oil absorber/scrubber system (CE-22) before being exhausted through the main vent (stack EP25).

Step 1 – Identify Control Options

According to information available in the RBLC, EPA's *Compilation of Air Pollutant Emission Factors* and the EPA's *CATC Technical Bulletins and Air Pollution Control Technology Fact Sheets*, VOC emissions from the solvent extraction and recovery process main vent could be controlled with:

- (a) Condensation;
- (b) Condensation with mineral oil absorption;
- (c) Carbon adsorption; or
- (d) Oxidation.

Below is a description of the identified control options:

(a) Condensation:

Condensation is a separation and control technique in which one or more volatile components of a vapor mixture are separated from the remaining vapors by saturation and a phase change. The phase change from gas to liquid can be achieved in two ways: (1) the system pressure can be increased at a given temperature or (2) the temperature may be lowered at a constant pressure. In a two-component system where one of the components is non-condensable (e.g., air), condensation occurs at the dew point (i.e., when the partial pressure of the volatile compound is equal to its vapor pressure). The more volatile a compound (e.g., the lower the normal boiling point), the larger the amount that can remain as vapor at a given temperature, hence a lower temperature is required for condensation of such compounds. Condensers are typically used as air pollution control devices for treating emission streams with high VOC concentrations, usually greater than 5,000 ppmv.

(b) Condensation with Mineral Oil Absorption

Absorption is a mass transfer operation in which one or more soluble components of a gas mixture (e.g., hexane) are dissolved in a liquid that has low volatility under the process conditions (e.g., mineral oil). The pollutant diffuses from the gas into the liquid when the liquid contains less than the equilibrium concentration of the pollutant (i.e., the liquid is not saturated with the pollutant being controlled). This unsaturated condition in the absorbing liquid provides the driving force for absorption. A properly designed gas absorber will provide thorough contact between the gas and the absorbing liquid to facilitate diffusion of the pollutant(s) from the gas to the liquid. Absorbers are typically used as air pollution control devices for treating emission streams with VOC concentrations in excess of 500 ppmv (Ref. 3). Mineral oil absorption of hexane is the mainstay of solvent recovery practice in the oilseed processing industry in the United States and throughout the world.

A typical condensation/mineral oil absorber system works to control and recover hexane from a vegetable oil extraction process as follows. Solvent vapors are transported via negative pressure by a vent fan to a series of indirect, water cooled condensers and to the main vent condenser where the solvent-laden vapors are cooled. The condensers are then vented to the mineral oil absorption system where hexane remaining in the non-condensable gases is recovered. The mineral oil system, which significantly reduces the amount of hexane escaping to the atmosphere, consists of a mineral oil absorption column, a stripper column, and mineral oil coolers and heaters. Cooled mineral oil flows counter current to solvent-laden vapors to absorb approximately 95 to 98% of the hexane in this stream. The hexane-laden mineral oil from the absorption column is stripped with steam under vacuum in the stripping column to remove hexane, and the resulting clean oil is cooled and recycled back to the absorption column. The hexane-laden vapors from the stripping column are condensed and recycled to the solvent/water separator. Non-condensable gases that have been scrubbed of hexane are discharged from the mineral oil absorption column and vented through a final exhaust vent.

(c) Carbon Adsorption

Adsorption of VOC onto activated carbon is an available add-on control technology. VOC are removed from the gas stream by contacting and adsorbing onto activated carbon particles. Carbon adsorption systems can be designed to be very efficient. As design efficiency increases, however, the required adsorbent bed depth and pressure drop through the system increases. Typical commercially available carbon adsorption systems can achieve between 85 and 90 percent control efficiency for emission streams containing greater than 500 ppmv VOC.

Carbon adsorption can be used to recover VOC and subsequently make them available for reuse within the system. Prior to the carbon being saturated, the adsorber and source are shut down, or process flows are routed to another carbon adsorber. A desorption cycle is then initiated, which consists of three steps: (1) regeneration of the carbon bed by heating, generally blowing steam through the bed in the direction opposite to the gas flow; (2) drying of the bed, with compressed air or a fan; and (3) cooling the bed to its operating temperature via a fan. The desorbed gas stream containing steam and VOC is routed to a condenser and then a decanter to recover the VOC for reuse.

(d) Oxidation

Oxidation (thermal and catalytic) heats the emission stream to approximately 1,600°F where VOCs are oxidized to carbon dioxide and water. Catalytic oxidizers differ from thermal oxidizers in that they use a bed of active material (catalyst) to increase the reaction rate, enabling the oxidation reactions to occur at a lower reaction temperature than in thermal oxidation units. The emission stream must still be heated to between 600 °F and 800 °F to initiate the reaction. Oxidizers can have a high efficiency when the emission stream is heated to very high temperatures and held in the combustion zone for adequate time (generally around one second). Thermal oxidation units rely on a direct flame to heat the emission stream to its ignition temperature. Typical commercially available add-on oxidation control devices can achieve 95+% control efficiency depending on the particular installation.

Step 2 – Eliminate Technically Infeasible Control Options

The process for assessing technical feasibility of each of the identified control techniques is defined in U.S. EPA's draft New Source Review Workshop Manual. If the identified control technology has been installed and operated successfully on the type of operation under review, the technology is deemed technically feasible. However, if the technology has not been successfully demonstrated on the type of operation under review, an analysis must demonstrate that the technology is "available" and "applicable". A technology is "available" if it can be obtained by the applicant through commercial channels or is otherwise available within the common sense meaning of the term. An available technology is "applicable" if it can reasonably be installed and operated on the source type under consideration.

The feasibility of each of the potentially applicable control options identified is reviewed below.

(a) Condensation

Condensers are commonly used on the main vent of soybean oil extraction processes. The condensers typically reduce the hexane content of the gas stream by approximately 35% by volume.

Condensation is a technically feasible control option.

(b) Condensation/Mineral Oil Absorption

Condensation/mineral oil absorption systems have been installed and operated successfully on the main vent at many vegetable oil extraction plants. Specifically, this control option has been established as VOC BACT for the main vent of the solvent extraction and recovery process at soybean oil extraction plants; including Ag Processing (RBLC ID MO-0073), Bunge (RBLC ID IA-0085), Cargill (OH-0282), and Central Soya (RBLC ID OH-0251).

A well-operated condensation/mineral oil absorber system can exceed efficiencies of 95%.

Condensation with mineral oil absorption is a technically feasible control option.

(c) Carbon Adsorption

Carbon adsorption systems were applied rather widely to the main vent stream from solvent extraction plants in the late 1940s and early 1950s. However, the carbon fouled rapidly with contaminants, and the efficiency of the units was often suspect. In the 1950s, mineral oil absorption systems began to replace carbon units. By the 1970s, mineral oil absorption became the system of choice. This was primarily for greater safety, but also since this system offered additional hexane recovery due to

increased hours of operation at design conditions. They also required less energy for operation.

Carbon adsorbers can overheat for several reasons. Among these are poor conditioning of the carbon (which can create dead spots where cooling by the carrier media cannot occur rapidly enough) and over drying of the carbon bed during surges caused by process upsets. The adsorption of VOCs (such as hexane) on activated carbon generates heat equivalent to the latent heat of vaporization for the compound being adsorbed. Under the conditions listed above, the heat generated by adsorption can accumulate in the bed, causing the temperature to rise to the point where ignition will occur. Good design and control can eliminate overheating in the carbon bed, but during an upset or when the equipment or controls fail, as they invariably will, overheating will occur. This makes the carbon adsorbers a potential source of ignition and an explosion hazard.

While fires caused by overheating are usually contained by the adsorber vessel, the vessel is directly connected to the process by duct work, which allows a flame path back to the process, creating an unacceptable risk of explosion. The most likely time for fire to occur in the adsorber is during process upsets when solvent vapor will fill the duct connecting the process to the adsorber. Design efforts over the last half century have been directed toward removing ignition sources from the solvent extraction process in order to prevent the dangerous aforementioned scenario.

For the aforementioned reasons, carbon adsorption is not a technically feasible control option.

(d) Oxidation

Oxidation is not used to reduce emissions in extraction plants in the oilseed industry. The exhaust gases that would be ducted to the control device cover a wide range of flow volumes and solvent concentrations. Variable flows and solvent concentrations greatly hamper safe and efficient operation. Exposure of the entire extraction plant to the ignition source resulting from a flashback in the duct system to the oxidizer is considered an unjustifiable risk.

The National Fire Protection Association (NFPA) standards for extraction plants require that any flame operations (e.g., incinerators) be located at least 100 ft. away from the processing area. These standards also preclude direct vapor pathways to flame operations.

For the aforementioned reasons, oxidation (thermal or catalytic) is not a technically feasible control option.

Step 3 – Rank Remaining Control Options by Control Effectiveness

The technically feasible control options rank as follows:

Control Type	Estimated VOC Control Efficiency
Condensation with mineral oil absorption	Greater than 95%
Condensation	~35%

These estimated efficiencies are based on information provided in the EPA's Air Pollution Control Technology Fact Sheets located at www.epa.gov/ttn/catc/products.html and from

published EPA documents specific to solvent extraction and recovery from vegetable oil manufacturing.

Step 4 - Evaluate Control Options

BACT - Control Device Selection

ADM proposes to use condensation with mineral oil absorption as part of its VOC BACT for the solvent extraction and recovery process main vent. This control option offers the most effective and technically feasible level of control so additional evaluations are not necessary.

VOC emission limits for vegetable oil extraction plants are typically established on a plant-wide basis. The limits are traditionally expressed as gallons of hexane loss per ton of soybeans processed. This approach to setting the VOC BACT limit for an vegetable oil extraction plant is consistent with prior BACT determinations, the Vegetable Oil NESHAP (40 CFR Part 63, Subpart GGGG), and ADM's Consent Decree.

As a result, the determination of VOC BACT emission limits is collectively completed for the solvent extraction and recovery main vent, meal processing and equipment leaks and is presented below.

BACT - Emission Limit Selection

The OAQ reviewed the EPA's RBLC (RACT-BACT-LAER Clearinghouse) to identify established VOC BACT limitations for solvent extraction from vegetable oil manufacturing. Specifically, the OAQ reviewed 8 facilities and 21 processes listed under RBLC Code 70.350 (Soybean Oil Manufacturing) that implement BACT to control VOC emissions.

The OAQ also reviewed the requirements of the Vegetable Oil NESHAP (40 CFR Part 63, Subpart GGGG) and a recently issued Consent Decree between ADM and the IDEM, OAQ.

Of the facilities and processes reviewed, the seven (7) most recent sources were identified that address emissions from soybean oil manufacturing:

Source	RBLC ID	Date	Plant Capacity (ton/day)	VOC Emission Limit (gal/ton*)
Similar sources				
Louis Dreyfus – Claypool, Indiana ^(a)	NA	1/24/06	4,620	0.134
Ag Processing – Buchanan	MO-0073	5/16/07	3,600	0.145
Cargill - Tippecanoe	OH-0282	11/28/03	4,500	0.146
Zeeland Farms	NA	3/1/03	unknown	0.150
ADM - Mankato	MN-0065	6/28/05	4,500	0.150
Bunge - Council Bluffs	IA-0085	1/29/07	6,740	0.178
Central Soya - Bellevue	OH-0251	11/29/01	2,160	0.200
Related limits				
ADM Consent Decree	NA	12/07	2,400	0.175 ^(b)
Vegetable Oil NESHAP (40 CFR Part 63, Subpart GGGG)	NA	4/01	NA	0.200
ADM – Frankfort (Proposed)	NA	NA	3,600	0.179

* Expressed as gallons of hexane loss per ton of soybeans processed.

NA – Not applicable

(a) This VOC BACT was established pursuant to 326 IAC 8-1-6 and not pursuant to PSD.

(b) This solvent loss ratio is a capacity-weighted average limit for all of ADM's conventional soybean processing plants and is not specific to this source.

The VOC BACTs established for the Louis Dreyfus, Ag Processing and Cargill sources (0.134, 0.145 and 0.146 gal/ton, respectively) are not achievable by ADM – Frankfort. Unlike this source which was constructed in 1985, both the Louis Dreyfus, Ag Processing and Cargill operations are new or reconstructed. There are several reasons why new or significantly reconstructed facilities can achieve lower solvent loss rates than existing facilities.

Constructing a new plant provides an opportunity to streamline and optimize the solvent extraction process utilizing the latest in design techniques and knowledge. Streamlining and optimizing the process can be achieved by installing process vessels that are all sized for the desired processing capacity; which affects the degree of solvent loss. In some circumstances, some equipment tends to function better at less than maximum load. In the case of process expansion like the one proposed by ADM - Frankfort, it is cost prohibitive to install all of the equipment necessary to “oversize” the extraction, distillation and desolventizing equipment (i.e., ADM could not justify the capital expenditures for the project if such over-sizing was needed). Additionally, the potential benefit of over-sizing is both unknown and highly variable - making it difficult to assess the environmental benefits of such a design in advance of its operation. For these reasons, it is inappropriate to compare the BACT limit for a new or significantly reconstructed facility to the BACT limit for a modification to an existing facility.

In addition, compared to an existing source, a new source will have fewer fugitive leaks from equipment in VOC service. Because the process is designed and built with all process equipment sized for the planned plant capacity, fewer vessels would be installed in the extraction process and therefore the new plant would have fewer components that could potentially be the source of equipment leaks. When an existing facility's capacity is increased, vessels may be added rather than replaced to achieve the desired capacity. For instance, if additional condensing capacity is needed in the solvent recovery/distillation system, depending on space and equipment availability considerations, an additional condenser may be added rather than replacing the existing condenser with a new, larger condenser. In this case, the expanded, existing plant would have significantly more components than a new facility of similar capacity, resulting in increased potential for solvent loss due to leaking components.

Zeeland Farms (located in Michigan) has a VOC BACT emission limit of 0.150 gal/ton.

Zeeland Farms uses a shallow-bed extractor while the ADM - Frankfort plant has a deep-bed extractor. In a deep-bed extractor, the weight of the flakes and solvent in the bed can cause the flakes to compact. The packing of flakes in a deep-bed can lead to reduced solvent drainage and higher levels of hexane carry-over into the desolventizer. Both of these differences can contribute to higher solvent loss rates. Therefore, it is inappropriate to compare a plant with a shallow-bed extractor to a plant with a deep bed extractor.

ADM's Mankato source (located in Minnesota) is an existing source that has a VOC BACT emission limit of 0.150 gal/ton. There are important differences between that source and ADM - Frankfort that should be considered when evaluating BACT.

Weather conditions have a significant effect on solvent loss rates. Solvent extraction plants tend to have lower loss rates in cooler weather conditions. The condensers in the solvent recovery/distillation system use cooling tower water to affect condensation. As ambient temperatures rise, the temperature of the cooling water rises, and condensing becomes somewhat less efficient. The Desolventizer-Toaster (DT) operates at nearly atmospheric pressure, and as condensing becomes less efficient, the DT begins to operate under pressure which leads to poor desolventizing and more fugitive emission leaks. According to the National Weather Service, the average temperature difference between the ADM - Mankato and ADM - Frankfort sources is approximately 6 degrees Fahrenheit. This difference in temperature affects the efficiency of the desolventizing and solvent recovery systems at the Frankfort plant in recovering VOC from the vegetable oil and flakes.

Weather and soil conditions also affect the quality of the soybeans that are grown, which in turn affects the processing of the beans. Soybeans received at ADM - Frankfort generally have higher oil content than soybeans grown in Minnesota. Though this condition allows ADM - Frankfort to have higher oil yields, more hexane is used in the extraction process (per ton of beans) to extract the extra oil. The additional hexane then has to be removed from the oil and the flakes through the desolventizing and solvent recovery/distillation systems. Removal of the additional hexane increases the vapor loading on the solvent recovery/distillation systems and is exacerbated by the issues previously identified. Therefore, it is reasonable to expect the solvent loss ratio (gallons of hexane per ton of soybeans processed) at ADM - Mankato to be lower than the solvent loss ratio at ADM - Frankfort.

Bunge's Council Bluffs source (located in Iowa) was issued a permit with a VOC BACT limit of 0.178 gal/ton.

While this limit is nearly identical to ADM's proposed limit of 0.179 gal/ton, ADM indicated that the variability in the solvent loss rate from vegetable oil processing plants is due to seasonal factors, raw material variation and source-specific design. Every oilseed processing facility is unique in its ability to limit solvent loss from the oil extraction process because of the subtle process variations. As a result, over-reliance on other facilities' solvent loss performance can lead to inappropriate and unattainable solvent loss limits for a particular facility. ADM's proposed solvent loss rate of 0.179 gal/ton was derived using the adjusted 99th percentile statistic value from five years (May 2002 through April 2007) of solvent loss data from the plant - the same statistical procedures that the US EPA used to establish the MACT floor for conventional soybean plants.

Based on the aforementioned information, the IDEM, OAQ believes that a BACT limit of 0.179 gal/ton for ADM - Frankfort is appropriate. This BACT limit is consistent with limits established at existing facilities that are similar to ADM - Frankfort (Central Soya and Bunge) and is more stringent than the applicable Vegetable Oil NESHAP.

Step 5 – Select BACT

Based on the information provided on the preceding pages, the Permittee shall comply with the following requirements determined to be VOC BACT for the solvent extraction process:

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD SSM 023-24843-00011:

- (a) VOC emissions from the solvent extraction and recovery process main vent shall be controlled by a condenser and mineral oil absorber/scrubber system (CE-22).
- (b) The overall solvent loss ratio of the solvent extraction process shall not exceed 0.179 gallons of hexane per ton of soybeans processed. Compliance with the solvent loss ratio limit shall be demonstrated using the procedures established in 40 CFR Part 63, Subpart GGGG.
- (c) The amount of soybeans processed by the source shall not exceed 1,314,000 tons twelve consecutive month period with compliance determined at the end of each month.

BACT for VOC – Meal Processing

As described in the *Background and Process Description* section of this document, the toasted soybean flakes leave the desolventizer-toaster (DT) sections of the DTDC and pass through a rotary valve to the dryer-cooler (DC) section of the DTDC. The dryer-cooler section currently consists of three decks, the top two for drying (EU23 and EU24) and the lower deck for cooling (EU25). After the DTDC, the meal is conveyed (EU26) and sifted and ground (EU27/EU28) into coarse and fine particles. After sizing and grinding, the meal is transferred to the storage and loadout areas (EU29, EU30 and EU31).

Note that following this modification, the DTDC will be replaced with a larger unit that has a third dryer deck (EU24A). See the *Description of Proposed Modification* section of the Technical Support Document for details.

Step 1 – Identify Control Options

VOC emissions from meal processing are generally characterized by low concentrations and high flow rates. Because of these characteristics, meal processing emissions have historically been controlled by pollution prevention methods due to the unreasonable costs of trying to implement add-on controls.

However, according to information available in the RBLC, EPA's *Compilation of Air Pollutant Emission Factors* and the EPA's *CATC Technical Bulletins and Air Pollution Control Technology Fact Sheets*, VOC emissions from meal processing could be controlled with:

- (a) Optimization of the Desolventizer-Toaster-Dryer-Cooler;
- (b) Carbon adsorption; or
- (c) Oxidation.

Below is a description of the identified control options:

- (a) **Optimization of the Desolventizer-Toaster-Dryer-Cooler (DTDC)**
A faulty or poorly designed or operated DTDC may result in inadequate desolventization of the meal. This results in higher VOC emissions from all downstream meal processing, including the subsequent dryer and cooler vents and meal grinding and meal loadout. Emission reductions at all meal processing vents may be achieved by optimizing the desolventizing equipment. Optimization reduces VOC loss, increases meal quality, enhances loss prevention, and potentially reduces steam consumption.
- (b) See the *BACT for VOC - Solvent Extraction and Recovery from the Main Vent; Step 1 - Identify Control Options* section of this document for general descriptions of carbon adsorption and oxidation.

Step 2 – Eliminate Technically Infeasible Control Options

The process for assessing technical feasibility of each of the identified control techniques is defined in U.S. EPA's draft New Source Review Workshop Manual. If the identified control technology has been installed and operated successfully on the type of operation under review, the technology is deemed technically feasible. However, if the technology has not been successfully demonstrated on the type of operation under review, an analysis must demonstrate that the technology is "available" and "applicable". A technology is "available" if

it can be obtained by the applicant through commercial channels or is otherwise available within the common sense meaning of the term. An available technology is "applicable" if it can reasonably be installed and operated on the source type under consideration.

The feasibility of each of the potentially applicable control options identified is reviewed below.

(a) Carbon Adsorption

Carbon adsorbers can overheat for several reasons when used to control VOC emissions from meal processing. Among these reasons are poor conditioning of the carbon (which can create dead spots where cooling by the carrier media cannot occur rapidly enough) and over drying of the carbon bed during surges caused by process upsets. The adsorption of VOCs (such as hexane) on activated carbon generates heat equivalent to the latent heat of vaporization for the compound being adsorbed. Under the conditions listed above, the heat generated by adsorption can accumulate in the bed, causing the temperature to rise to the point where ignition will occur. Good design and control can eliminate overheating in the carbon bed, but during an upset or when the equipment or controls fail, as they invariably will, overheating will occur. This makes the carbon adsorbers a potential source of ignition and an explosion hazard.

While fires caused by overheating are usually contained by the adsorber vessel, the vessel is directly connected to the process by duct work, which allows a flame path back to the process, creating an unacceptable risk of explosion. The most likely time for fire to occur in the adsorber is during process upsets when solvent vapor will fill the duct connecting the process to the adsorber.

For the aforementioned reasons, carbon adsorption is not a technically feasible control option.

(b) Oxidation

Oxidation is not used to reduce emissions in extraction plants in the oilseed industry. The exhaust gases that would be ducted to the control device cover a wide range of flow volumes and solvent concentrations. Variable flows and solvent concentrations greatly hamper safe and efficient operation. Exposure of the entire extraction plant to the ignition source resulting from a flashback in the duct system to the oxidizer is considered an unjustifiable risk.

The National Fire Protection Association (NFPA) standards for extraction plants require that any flame operations (e.g., incinerators) be located at least 100 ft. away from the processing area. These standards also preclude direct vapor pathways to flame operations.

For the aforementioned reasons, oxidation (thermal or catalytic) is not a technically feasible control option.

Step 3 – Rank Remaining Control Options by Control Effectiveness

Not applicable. Only one control option has been determined to be technically feasible for reducing VOC emissions from meal processing: Optimization of the Desolventizer-Toaster-Dryer-Cooler (DTDC).

Step 4 - Evaluate Control Options

Not applicable. ADM proposes to optimize its Desolventizer-Toaster-Dryer-Cooler (DTDC) as part of its VOC BACT for meal processing. This control option is the only technically feasible level of control so additional evaluations are not necessary.

Step 5 – Select BACT

Based on the information described above, the Permittee shall comply with the following requirements determined to be VOC BACT for the meal processing operations:

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD SSM 023-24843-00011, the Permittee shall optimize the design and operation of the Desolventizer-Toaster-Dryer-Cooler (DTDC) (consisting of EU23, EU24, EU24A and EU25) to mitigate VOC emissions.

VOC emission limits for vegetable oil extraction plants are typically established on a plant-wide basis. The limits are traditionally expressed as gallons of hexane loss per ton of soybeans processed. This approach to setting the VOC BACT limit for an vegetable oil extraction plant is consistent with prior BACT determinations, the Vegetable Oil NESHAP (40 CFR Part 63, Subpart GGGG), and ADM's Consent Decree.

As a result, the determination of VOC BACT emission limits is collectively completed for the solvent extraction and recovery main vent, meal processing and equipment leaks and is presented in the *BACT for VOC - Solvent Extraction and Recovery from the Main Vent; Step 5 - Select BACT* section of this document.

BACT for VOC - Equipment Leaks

As indicated in Table 1 of this document, the EPA estimates that more than 4% of the total solvent loss from soybean oil manufacturing results from equipment leaks. The magnitude of VOC emissions from equipment leaks is proportional to amount of soybeans processed and the hexane used to extract the oil. As a result, the proposed increase in the plant's processing capacity will cause an increase in VOC emissions from equipment leaks.

Step 1 – Identify Control Options

The only control option identified for reducing emissions from equipment leaks is a leak detection and correction program. Periodic inspection of equipment used to transfer VOC containing process streams can reduce emissions. Equipment to be inspected includes pumps, valves, agitators, pipes, flanges, seals, and packing glands. Any component suspected of operating improperly on the basis of sight, sound, or smell should be repaired as soon as possible. These repairs may include pump and pump seal replacement or repair, gasket replacement, and possible repair of valves and flanges used in the transport of organics. In addition to minimizing solvent loss through mechanical sources, this type of maintenance program may decrease plant shutdowns. Annual emission reductions from periodic inspection and maintenance would depend on the number of each type of component and the diligence of maintenance personnel in accomplishing repairs.

Step 2 – Eliminate Technically Infeasible Control Options

The use of a leak detection and correction program has been established as VOC BACT for at least one other soybean oil extraction plant: A 2007 BACT determination for Bunge (RBLC ID IA-0085). Similar programs, while possibly not BACT, are implemented in vegetable oil extraction plants.

This control option is technically feasible.

Step 3 – Rank Remaining Control Options by Control Effectiveness

Not applicable. Only one control option has been identified.

Step 4 - Evaluate Control Options

ADM proposes to implement a leak detection and correction program as part of its VOC BACT for equipment leaks. This is the only control option identified so additional evaluations are not necessary.

However, a review of issued IDEM permits for similar sources revealed that the leak detection and correction program established as part of VOC BACT in T085-21297-00102 (Louis Dreyfus; issued January 24, 2006) includes numerical leak detection standards while ADM's proposal does not.

The leak detection program proposed by ADM and the program outlined in the Louis Dreyfus permit differ in a number of aspects. ADM did not propose to include numerical emission limits in its program for a number of reasons; the most significant being that the proposed daily inspections provide a more effective means of detecting and repairing leaks than the one-time leak detection program outlined in the Louis Dreyfus permit. The use of numerical standards and the tracking elements of such a program are more complex and time consuming than the program ADM proposed. Because of this complexity, such a program would restrict ADM's ability to conduct such leak inspections to a quarterly or annual basis.

Less frequent inspections could result in more, not less, fugitive emissions so a daily leak inspection program is more effective than the program in the Louis Dreyfus permit.

Step 5 – Select BACT

VOC emission limits for vegetable oil extraction plants are typically established on a plant-wide basis. The limits are traditionally expressed as gallons of hexane loss per ton of soybeans processed. This approach to setting the VOC BACT limit for an vegetable oil extraction plant is consistent with prior BACT determinations, the Vegetable Oil NESHAP (40 CFR Part 63, Subpart GGGG), and ADM's Consent Decree.

As a result, the determination of VOC BACT emission limits is collectively completed for the solvent extraction and recovery main vent, meal processing and equipment leaks and is presented in the *BACT for VOC - Solvent Extraction and Recovery from the Main Vent; Step 5 - Select BACT* section of this document.

Based on the information described above, the Permittee shall comply with the following requirements determined to be VOC BACT:

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD SSM 023-24843-00011, within 60 days of achieving full production permitted by PSD SSM 023-24843-00011, but no later than 180 days after startup of the modified extraction process, the Permittee shall implement a leak detection and correction program to control VOC emissions. The program is as follows:

- (a) Extraction plant operators shall visually inspect equipment that contains hexane on a daily basis. Operators shall check for leaks on the basis of sight, sound and/or smell at pump seals, valves, process piping, and process equipment (such as condensers and heat exchangers). If a leak is found, a work order shall be written to repair the leak.
- (b) Corrective action to repair leaks shall be taken as soon as possible and usually within five days of writing the work order. Some leaks require a welding shutdown to completely repair the leak. Welding shutdowns are typically taken every two to three years. Due to the highly explosive nature of hexane, a welding shutdown requires that the entire extraction plant be shut down and that all hexane be purged from all extraction plant vessels and piping before welding can be done in that area. For larger leaks that require welding to fully repair, a two-part epoxy/hardener compound or other appropriate material shall be used to patch the leak until it can be safely repaired via welding during a welding purge.
- (c) If a pump seal is found to be leaking, the seal shall be replaced as soon as possible. All extractor, distillation, and hexane pumps shall be checked daily for visible signs of leaking.
- (d) If a valve is found to be leaking, it is typically repaired by either tightening the flange bolts or tightening the packing gland bolts. Valves shall be replaced as necessary during scheduled plant shutdowns. All valves associated with the extractor and the distillation system shall be checked daily for visible signs of leaking.
- (e) Process piping shall be checked daily for signs of leaking on the basis of sight, sound and/or smell. If a leak is detected, repair shall be made almost immediately by one of the methods described above. Two-part epoxy/hardener compound or other appropriate material shall be used to completely stop the leak until a welding shutdown is scheduled.

- (f) Condensers and heat exchangers shall be checked daily for leaks on the basis of sight, sound and/or smell. If a leak is detected, repair shall be made almost immediately by the same methods used to repair leaks in process piping.
- (g) Distillation process equipment shall be checked on a daily basis, and leaks shall be repaired immediately by the same methods used to repair leaks in process piping. Since the distillation system operates under moderate vacuum, most leaks are easily detectable from audible signs (i.e. air being drawn into the vessel).
- (h) The extractor and the DTDC both shall be checked daily for leaks on the basis of sight, sound and/or smell. Key areas to inspect for leaks are sight-glass windows, entry doors, and shaft seals on the extractor drive and the DT rotary valve. However, leaks detected in these areas cannot be repaired until a scheduled shutdown. In these cases, either the gaskets or the seals shall be replaced as necessary.
- (i) The following records shall be maintained for leak inspections:
 - (A) Equipment inspected;
 - (B) Date and time of inspection;
 - (C) Determination of whether a leak was detected; and
 - (D) Any appropriate comments.
- (j) If a leak is detected, the following records shall be maintained:
 - (A) The equipment, operator, and instrument identification number;
 - (B) Date of repair;
 - (C) Date of maintenance recheck if repaired; and
 - (D) Any appropriate comments.

BACT for VOC - Boiler EU46

ADM plans to relocate an existing natural gas, No. 2 fuel oil and vegetable oil-fired boiler (EU46). The boiler has a heat input capacity of 140 to 145 MMBtu/hr (depending on fuel) and currently exists at ADM's North Kansas City, Missouri plant. Once relocated, the boiler will exhaust to a new stack, stack EP46. The heat input capacity of the boiler will not be changed. VOC are emitted from the boiler as a result of incomplete fuel combustion.

The boiler has a VOC PTE of 3.4 tons per year.

Step 1 – Identify Control Options

According to information available in the RBLC (RACT-BACT-LAER Clearinghouse), EPA's *Compilation of Air Pollutant Emission Factors* and the EPA's *CATC Technical Bulletins and Air Pollution Control Technology Fact Sheets*, VOC emissions from gas and oil-fired boilers could be controlled with:

- (a) The use of "good combustion practices"; and/or
- (b) Catalytic Oxidation.

According to information available in the EPA's *Compilation of Air Pollutant Emission Factors, AP-42 Ch. 1.4 (Natural Gas Combustion)*, when fired using good combustion practices, VOC is emitted from:

A natural gas-fired boiler at a rate of 0.0054 lb/MMBtu.

A fuel oil-fired (distillate oil) boiler at a rate of 0.0014 lb/MMBtu.

Step 2 – Eliminate Technically Infeasible Control Options

Catalytic Oxidation

Oxidation catalysts are typically used to reduce VOC emissions as a post combustion control system on gas-fired combustion turbines. The oxidation catalyst for CO is a rhodium or platinum (noble metal) catalyst on an alumina support material. This catalyst is installed in an enlarged duct or reactor with flue gas inlet and outlet distribution plates. Acceptable catalyst operating temperatures range from 400°F to 1,250°F. Optimum operating temperatures range from 850°F to 1,100°F. Below 600°F, a disproportionately large catalyst volume is required to achieve the same reduction. Typical oxidation catalyst control efficiencies for CO and VOC are 50 to 90 percent and 25 to 50 percent, respectively.

The proposed boiler exhaust temperature will be well below 400°F and flue gas temperatures in the furnace prior to the convective heat transfer sections are much greater than 1,250°F. As a result, a suitable location within the convective heat transfer sections of the boiler would be required in order to provide the proper temperature range and residence time for the oxidation catalyst. This approach has not been commercially demonstrated nor is it available as an option for retrofit to the boiler being installed by ADM. For these reasons, an oxidation catalyst is not considered an available technology for the gas and oil-fired boiler.

In addition, based on the calculations completed in Appendix A, the worst-case VOC emissions will occur during natural gas combustion resulting in a VOC potential to emit of only 3.4 tons per year. As a result, add-on controls are not technically or economically feasible.

Step 3 – Rank Remaining Control Options by Control Effectiveness

Not applicable. Only one technically feasible control option is identified.

Step 4 - Evaluate Control Options

Good combustion practices generally require the following:

- High Temperatures;
- Sufficient Excess Air;
- Sufficient Residence Times; and
- Good Air/Fuel Mixing.

As with other types of fossil fuel-fired boilers, combustion control is the most effective means for reducing VOC emissions from gas and oil-fired boilers. Combustion efficiency is often related to the three “T’s” of combustion: Time, Temperature, and Turbulence. These components of combustion efficiency are designed into the boiler to maximize fuel efficiency and reduce operating costs. Therefore, combustion control is accomplished primarily through boiler design and operation.

Changes in excess air affect the availability of oxygen and combustion efficiency. Very low or very high excess air levels will result in high CO and VOC formation rates, and can also affect NOx formation. Increased excess air levels will reduce the emissions of CO and VOC up to the point that so much excess air is introduced that the overall combustion temperatures begin to drop significantly. If combustion temperatures drop significantly, then boiler efficiency and steam temperatures are also negatively affected.

The OAQ reviewed the EPA’s RBLC to identify established VOC BACT limitations for gas and oil fired boilers. Specifically, the OAQ reviewed 2 facilities and 2 processes listed under RBLC Code 12.290 (Combustion of Other Liquid Fuel Mixtures), 37 facilities and 43 processes listed under RBLC Code 12.310 (Natural Gas Combustion) and 11 facilities and 12 processes listed under RBLC Code 12.220 (Distillate Oil Combustion) that implement BACT to control VOC emissions. Of the facilities and processes reviewed, the five (5) most recent sources were identified that address emissions from soybean oil manufacturing:

Source	RBLC ID (Date)	Boiler Capacity (MMBtu/hr)	BACT Control	VOC Emission Limit (lb/MMBtu)
Natural gas (RBLC Code 12.310)				
Sandy Creek Energy	TX-0499 (7/24/06)	175	none	0.004
Calpine - Turner Energy	OR-0046 (1/6/05)	139	oxidation catalyst	0.0044
Xcel Energy	MN-0066 (5/16/06)	160	GCP	0.005
Forsyth Energy Products	NC-0101 (9/29/05)	110	GCP	0.0053
Virginia Commonwealth University	VA-0278 (3/31/03)	150	GCP	0.0139
Other liquid fuel mixtures (RBLC Code 12.290)				
Virginia Commonwealth University	VA-0270 (3/31/03)	150	GCP	0.014
Distillate oil (RBLC Code 12.220)				
Plum Point Energy	AR-0079 (8/20/03)	175	GCP	0.0015
Temple Inland	GA-0114 (10/13/04)	192	GCP	0.02
ADM – Frankfort (Proposed)	NA	140 - 145	GCP	**

** ADM proposes good combustion practices and the determination of VOC BACT using CO emissions as a surrogate parameter.

NA – Not applicable

GCP - Good combustion practices

Step 5 – Select BACT

ADM proposes the use of good combustion practices as VOC BACT for Boiler #4 (EU46). While the OAQ’s BACT evaluation substantiates this proposal, the OAQ also believes that practically enforceable VOC emission limits must be imposed as part of BACT. The VOC emission rates on which the limits are based are from AP-42.

Based on the information presented above, IDEM has determined that VOC BACT for boiler EU46 is as follows:

- (a) VOC emissions shall be minimized using good combustion practices;
- (b) VOC emissions shall not exceed 0.0014 pounds per MMBTU when firing distillate oil;
- (c) VOC emissions shall not exceed 0.0054 pounds per MMBTU when firing natural gas or vegetable oil.

Due to the small VOC emission rate of Boiler #4 (EU46), compliance testing is not required by this permit.

Appendix C: Air Quality Analysis

Archer Daniels Midland Company

Frankfort, Indiana (Clinton County)

Tracking and Plant ID: 023-24843-00011

Proposed Project

Archer Daniels Midland Company submitted a Significant Source Modification and Significant Permit Modification application on May 30, 2007 for expansion of the Frankfort plant's processing capacity to 120,000 bushels per day on a twelve-month rolling average.

RTP Environmental Associates, Inc. prepared the permit application for Archer Daniels Midland Company (ADM). This technical support document provides the air quality analysis review of the submitted modeling by RTP Environmental Associates, Inc.

Analysis Summary

Based on the potential emissions after controls, the projected emission changes from SO₂, PM₁₀, CO, and NO_x are not over their PSD thresholds. The emissions increase of VOC is above the PSD significant rate. There is no NAAQS or increment for VOC, so no NAAQS analysis is required. However, VOC is a precursor for ozone. ADM performed an air quality analysis to evaluate the impacts of the Frankfort plant expansion relative to the NAAQS for ozone and found no significant impact. A Hazardous Air Pollutant (HAP) analysis was performed since emissions of n-hexane was greater than 10 tons per year. The results of Hazardous Air Pollutant (HAP) modeling showed that there is no location beyond the facility boundary with the modeling concentration greater than evaluation indexes suggested by IDEM.

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. The Frankfort plant expansion constitutes a major PSD modification for VOC emissions only. VOC is a precursor of ozone. ADM performed an air quality analysis to evaluate the impacts of the Frankfort plant expansion relative to the NAAQS for ozone.
- D. Perform a Hazardous Air Pollutant (HAP) screening for informational purposes.
- E. 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, PM₁₀, SO₂, CO and NO_x are the pollutants that will be emitted from Archer Daniels Midland Company and are summarized below in Table 1. PM₁₀, NO_x, SO₂, and CO potential emissions after controls do not exceed the PSD significant emission rates and will not require an air quality analysis.

**TABLE A-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	173.4	40	No ¹
PM ₁₀	14.9	15	No
NO _x	38.1	40	No
SO ₂	34.4	40	No

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 Archer Daniels Midland Company’s projected emission rate changes that are taken from their application (3.3.3 Title 326 IAC 2-2: Prevention of Significant Deterioration (PSD), Table 3-2 on page 11.

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:

$$H_g = H + 1.5L$$

Where: H_g 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 Archer Daniels Midland Company 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 1988 through 1992 surface data from Indianapolis, Indiana and upper air measurements taken at Peoria, Illinois. These meteorological data are the most representative data for modeling the facility in Clinton County due to the close proximity of the site. These data were obtained from IDEM and preprocessed using AERMET.

Model Description

RTP Environmental Associates, Inc used AERMOD, Version 07026. OAQ used the same model 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 Regulations Part 51, Appendix W "Guideline on Air Quality Models".

Receptor Grid

OAQ modeling used the same receptor grids generated by RTP Environmental Associates, Inc. The receptor grid contains over 3,708 individual receptors.

- 50 meter intervals along the facility's fence line,
- 100 meter spacing from 0 to 2,000 meters from the facility fence line,
- 250 meters spacing from 2,000 to 5,000 meters from the facility fence line.

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 provided by RTP Environmental Associates, Inc.

Section C – Air Quality Analysis

NAAQS Compliance Analysis and Results

Based on the potential emissions after controls, the projected emission changes of SO_2 , PM_{10} , CO, and NO_x are not over their PSD thresholds, so there is no air quality analysis for those pollutants. The emissions increase of VOC is above the PSD significant rate. There is no NAAQS or increment for VOC, so no analysis is required. However the VOC is a precursor of ozone. ADM performed an air quality analysis to evaluate the impacts of the Frankfort plant expansion relative to the NAAQS for ozone.

No air quality modeling demonstration was performed for VOC emissions from the proposed project. ADM evaluated the ambient background ozone concentration to show that the area in the vicinity of Frankfort plant will not exceed acceptable level. The nearest monitoring site is located in Flora, Carroll County, Indiana.

**TABLE C-1.
 Comparison between NAAQS and Fourth High 8-hr Ozone concentration and Design Value**

Monitoring Site	NAAQS (ppb)	2004 4 th High (ppb)	2005 4 th High (ppb)	2006 4 th High (ppb)	2004-2006 Design Value (ppb)
Flora Carroll County Indiana	<85	71	75	75	73

ADM reviewed the VOC ambient level and emission inventory information for point sources in Clinton County and concluded that the VOC emission increase from the ADM facility was not likely to significantly change the background ozone value.

IDEM reviewed the whole VOC inventory of Clinton County. ADM is the main VOC point source of Clinton County. Its' emissions were 69.82% to 77.51% of point source emissions of Clinton County from 2001 to 2003. The net emission increase from the proposed project, 173.5 TPY, is 39.61% of total VOC emissions from point sources of Clinton County in 2003. However, the emissions from point sources only comprised a small part of total emissions. Table C-2 lists the 2003 VOC inventory of Clinton County. The net emissions increase from the proposed project, 173.5 TPY, is 3.95% of total VOC emissions from all sources in Clinton County in 2003. The proposed project will likely not significantly change the ambient ozone level and should not lead to a violation of the 8-hr ozone NAAQS.

**TABLE C - 2.
 2003 VOC Emission Inventory of Clinton County**

Source Category	Area	Biogenic	Non-road	On-road	Point	Project Net Increase
VOC Emission TPY	898	1,842	239	803	433	174

Section D – HAPs Analysis

A Hazardous Air Pollutant (HAP) analysis was performed by ADM since emissions of one HAP, n-Hexane, was greater than 10 tons per year (Potential emissions of n-Hexane are estimated to be 423.63 tons per year).

ADM conducted an air quality modeling analysis for n-hexane. Total facility impacts were compared to the HAP screening criterion of 0.5% of 8-hour Occupational Safety and Administration (OSHA) permissible exposure limit (PEL) for hexane. The 8-hour PEL of hexane in the July 1, 1998 29 CFR part 1910.1000 was 1,800 mg/m³. (It is not listed in the new version of CFR part 1910.1000). 0.5% of PEL is 9000 µg/ m³. The maximum modeled 8-hour concentration is 5,144 µg/ m³. It is 57% of permissible concentration. ADM concluded that the proposed facility is compliant with the IDEM's Hazardous Air Pollutant Guidelines.

OAQ currently requests data concerning the emission of 189 HAPs listed in the 1990 Clean Air Act Amendments (CAAA) that are either carcinogenic or otherwise considered toxic and may be used by industries in the State of Indiana. These substances are listed as air toxic compounds on the State of Indiana, Department of Environmental Management, Office of Air Quality's construction permit application Form GSD-08. Potential emissions of n-hexane are estimated to be 423.63 tons per year.

According to the new guidelines, the HAP analysis was completed comparing the maximum estimated concentrations of each pollutant with the Unit Risk Factor (URF) for carcinogenic HAP and Inhalation Unit Risk evaluation for non-cancer HAP. This analysis offers a refined, up-to-date site specific analysis that takes into account the different potencies and health effects that each pollutant presents to the public.

The Unit risk factor (URF) is the upper-bound excess lifetime cancer risk estimated to result from continuous inhalation exposure to a pollutant over a 70 year lifetime. Multiplying the estimated concentration by the URF will produce a cancer risk estimate. The cancer risk estimate is the conservative probability of developing cancer from exposure to a pollutant or a mixture of pollutants over a 70 year lifetime, usually expressed as the number of additional cancer cases in a given number of people, e.g., one in a million.

Non-cancer health effects are determined by using Minimum Risk Level (MRL) for acute effects and the Reference Concentration (RfC) for chronic effects. A MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse non-cancer health effects over a specified duration of exposure. IDEM will take the maximum 24-hour modeled HAP concentration at or beyond the property boundary of the source and compare it to the appropriate MRL. The RfC is an estimate of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. Dividing the estimated pollutant concentration by the RfC will determine the pollutant's Hazard Quotient (HQ). All of the HAPs' Hazard Quotients are added together to determine the total Hazard Index (HI).

ADM only lists n-hexane as HAP with significant emissions and n-hexane is a non-carcinogenic pollutant, so IDEM just conducted non-cancer acute and chronic hazard screening analysis. For acute screening analysis, the maximum 24-hour modeled HAP concentration, $2575.07 \mu\text{g}/\text{m}^3$ at the property boundary of the source was compared to the acute Minimum Risk Level (MRL) $2100 \mu\text{g}/\text{m}^3$. The ratio of maximum modeled concentration to the MRL, 1.23, is greater than one.

For the chronic hazard screening, the maximum annual concentration, $424.36 \mu\text{g}/\text{m}^3$ at the property boundary of the source was divided by the Inhalation Reference Concentration (RfC) to obtain Hazard Quotient (HQ).

$$\text{HQ} = \text{Modeled Maximum Annual Concentration} / \text{RfC}$$

The $\text{HQ} = 2.122$ is greater than one. However, the concentrations greater than MRL or RfC occur along the north property line. The north property line is next to a road and an adjacent open field. There are no residents in that area. So, there should be no adverse health impacts to the public from this facility.

The results of the HAP modeling are shown in Table D-1. The result of chronic and acute hazard screening is in Table D-2 and D-3. The locations of sites with modeled concentrations over the evaluation indexes are shown in attached Figures Figure D-1, Figure D-2 and Figure D-3.

TABLE D-1 Hazardous Air Pollutant Modeling Results

		Year	1988	1989	1990	1991	1992
Compound	CAS Number	Modeling Period	Maximum Level (ug/m3)	Maximum Level (ug/m3)	Maximum Level (ug/m3)	Maximum Level (ug/m3)	Maximum Level (ug/m3)
n-Hexane	110543	8-hour	5144.17	4343.03	4992.66	3071.61	3678.69
		24-hour	2265.90	2441.77	2575.07	1956.91	2194.84
		Annual	389.56	388.91	424.36	410.95	365.54

TABLE D-2 Result of Chronic Hazard Screening

		Maximum Annual Concentration	Non-Cancer	Source of IDEM RfC	Hazard Quotient	Target Organs /
Compound	CAS Number	(ug/m3)	Chronic RfC, ug/m3	Source		Inhalation Critical Effects
n-Hexane	110543	424.36	200.00	IRIS	2.122	Neurological (PNS)

TABLE D-3 Result of Acute Hazard Screening

		Maximum 24-hour Concentration	Non-Cancer	Source of IDEM RfC	Risk Factor	Target Organs /
Compound	CAS Number	(ug/m3)	Acute MRL, ug/m3	Source		Inhalation Critical Effects
n-Hexane	110543	2575.07	2100.00	IRIS	1.23	Neurological (PNS)

Section E – Summary of Air Quality Analysis

RTP Environmental Associates INC. prepared the modeling portion of the PSD application. Clinton County is designated as attainment for all criteria pollutants. PM₁₀, NO_x, SO₂, and CO emission rates associated with the proposed facility did not exceed the respective significant emission rates. The emissions increase of VOC is above the PSD significant rate. There is no NAAQS or increment for VOC, so no NAAQS analysis is required. VOCs are precursors for ozone. ADM performed an air quality analysis to evaluate the impacts of the Frankfort plant expansion relative to the NAAQS for ozone. Since the net VOC emissions increase from the proposed project are only a small part of total emissions from all sources in Clinton County, the proposed project will likely not significantly change the ambient ozone level and should not lead to a violation of the ozone NAAQS.

A Hazardous Air Pollutant (HAP) analysis was performed and showed there were several locations at the facility's north boundary, but none beyond, with the modeled concentrations greater than IDEM's suggested evaluation indexes. The north property line is next to a road and an adjacent open field. There are no residents in that area, so, there should be no adverse health impacts to the public from this facility.