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NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding the Renewal of a Federally Enforceable State Operating Permit
for Cargill AgHorizons - Tipton Farm Service Center in Tipton County

FESOP No.: F159-22807-00005

The Indiana Department of Environmental Management (IDEM) has received an application from Cargill AgHorizons - Tipton Farm Service Center located at 500 E. SR 28, Tipton, Indiana, for the renewal of a Federally Enforceable State Operating Permit (FESOP). IDEM's Office of Air Quality (OAQ) issues this type of permit to regulate the operation of sources that release air pollutants.

IDEM has reviewed this application, and has developed preliminary findings, consisting of a draft permit and several supporting documents, that would allow Cargill AgHorizons - Tipton Farm Service Center to continue to operate a wholesale grain processing operation. If this source operated 365 days a year, 24 hours a day, 7 days a week, it could potentially release 490 tons of PM, 372 tons of PM10, 0.23 tons of SO₂, 2.13 tons of VOC, 32.5 tons of CO, 38.7 tons of NO_x, and 0.73 tons of hazardous air pollutant (HAP) per year. The FESOP will limit emissions to less than 86.7 tons of PM, 48.7 tons of PM10, 0.23 tons of SO₂, 2.13 tons of VOC, 32.5 tons of CO, 38.7 tons of NO_x, and 0.73 tons of HAP per year. The permit requires production limits and the use of air pollution control equipment to limit the amount of air pollution that can be released.

This draft FESOP renewal does not contain any new equipment that would emit air pollutants; however, some conditions from previously issued permits/approvals have been corrected, changed or removed. This notice fulfills the public notice procedures to which those conditions are subject.

A copy of the permit application and IDEM's preliminary findings are available at:

Tipton County Library
127 East Madison Street
Tipton, IN 46702

A copy of the preliminary findings is available on the Internet at: www.in.gov/idem/permits/air/pending.html.

How can you participate in this process?

The day after this announcement is published in a newspaper marks the beginning of a 30-day public comment period. During that 30-day period, you may comment on this permit. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this permit. If adverse comments concerning the **air pollution impact** of this permit are received, with a request for a public hearing, IDEM may hold a public

hearing. If a public hearing is held, IDEM will make a separate announcement of the date, time, and location of that hearing. At a hearing, you would have an opportunity to submit written comments, make verbal comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation or a request for a public hearing should be sent in writing to IDEM. If you do not want to comment at this time, but would like to be added to IDEM's mailing list to receive notice of future action related to this permit application, please contact IDEM. Please refer to permit number F159-22807-00005 in all correspondence.

Contact IDEM at:

IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027 (ask for extension 3-6878)

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this permit application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Mr. Bryan Lange of ERG.

To contact the Permit Reviewer:

Bryan Lange
ERG
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
Dial directly: 919-468-7854
E-mail: Bryan.Lange@erg.com

All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor or noise. For such issues, please contact your local officials.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate, Indianapolis.

If you have any questions please contact Bryan Lange at the above address.

Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

For additional information about air permits and how you can participate, please see IDEM's **Guide for Citizen Participation** and **Permit Guide** on the Internet at: www.in.gov/idem/permits/guide/.

ERG/BL



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DRAFT

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Thomas W. Easterly
Commissioner

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT RENEWAL OFFICE OF AIR QUALITY

**Cargill AgHorizons - Tipton Farm Service Center
500 East State Road 28
Tipton, Indiana 46072**

(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. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

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

Operation Permit No.: 159-22807-00005	
Issued by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date:

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

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

The Permittee owns and operates a stationary wholesale grain processing operation.

Source Address:	500 East State Road 28, Tipton, Indiana 46072
Mailing Address:	P.O. Box 337 Tipton, Indiana 46072
General Source Phone Number:	(765) 675-7581
SIC Code:	5153
County Location:	Tipton
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) Four (4) grain elevator systems, identified as emission units ID 1, 2, 3, and 4, with a maximum total throughput rate of 1,200,000 tons per year (40 million bushels at 60 pounds per bushel) of grain per year, using a polypropylene baghouse each for control, exhausting through four (4) stacks, identified as S-1, S-2, S-3, and S-4. The four systems are:
 - (1) System 1, using a polypropylene baghouse, identified as DS-1, for particulate control, exhausting through a stack, identified as S-1. With the exception of Truck Dump #1, the Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD) grain elevator System 1 is considered an affected source. System 1 was constructed in 1976 and consists of the following emission units:
 - (A) One (1) truck receiving area, identified as Truck Dump #1, with a maximum hourly capacity of 600 tons. This facility was constructed in 1976.
 - (B) Grain handling from Truck Dump #1 to Belt Con (BC-1), with a maximum hourly capacity of 600 tons;
 - (C) Grain handling from BC-1 to Leg 1 with a maximum hourly capacity of 600 pounds;
 - (D) Grain handling from DC-1 to Leg 3, with a maximum hourly capacity of 300 tons;
 - (E) Grain handling from BC-1 to Leg 4, with a maximum hourly capacity of 300 tons;

- (F) Grain handling from Leg 3 to Dryer #1, with a maximum hourly capacity of 300 tons;
 - (G) Grain handling from Dryer #2 to DC-2N, with a maximum hourly capacity of 300 tons, this conveyor was added to the system in 1997;
 - (H) Grain handling from Leg 3 to DC-8, with a maximum hourly capacity of 300 tons, this conveyor was added to the system in 1997;
 - (I) Grain handling from Dryer #1 to DC-2N, with a maximum hourly capacity of 300 tons;
 - (J) Grain handling from DC-2S to Leg 4, with a maximum hourly capacity of 300 tons;
 - (K) Grain handling from DC-8 to Dryer #2, with a maximum hourly capacity of 300 tons; and
 - (L) Grain handling from DC-2N to DC-2S, with a maximum hourly capacity of 300 tons.
- (2) System 2, using a polypropylene baghouse, identified as DS-2, for particulate control, exhausting through a stack, identified as S-2. Under NSPS Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD) grain elevator System 2, is considered an affected source. System 2 was constructed in 1976 and consists of the following emission units:
- (A) Grain handling from Leg 1 to Rail loadout, with a maximum hourly capacity of 600 tons;
 - (B) Grain handling from Leg 1 to Bins, with a maximum hourly capacity of 600 tons;
 - (C) Grain handling from Leg 1 to BC-2 with a maximum hourly capacity of 600 tons;
 - (D) Grain handling from Leg 4 to DC-3, with a maximum hourly capacity of 300 tons;
 - (E) Grain handling from DC-3 to Bins, with a maximum hourly capacity of 300 tons;
 - (F) Grain handling from DC-3 to DC-4 with a maximum hourly capacity of 300 tons;
 - (G) Grain handling from Leg 4 to BC-2, with a maximum hourly capacity of 300 tons;
 - (H) Grain handling from Leg 4 to Bins, with a maximum hourly capacity of 300 tons;
 - (I) Grain handling from Leg 5 to Bins, with a maximum hourly capacity of 450 tons;
 - (J) Grain handling from Leg 5 to BC-6, with a maximum hourly capacity of 450 tons;

- (K) Grain handling from BC-6 to BC-7, with a maximum hourly capacity of 600 tons;
- (L) Grain handling from BC-7 to Bins, with a maximum hourly capacity of 600 tons;
- (M) Grain handling from Leg 5 to BC-4, with a maximum hourly capacity of 450 tons;
- (N) Grain handling from Bins to DC-1, with a maximum hourly capacity of 300 tons;
- (O) Grain handling from BC-2 to Bins with a maximum hourly capacity of 600 tons;
- (P) Grain handling from BC-2 to BC-3 with a maximum hourly capacity of 600 tons;
- (Q) Grain handling from BC-3 to Bins, with a maximum hourly capacity of 600 tons;
- (R) Grain handling from Tank 100 to BC-11, with a maximum hourly capacity of 1,200 tons;
- (S) Grain handling from Tank 200 to BC-11 with a maximum hourly capacity of 1,200 tons;
- (T) Totally enclosed grain handling from Tank 300 to BC-12 with a maximum hourly capacity of 1,200 tons;
- (U) Totally enclosed grain handling from Tank 400 to BC-12 with a maximum hourly capacity of 1,200 tons, this conveyor was added to the system in 1994;
- (V) Totally enclosed grain handling from BC-12 to BC-11 with a maximum hourly capacity of 1,200 tons;
- (W) Totally enclosed grain handling from BC-11 to BC-10 with a maximum hourly capacity of 1,200 tons;
- (X) Grain handling from Bins to BC-10 with a maximum hourly capacity of 1,200 tons;
- (Y) Grain handling from BC-10 to Leg 1 with a maximum hourly capacity of 600 tons;
- (Z) Grain handling from BC-10 to Leg 2 with a maximum hourly capacity of 600 tons;
- (AA) Grain handling from Leg 2 to Scales with a maximum hourly capacity of 600 tons;
- (BB) Grain handling from Scales to Rail Loadout with a maximum hourly capacity of 600 tons;

- (CC) Grain handling from Shipping to Rail Loadout, with a maximum hourly capacity of 1,200 tons;
 - (DD) One (1) truck and railcar receiving area, identified as Truck/Rail Dump #3, with a maximum hourly capacity of 600 tons;
 - (EE) Grain handling from Truck/Rail Dump #3 to conveyor BC-13, with a maximum hourly capacity of 600 tons, this conveyor was added to the system in 2006;
 - (FF) Grain handling from conveyor BC-13 to Leg 2, with a maximum hourly capacity of 600 tons; and
 - (GG) Grain handling from the conveyor bins to conveyor BC-14, with a maximum hourly capacity of 600 tons.
- (3) System 3, using a polypropylene baghouse, identified as DS-3, for particulate control, exhausting through a stack identified as S-3. Under NSPS Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD) grain elevator System 3, is considered an affected source. System 3 was constructed in 1976 and consists of the following emission units:
- (A) Grain handling from DC-4 to Tank 100, with a maximum hourly capacity of 300 tons;
 - (B) Grain handling from BC-3 to BC-4 with a maximum hourly capacity of 600 tons;
 - (C) Grain handling from BC-4 to Tank 100 with a maximum hourly capacity of 600 tons;
 - (D) Totally enclosed grain handling from BC-4 to BC-5 with a maximum hourly capacity of 600 tons;
 - (E) Totally enclosed grain handling from BC-5 to Tank 200 with a maximum hourly capacity of 600 tons;
 - (F) Totally enclosed grain handling from BC-5 to BC-6 with a maximum hourly capacity of 600 tons;
 - (G) Totally enclosed grain handling from BC-6 to Tank 300 with a maximum hourly capacity of 600 tons, this conveyor was added to the system in 1997;
 - (H) Totally enclosed grain handling from BC-6 to BC-7 with a maximum hourly capacity of 600 tons, this conveyor was added to the system in 1997; and
 - (I) Totally enclosed grain handling from BC-7 to Tank 400 with a maximum hourly capacity of 600 tons, this conveyor was added to the system in 1997.
- (4) System 4 using a polypropylene baghouse, identified as DS-4, for particulate control, exhausting through a stack, identified as S-4. Under NSPS Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD) grain elevator System 4, is considered an affected source. System 4 was constructed in 1997 and consists of the following emission units:

- (A) One (1) truck receiving area, identified as Truck Dump #2, with a maximum hourly capacity of 450 tons. The truck unloading station is considered an affected source of fugitive emissions under the Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD). This facility was constructed in 1997.
 - (B) Grain handling from Truck Dump #2 to DC-51, with a maximum hourly capacity of 450 tons; and
 - (C) Grain handling from DC-51 to Leg 5, with a maximum hourly capacity of 450 tons.
- (b) One (1) outdoor grain storage bunker, identified as FS-4, with a maximum storage of 2.13 million bushels of grain, which includes grain handling from conveyor BC-14 to the storage bunker with a maximum hourly capacity of 600 tons. This bunker was constructed in 2006.
 - (c) Two (2) grain dryers, identified as emission units ID 5 and 6, heated by natural gas, each with a heat input rate of forty five (45) million Btu (MMBtu) per hour, exhausting through one (1) stack each, identified as S-5 and S-6, respectively. Each grain dryer has a maximum throughput of 4,000 bushels per hour. Grain dryer #1 was constructed in 1967 and replaced in 1992. Grain dryer #2 was constructed in 1997.
 - (d) One (1) temporary grain storage system, constructed in 2006, consisting of the following:
 - (1) One (1) enclosed grain handling operation from conveyor BC7 to discharge spout, with a maximum capacity of 600 tons per hour;
 - (2) One (1) discharge spout to temporary ground pile #1, with a maximum capacity of 600 tons per hour;
 - (3) One (1) portable conveyor to temporary ground pile #2, with a maximum capacity of 200 tons per hour;
 - (4) One (1) temporary ground pile #1, with a maximum throughput rate of 600 tons per hour and a maximum capacity storage capacity of 60,000 tons (2,000,000 bushels); and
 - (5) One (1) temporary ground pile #2, with a maximum throughput rate of 200 tons per hour and a maximum capacity storage capacity of 30,000 tons (1,000,000 bushels).

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

This stationary source also includes the following insignificant activities:

- (a) One (1) natural gas-fired infra-red radiant heater with a maximum heat input of 0.1 MMBtu per hour;
- (b) Application of oils, greases, lubricants, or other nonvolatile materials applied as temporary protective coatings;
- (c) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (d) Paved and unpaved roads and parking lots with public access [326 IAC 6-4]; and

(e) Underground conveyors.

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

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

SECTION B GENERAL CONDITIONS

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

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

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

- (a) This permit, 159-22807-00005, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 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.4 Enforceability [326 IAC 2-8-6]

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

B.5 Severability [326 IAC 2-8-4(4)]

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

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

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

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1)

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

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

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

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

The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

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

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

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

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

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

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,
Compliance Section), or
Telephone Number: 317-233-0178 (ask for Compliance Section)
Facsimile Number: 317-233-6865

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

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

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

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

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

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

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

- (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

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

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

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to 159-22807-00005 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

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

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

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

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

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

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

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

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

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

Request for renewal shall be submitted to:

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

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the

document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

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

B.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

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

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

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

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

- (d) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

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

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

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)

77 West Jackson Boulevard
Chicago, Illinois 60604-3590

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

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

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

- (b) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

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

(b) The potential to emit particulate matter (PM) from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

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

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

C.3 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

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

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

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

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

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

C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on February 12, 2007. The plan is included as Attachment A.

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

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

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

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

- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

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

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

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

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

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

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

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

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

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

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

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

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

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

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

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

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

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

C.16 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.

- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

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

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

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

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

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Four (4) grain elevator systems, identified as emission units ID 1, 2, 3, and 4, with a maximum total throughput rate of 1,200,000 tons per year (40 million bushels at 60 pounds per bushel) of grain per year, each using a polypropylene baghouse for control, exhausting through four (4) stacks, identified as S-1, S-2, S-3, and S-4. The four systems are:
- (1) System 1, using a polypropylene baghouse, identified as DS-1, for particulate control, exhausting through a stack, identified as S-1. With the exception of Truck Dump #1, grain elevator System 1 is considered an affected source under the Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD). System 1 was constructed in 1976 and consists of the following emission units:
- (A) One (1) truck receiving area, identified as Truck Dump #1, with a maximum hourly capacity of 600 tons.
 - (B) Grain handling from Truck Dump #1 to Belt Con (BC-1) with a maximum hourly capacity of 600 tons;
 - (C) Grain handling from BC-1 to Leg 1 with a maximum hourly capacity of 600 tons;
 - (D) Grain handling from DC-1 to Leg 3 with a maximum hourly capacity of 300 tons;
 - (E) Grain handling from BC-1 to Leg 4 with a maximum hourly capacity of 300 tons;
 - (F) Grain handling from Leg 3 to Dryer #1 with a maximum hourly capacity of 300 tons;
 - (G) Grain handling from Dryer #2 to DC-2N with a maximum hourly capacity of 300 tons (this conveyor was added to the system in 1997);
 - (H) Grain handling from Leg 3 to DC-8 with a maximum hourly capacity of 300 tons (this conveyor was added to the system in 1997);
 - (I) Grain handling from Dryer #1 to DC-2N with a maximum hourly capacity of 300 tons;
 - (J) Grain handling from DC-2S to Leg 4 with a maximum hourly capacity of 300 tons;
 - (K) Grain handling from DC-8 to Dryer #2 with a maximum hourly capacity of 300 tons; and
 - (L) Grain handling from DC-2N to DC-2S with a maximum hourly capacity of 300 tons.
- (2) System 2, using a polypropylene baghouse, identified as DS-2, for particulate control, exhausting through a stack, identified as S-2. Under NSPS Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD), grain elevator System 2 is considered an affected source. System 2 was constructed in 1976 and consists of the following emission units:

- (A) Grain handling from Leg 1 to Rail loadout with a maximum hourly capacity of 600 tons;
- (B) Grain handling from Leg 1 to Bins with a maximum hourly capacity of 600 tons;
- (C) Grain handling from Leg 1 to BC-2 with a maximum hourly capacity of 600 tons;
- (D) Grain handling from Leg 4 to DC-3 with a maximum hourly capacity of 300 tons;
- (E) Grain handling from DC-3 to Bins with a maximum hourly capacity of 300 tons;
- (F) Grain handling from DC-3 to DC-4 with a maximum hourly capacity of 300 tons;
- (G) Grain handling from Leg 4 to BC-2 with a maximum hourly capacity of 300 tons;
- (H) Grain handling from Leg 4 to Bins with a maximum hourly capacity of 300 tons;
- (I) Grain handling from Leg 5 to Bins with a maximum hourly capacity of 450 tons;
- (J) Grain handling from Leg 5 to BC-6 with a maximum hourly capacity of 450 tons;
- (K) Grain handling from BC-6 to BC-7 with a maximum hourly capacity of 600 tons;
- (L) Grain handling from BC-7 to Bins with a maximum hourly capacity of 600 tons;
- (M) Grain handling from Leg 5 to BC-4 with a maximum hourly capacity of 450 tons;
- (N) Grain handling from Bins to DC-1 with a maximum hourly capacity of 300 tons;
- (O) Grain handling from BC-2 to Bins with a maximum hourly capacity of 600 tons;
- (P) Grain handling from BC-2 to BC-3 with a maximum hourly capacity of 600 tons;
- (Q) Grain handling from BC-3 to Bins with a maximum hourly capacity of 600 tons;
- (R) Grain handling from Tank 100 to BC-11 with a maximum hourly capacity of 1,200 tons;
- (S) Grain handling from Tank 200 to BC-11 with a maximum hourly capacity of 1,200 tons;
- (T) Totally enclosed grain handling from Tank 300 to BC-12 with a maximum hourly capacity of 1,200 tons;
- (U) Totally enclosed grain handling from Tank 400 to BC-12 with a maximum hourly capacity of 1,200 tons (this conveyor was added to the system in 1994);
- (V) Totally enclosed grain handling from BC-12 to BC-11 with a maximum hourly capacity of 1,200 tons;
- (W) Totally enclosed grain handling from BC-11 to BC-10 with a maximum hourly capacity of 1,200 tons;
- (X) Grain handling from Bins to BC-10 with a maximum hourly capacity of 1,200 tons;

- (Y) Grain handling from BC-10 to Leg 1 with a maximum hourly capacity of 600 tons;
 - (Z) Grain handling from BC-10 to Leg 2 with a maximum hourly capacity of 600 tons;
 - (AA) Grain handling from Leg 2 to Scales with a maximum hourly capacity of 600 tons;
 - (BB) Grain handling from Scales to Rail Loadout with a maximum hourly capacity of 600 tons;
 - (CC) Grain handling from Shipping to Rail Loadout, with a maximum hourly capacity of 1,200 tons;
 - (DD) One (1) truck and railcar receiving area, identified as Truck/Rail Dump #3, with a maximum hourly capacity of 600 tons;
 - (EE) Grain handling from Truck/Rail Dump #3 to conveyor BC-13, with a maximum hourly capacity of 600 tons (this conveyor was added to the system in 2006);
 - (FF) Grain handling from conveyor BC-13 to Leg 2, with a maximum hourly capacity of 600 tons; and
 - (GG) Grain handling from the conveyor bins to conveyor BC-14, with a maximum hourly capacity of 600 tons.
- (3) System 3, using a polypropylene baghouse, identified as DS-3, for particulate control, exhausting through a stack identified as S-3. Under NSPS Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD), grain elevator System 3 is considered an affected source. System 3 was constructed in 1976 and consists of the following emission units:
- (A) Grain handling from DC-4 to Tank 100 with a maximum hourly capacity of 300 tons;
 - (B) Grain handling from BC-3 to BC-4 with a maximum hourly capacity of 600 tons;
 - (C) Grain handling from BC-4 to Tank 100 with a maximum hourly capacity of 600 tons;
 - (D) Totally enclosed grain handling from BC-4 to BC-5 with a maximum hourly capacity of 600 tons;
 - (E) Totally enclosed grain handling from BC-5 to Tank 200 with a maximum hourly capacity of 600 tons;
 - (F) Totally enclosed grain handling from BC-5 to BC-6 with a maximum hourly capacity of 600 tons;
 - (G) Totally enclosed grain handling from BC-6 to Tank 300 with a maximum hourly capacity of 600 tons (this conveyor was added to the system in 1997);
 - (H) Totally enclosed grain handling from BC-6 to BC-7 with a maximum hourly

- capacity of 600 tons (this conveyor was added to the system in 1997); and
- (I) Totally enclosed grain handling from BC-7 to Tank 400 with a maximum hourly capacity of 600 tons (this conveyor was added to the system in 1997).
- (4) System 4 using a polypropylene baghouse, identified as DS-4, for particulate control, exhausting through a stack identified as S-4. Under NSPS Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD), grain elevator System 4 is considered an affected source. System 4 was constructed in 1997 consists of the following emission units:
- (A) One (1) truck receiving area, identified as Truck Dump #2, with a maximum hourly capacity of 450 tons. The truck unloading station is considered an affected source under the Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD). This facility was constructed in 1997.
 - (B) Grain handling from Truck Dump #2 to DC-51 with a maximum hourly capacity of 450 tons; and
 - (C) Grain handling from DC-51 to Leg 5 with a maximum hourly capacity of 450 tons.
- (b) One (1) outdoor grain storage bunker, identified as FS-4, with a maximum storage of 2.13 million bushels of grain, which includes grain handling from conveyor BC-14 to the storage bunker with a maximum hourly capacity of 600 tons. This bunker was constructed in 2006.
- (d) One (1) temporary grain storage system, constructed in 2006, consisting of the following:
- (1) One (1) enclosed grain handling operation from conveyor BC7 to discharge spout with a maximum capacity of 600 tons per hour;
 - (2) One (1) discharge spout to temporary ground pile #1 with a maximum capacity of 600 tons per hour;
 - (3) One (1) portable conveyor to temporary ground pile #2 with a maximum capacity of 200 tons per hour;
 - (4) One (1) temporary ground pile #1 with a maximum throughput rate of 600 tons per hour and a maximum capacity storage capacity of 60,000 tons (2,000,000 bushels); and
 - (5) One (1) temporary ground pile #2 with a maximum throughput rate of 200 tons per hour and a maximum capacity storage capacity of 30,000 tons (1,000,000 bushels).

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

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

D.1.1 Particulate Emission Limitations [326 IAC 6-3-2]

(a) Pursuant to 326 IAC 6-3-2(e) the particulate emissions from the equipment listed in this section shall not exceed the pound per hour emission rate established below:

Process/Facility	Process Weight Rate (ton/hr)	Process Weight Rate (lb/hr)	Emission Rate (lb/hr)
System 1			
Truck Dump #1	600	1,200,000	71.2
Truck Dump #1 to BC1	600	1,200,000	71.2
BC1 to Leg 1	600	1,200,000	71.2
DC1 to Leg 3 (see dryers)	300	600,000	63.0
BC1 to Leg 4 (25% of grain received)	300	600,000	63.0
Leg 3 to Dryer #1	300	600,000	63.0
Dryer #2 to DC2N	300	600,000	63.0
Leg 3 to DC8	300	600,000	63.0
Dryer #1 to DC2N	300	600,000	63.0
DC2S to Leg 4 (see receiving)	300	600,000	63.0
DC8 to Dryer #2	300	600,000	63.0
DC2N to DC2S	300	600,000	63.0
System 2			
Leg 1 to Rail Loadout (see loadout)	600	1,200,000	71.2
Leg 1 to Bins	600	1,200,000	71.2
Leg 1 to BC2 (see transfer)	600	1,200,000	71.2
Leg 4 to DC3 (includes dryer recycle)	300	600,000	63.0
DC3 to Bins	300	600,000	63.0
DC3 to DC4	300	600,000	63.0
Leg 4 to BC2 (includes dryer recycle)	300	600,000	63.0
Leg 4 to Bins (includes dryer recycle)	300	600,000	63.0
Leg 5 to Bins (45% of grain received)	450	900,000	67.7
Leg 5 to BC6 (45% of grain received)	450	900,000	67.7
BC6 to BC7	600	1,200,000	71.2
DC7 to Bins	600	1,200,000	71.2
Leg 5 to BC4 (see transfers)	450	900,000	67.7
Bins to DC1	300	600,000	63.0
BC2 to Bins	600	1,200,000	71.2
BC2 to BC3	600	1,200,000	71.2
BC3 to Bins	600	1,200,000	71.2
Tank 100 to BC11	1,200	2,400,000	80.0
Tank 200 to BC11	1,200	2,400,000	80.0
Tank 300 to BC12	1,200	2,400,000	80.0
Tank 400 to BC12	1,200	2,400,000	80.0
BC12 to BC11	1,200	2,400,000	80.0
BC11 to BC10	1,200	2,400,000	80.0
Bins to BC10	1,200	2,400,000	80.0
BC10 to Leg 1 (10% recycle)	600	1,200,000	71.2

Process/Facility	Process Weight Rate (ton/hr)	Process Weight Rate (lb/hr)	Emission Rate (lb/hr)
Conveyor Bins to BC14	600	1,200,000	71.2
BC10 to Leg 2 (see loadout)	600	1,200,000	71.2
Leg 2 to Scales	600	1,200,000	71.2
Scales to Rail Loadout	600	1,200,000	71.2
Shipping to Rail Loadout	1,200	2,400,000	80.0
Truck and Railcar Receiving	600	1,200,000	71.2
Dump #3 to BC-13	600	1,200,000	71.2
BC13 to Leg 2	600	1,200,000	71.2
System 3			
DC4 to Tank 100 (20% of DC3)	300	600,000	63.0
BC3 to BC4	600	1,200,000	71.2
BC4 to Tank 100	600	1,200,000	71.2
BC4 to BC5	600	1,200,000	71.2
BC5 to Tank 200	600	1,200,000	71.2
BC5 to BC6	600	1,200,000	71.2
BC6 to Tank 300	600	1,200,000	71.2
BC6 to BC7	600	1,200,000	71.2
BC7 to Tank 400	600	1,200,000	71.2
System 4			
Truck Dump #2	450	900,000	67.7
Truck Dump #2 to DC51	450	900,000	67.7
DC51 to Leg 5	450	900,000	67.7
Misc (Grain Dryers, Temporary Storage, etc.)			
BC14 to Outdoor Storage Bunker	600	1,200,000	71.2
BC 7 to Discharge Spout	600	1,200,000	71.2
Discharge Spout to Pile #1	600	1,200,000	71.2
Portable Conveyor to Pile #2	200	400,000	58.5
Temporary Ground Pile #1	600	1,200,000	71.2
Temporary Ground Pile #2	600	1,200,000	71.2

The emission limits are calculated using the following equation:

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

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

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

D.1.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to 326 IAC 2-2, the Permittee shall comply with the following usage limits:

- (a) The PM emissions from the following units shall not exceed the emission limits listed in the table below:

Unit Description	Baghouse	Stack	PM Emission Limit (lbs/hr)
System 1	Polypropylene baghouse (DS-1)	S-1	1.95
System 2	Polypropylene baghouse (DS-2)	S-2	3.79
System 3	Polypropylene baghouse (DS-3)	S-3	0.34
System 4	Polypropylene baghouse (DS-4)	S-4	1.20

The total grain processed at this source shall be limited to 1,200,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month (40 million bushels at 60 pounds per bushel).

- (b) Pursuant to revision MPR159-23136-00005, issued on July 25, 2006, the Permittee shall comply with the following usage limits:
- (1) The temporary ground pile #1 throughput shall not exceed 60,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
 - (2) The temporary ground pile #2 throughput shall not exceed 30,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
 - (3) PM emissions shall not exceed 0.0027 lbs PM per ton of material processed.

Compliance with these limits, and the limits in Conditions D.1.3, D.2.2, and D.2.3 make 326 IAC 2-2 (PSD) not applicable.

D.1.3 PM10 Limitations [326 IAC 2-2][326 IAC 2-8-4]

Pursuant to 326 IAC 2-2 and 326 IAC 2-8-4, the Permittee shall comply with the following usage limits:

- (a) The PM10 emissions from the following units shall not exceed the emission limits listed in the table below:

Unit Description	Baghouse	Stack	PM10 Emission Limit (lbs/hr)
System 1	Polypropylene baghouse (DS-1)	S-1	1.95
System 2	Polypropylene baghouse (DS-2)	S-2	3.79
System 3	Polypropylene baghouse (DS-3)	S-3	0.34
System 4	Polypropylene baghouse (DS-4)	S-4	1.20

The total grain processed at this source shall be limited to 1,200,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month (40 million bushels at 60 pounds per bushel).

- (b) Pursuant to revision MPR159-23136-00005, issued on July 25, 2006, the Permittee shall comply with the following usage limits:

- (1) The temporary ground pile #1 throughput shall not exceed 60,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) The temporary ground pile #2 throughput shall not exceed 30,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (3) PM10 emissions shall not exceed 0.0013 lbs PM10 per ton of material processed.

Compliance with these limits, and the limits in Conditions D.1.2, D.2.2, and D.2.3 make 326 IAC 2-7 (Title V) and 326 IAC 2-2 (PSD) not applicable.

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements

D.1.5 Particulate Matter (PM)

- (a) In order to comply with D.1.1, D.1.2, and D.1.3, each baghouse shall be in operation at all times that its respective facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.6 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

During the period one-hundred eighty (180) days after issuance of this FESOP, in order to demonstrate compliance with Condition D.1.2, the Permittee shall perform PM and PM-10 testing for one of the polypropylene baghouses (DS1 through DS4) utilizing methods as approved by the Commissioner. IDEM will select the specific baghouse for testing. 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 condensable PM-10. Testing shall be conducted in accordance with Section C - Performance Testing.

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

D.1.7 Visible Emissions Notations

- (a) Daily visible emission notations of each stack exhaust (identified as S-1 through S-4) shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) Daily visible emission notations of the exhausts of the discharge spout associated with temporary ground pile #1 and the portable conveyor associated with temporary ground pile #2 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

- (d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (f) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions 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.1.8 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouses (identified as DS1 through DS4) used in conjunction with the grain handling processes mentioned above, at least once per day when the processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 0.5 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.1.9 Broken or Failed Bag Detection

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

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

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

D.1.10 Record Keeping Requirement

- (a) Records maintained for (1) through (2) shall be taken monthly and shall be complete and sufficient to establish compliance with usage limits established in Condition D.1.2 and D.1.3. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

- (1) To document compliance with Conditions D.1.3, the Permittee shall maintain records of the tons of grain processed.
- (2) To document compliance with Conditions D.1.4, the Permittee shall maintain records of the tons of the grain transferred to temporary ground piles #1 and #2, respectively.
- (b) To document compliance with Conditions D.1.7(a), the Permittee shall maintain records of visible emission notations of the stack exhaust for each stack exhaust. 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, (i.e. the process did not operate that day).
- (c) To document compliance with Condition D.1.7(b), the Permittee shall maintain daily visible emission notations of the exhausts from of the discharge spout associated with temporary ground pile #1 and the portable conveyor associated with temporary ground pile #2. 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, (i.e. the process did not operate that day).
- (d) To document compliance with Condition D.1.8, the Permittee shall maintain daily records of the pressure drop across each baghouse. 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, (i.e. the process did not operate that day).
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.11 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 and D.1.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

D.1.12 General Provisions Relating to New Source Performance Standards [326 IAC 12-1-1] [40 CFR Part 60, Subpart A]

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

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

D.1.13 Standards of Performance for Grain Elevators [40 CFR Part 60, Subpart DD] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart DD, the Permittee shall comply with the provisions of Standards of Performance for Grain Elevators, which are incorporated by reference as 326 IAC 12, for facilities described in this section as specified below:

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.

§ 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.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) Two (2) grain dryers, identified as emission units ID 5 and 6, heated by natural gas, each with a heat input rate of forty five (45) million Btu (MMBtu) per hour, exhausting through stacks S-5 and S-6, respectively. Each grain dryer has a maximum throughput of 120 tons per hour. Grain dryer #1 was constructed in 1992. Grain dryer #2 was constructed in 1997.

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

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

D.2.1 Particulate Matter (PM) [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 drying facilities shall not exceed the pound per hour emission rate shown below.

Process/Facility	Process Weight Rate (ton/hr)	Process Weight Rate (lb/hr)	Emission Rate (lb/hr)
Grain Dryer ID5	120	240,000	53.1
Grain Dryer ID6	120	240,000	53.1

The pounds per hour limitation was calculated with the following equation:

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

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

D.2.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

- (a) The total grain processed at this source shall be limited to 1,200,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month (40 million bushels at 60 pounds per bushel).
- (b) The PM emissions from the grain dryers shall not exceed 0.22 pounds per ton processed.

Compliance with these limits, and the limits in Conditions D.1.2, D.1.3, and D.2.3 make 326 IAC 2-2 (PSD) not applicable.

D.2.3 PM10 Limitations [326 IAC 2-2][326 IAC 2-8-4]

- (a) Pursuant to 326 IAC 2-8 (FESOP), the total grain processed at this source shall be limited to 1,200,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month (40 million bushels at 60 pounds per bushel).
- (b) The PM10 emissions from the grain dryers shall not exceed 0.055 pounds per ton processed.

Compliance with these limits, and the limits in Conditions D.1.2, D.1.3, and D.2.2 make 326 IAC 2-7 (Title V) not applicable.

D.2.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the grain dryers.

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

D.2.5 Visible Emissions Notations

- (a) Daily visible emission notations of the grain dryer stack exhausts (identified as S-5 and S-6) shall be performed 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.

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

D.2.6 Record Keeping Requirement

- (a) To document compliance with Condition D.2.5, the Permittee shall maintain records of daily visible emission notations of the grain dryer stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (i.e. the process did not operate that day).
- (b) To document compliance with Condition D.2.2 and D.2.3, the Permittee shall maintain records of the tons of grain processed.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.7 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.2 and D.2.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1)

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY**

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

Source Name: Cargill AgHorizons - Tipton Farm Service Center
Source Address: 500 East State Road 28, Tipton, Indiana 46072
Mailing Address: P.O. Box 337, Tipton, Indiana 46072
FESOP Permit No.: 159-22807-00005

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865**

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

Source Name: Cargill AgHorizons - Tipton Farm Service Center
Source Address: 500 East State Road 28, Tipton, Indiana 46072
Mailing Address: P.O. Box 337, Tipton, Indiana 46072
FESOP Permit No.: 159-22807-00005

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

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

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

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

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

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

FESOP Quarterly Report

Source Name: Cargill AgHorizons - Tipton Farm Service Center
Source Address: 500 East State Road 28, Tipton, Indiana 46072
Mailing Address: P.O. Box 337, Tipton, Indiana 46072
FESOP Permit No.: 159-22807-00005
Facility: Total grain processed
Parameter: Throughput
Limit: Total grain processed at this source shall be limited to 1,200,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month (40 million bushels at 60 pounds per bushel).

YEAR: _____

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

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

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Cargill AgHorizons - Tipton Farm Service Center
Source Address: 500 East State Road 28, Tipton, Indiana 46072
Mailing Address: P.O. Box 337, Tipton, Indiana 46072
FESOP Permit No.: 159-22807-00005
Facility: Temporary Ground Pile #1
Parameter: Throughput
Limit: Throughput shall not exceed 60,000 tons per twelve (12) consecutive month period.

YEAR: _____

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

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

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Cargill AgHorizons - Tipton Farm Service Center
Source Address: 500 East State Road 28, Tipton, Indiana 46072
Mailing Address: P.O. Box 337, Tipton, Indiana 46072
FESOP Permit No.: 159-22807-00005
Facility: Temporary Ground Pile #2
Parameter: Throughput
Limit: Throughput shall not exceed 30,000 tons per twelve (12) consecutive month period.

YEAR: _____

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

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

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Cargill AgHorizons - Tipton Farm Service Center
Source Address: 500 East State Road 28, Tipton, Indiana 46072
Mailing Address: P.O. Box 337, Tipton, Indiana 46072
FESOP Permit No.: 159-22807-00005

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 ANo 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.

ATTACHMENT A Fugitive Particulate Matter Emission Control Plan

This plan addresses the fugitive particulate matter (dust) generated by the operation of the Cargill AgHorizons-Tipton Farm Service Center. The Tipton Farm Service Center is a grain terminal elevator with a limited potential throughput of 40,000,000 bushels per year. The facility receives grain (corn, soybeans, and wheat) by truck and rail and ships grain by rail. In addition to bin and tank grain storage, the facility operates a permanent grain storage bunker and two seasonal temporary grain storage piles.

- 1) **Company Address:**
Cargill AgHorizons
Tipton Farm Service Center
500 East State Road 28
Tipton, Indiana 46072
- 2) **Person Responsible for Plan Implementation:**
Farm Service Center Manager
500 East State Road 28
Tipton, Indiana 46072
- 3) **Processes, Operations, and Areas which have the Potential to Emit Fugitive Dust:**
 - a. Truck Receiving
 - b. Rail Shipping and Receiving
 - c. Storage Bin Vents
 - d. Grain Handling
 - e. Paved Roads
 - f. Unpaved Road and Parking Area
 - g. Permanent Grain Storage Bunker
 - h. Temporary Grain Storage Pile
- 4) **Measures to be Implemented to Control Fugitive Dust.**

For the purposes of this fugitive dust control plan, abnormal fugitive dust emissions are defined as fugitive dust emissions heavier than normal or fugitive dust emissions reaching the facility's property boundary.

** Note: The trucking receiving, rail shipping/receiving, and grain handling operations are applicable to 40 CFR Subpart DD (Standards of Performance for Grain Elevators). This regulation limits the fugitive emissions from truck receiving rail operations to less than or equal to 5 percent opacity; and the fugitive emissions from grain handling operations to 0 percent opacity, as measured using US EPA Method 9.**

- a. Truck Receiving
 - i) **Description:** The facility operates three truck receiving areas. Each truck receiving area is located within a building enclosure that is open at each end and vented to fabric filter dust collection systems.
 - ii) **Fugitive Dust Control Measures:** Facility personnel involved with truck grain receiving operations are instructed that if abnormal fugitive dust emissions are observed, truck receiving operations will be stopped until the source of the abnormal fugitive emissions is identified and corrected.

b. Rail Shipping/Receiving

- i) Description: The facility operates rail shipping/receiving that is located within a building enclosure that is open at each end and vented to a fabric filter dust collection system.
- ii) Fugitive Dust Control Measures: Facility personnel involved with rail shipping operations are instructed that if abnormal fugitive dust emissions are observed, rail shipping operations will be stopped until the source of the abnormal fugitive emissions is identified and corrected.

c. Storage Bin Vents

- i) Description: The facility storage operates bins equipped with passive bin vents.
- ii) Fugitive Dust Control Measures: Facility personnel are instructed that if abnormal fugitive dust emissions are observed, operations involving the storage bin will be stopped until the source of the abnormal fugitive emissions is identified and corrected.

d. Grain Handling

- i) Description: The facility grain handling operations are vented to fabric filter dust collection systems or fully enclosed.
- ii) Fugitive Dust Control Measures: Facility personnel are instructed that if abnormal fugitive dust emissions are observed from grain handling, operations involving grain handling will be stopped until the source of the abnormal fugitive emissions is identified and corrected.

e. Paved Roads

- i) Description: The roads on the facility that are traveled by heavy duty diesel grain trucks, employee vehicles, and other support vehicles are paved. There are no paved parking areas. Trucks delivering grain to the facility are primarily staged on the facility access road. Trucks in the staging process do not travel at sufficient speed to normally generate fugitive dust.
- ii) Fugitive Dust Control Measures: Facility personnel are instructed that if abnormal fugitive dust emissions are observed from the paved roads, operations will be stopped until the abnormal fugitive emissions are corrected. Corrective measures will consist of either sweeping the roads using a wet sweeper or the application of water.

f. Unpaved Road and Parking Area

- i) Description: In the event that the paved truck staging area is full, grain trucks are directed to stage on an area of unpaved (gravel) road located east of the paved access road. The trucks only use the unpaved road for staging and do not travel at a sufficient speed to normally generate fugitive dust. The employee parking area is unpaved.
- ii) Fugitive Dust Control Measures: Facility personnel are instructed that if abnormal fugitive dust emissions are observed from the unpaved road or employee parking area, operations will be stopped until the abnormal fugitive emissions are corrected. Corrective measures will consist of wetting the unpaved roads/parking areas with water or another approved dust suppression material.

g. Permanent Grain Storage Bunker

- i) Description: The facility operates a 2.13 million bushel permanent grain storage bunker. The bunker is equipped with a steel knee-wall and covered with a tarp enclosure. The permanent grain storage bunker is filled by permanent conveyor with the tarp already covering the bunker's footprint. Grain is removed from the bunker using front-end loaders that transfer the grain to self-dumping or hopper bottom trucks.
- ii) Fugitive Dust Control Measures: Facility personnel involved with permanent grain storage bunker operations are instructed that if abnormal fugitive dust emissions are observed, permanent grain storage bunker operations will be stopped until the source of the abnormal fugitive emissions is identified and corrected.

h. Temporary Grain Storage Piles

- i) Description: The facility operates two (2) temporary grain storage piles. Pile #1 is circular in shape and is located south of Tank #400. Pile #1 has a capacity of 2,000,000 bushels and is constructed using a spout located at the end of BC-7. Pile #2 is rectangular in shape and is located west of the access drive across from Tank #300. Pile #2 has a capacity of 1,000,000 bushels and is constructed using portable conveyors. After construction of each temporary ground pile is complete, it will be completely covered by a tarp. The tarp will only be removed from areas of the pile where grain is being removed or added. The tarp will be replaced when the pile is not in active operation. Temporary ground piles #1 and #2 will be constructed each fall during the harvest season and will be operated approximately six to eight months per year. Both temporary ground piles are loaded out using front-end loaders or similar equipment into self dumping or hopper bottom trucks.
- ii) Fugitive Dust Control Measures: Facility personnel involved with temporary grain pile operations are instructed that if abnormal fugitive dust emissions are observed, temporary grain pile operations will be stopped until the source of the abnormal fugitive emissions is identified and corrected. In addition, the temporary grain piles will not be actively operated during high wind (> 20 mph) conditions and during construction of the temporary ground pile #2, the distance between the spout of the portable conveyor and the top of the pile will be minimized to reduce the amount of fugitive dust emissions generated.

- 5) **Plan implementation:**
This plan is effective February 12, 2007.

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

**Technical Support Document (TSD) for a Federally Enforceable State Operating
Permit (FESOP) Renewal**

Source Background and Description

Source Name:	Cargill AgHorizons - Tipton Farm Service Center
Source Location:	500 East State Road 28, Tipton, Indiana 46072
County:	Tipton
SIC Code:	5153
Operation Permit No.:	F159-12501-00005
Operation Permit Issuance Date:	December 14, 2001
Permit Renewal No.:	F159-22807-00005
Permit Reviewer:	ERG/BL

The Office of Air Quality (OAQ) has reviewed a FESOP renewal application from Cargill AgHorizons - Tipton Farm Service Center relating to the operation of a wholesale grain processing operation.

History

On March 16, 2006, Cargill AgHorizons - Tipton Farm Service Center submitted an application to the OAQ requesting to renew its operating permit. Cargill AgHorizons - Tipton Farm Service Center was issued a FESOP No. F159-12501-00005 on December 14, 2001.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) Four (4) grain elevator systems, identified as emission units ID 1, 2, 3, and 4, with a maximum total throughput rate of 1,200,000 tons per year (40 million bushels at 60 pounds per bushel) of grain per year, each using a polypropylene baghouse for control, exhausting through four (4) stacks, identified as S-1, S-2, S-3, and S-4. The four systems are:
 - (1) System 1, using a polypropylene baghouse, identified as DS-1, for particulate control, exhausting through a stack, identified as S-1. With the exception of Truck Dump #1, grain elevator System 1 is considered an affected source under the Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD). System 1 was constructed in 1976 and consists of the following emission units:
 - (A) One (1) truck receiving area, identified as Truck Dump #1, with a maximum hourly capacity of 600 tons.
 - (B) Grain handling from Truck Dump #1 to Belt Con (BC-1) with a maximum hourly capacity of 600 tons;
 - (C) Grain handling from BC-1 to Leg 1 with a maximum hourly capacity of 600 tons;

- (D) Grain handling from DC-1 to Leg 3 with a maximum hourly capacity of 300 tons;
 - (E) Grain handling from BC-1 to Leg 4 with a maximum hourly capacity of 300 tons;
 - (F) Grain handling from Leg 3 to Dryer #1 with a maximum hourly capacity of 300 tons;
 - (G) Grain handling from Dryer #2 to DC-2N with a maximum hourly capacity of 300 tons (this conveyor was added to the system in 1997);
 - (H) Grain handling from Leg 3 to DC-8 with a maximum hourly capacity of 300 tons (this conveyor was added to the system in 1997);
 - (I) Grain handling from Dryer #1 to DC-2N with a maximum hourly capacity of 300 tons;
 - (J) Grain handling from DC-2S to Leg 4 with a maximum hourly capacity of 300 tons;
 - (K) Grain handling from DC-8 to Dryer #2 with a maximum hourly capacity of 300 tons; and
 - (L) Grain handling from DC-2N to DC-2S with a maximum hourly capacity of 300 tons.
- (2) System 2, using a polypropylene baghouse, identified as DS-2, for particulate control, exhausting through a stack, identified as S-2. Under NSPS Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD), grain elevator System 2 is considered an affected source. System 2 was constructed in 1976 and consists of the following emission units:
- (A) Grain handling from Leg 1 to Rail loadout with a maximum hourly capacity of 600 tons;
 - (B) Grain handling from Leg 1 to Bins with a maximum hourly capacity of 600 tons;
 - (C) Grain handling from Leg 1 to BC-2 with a maximum hourly capacity of 600 tons;
 - (D) Grain handling from Leg 4 to DC-3 with a maximum hourly capacity of 300 tons;
 - (E) Grain handling from DC-3 to Bins with a maximum hourly capacity of 300 tons;
 - (F) Grain handling from DC-3 to DC-4 with a maximum hourly capacity of 300 tons;
 - (G) Grain handling from Leg 4 to BC-2 with a maximum hourly capacity of 300 tons;

- (H) Grain handling from Leg 4 to Bins with a maximum hourly capacity of 300 tons;
- (I) Grain handling from Leg 5 to Bins with a maximum hourly capacity of 450 tons;
- (J) Grain handling from Leg 5 to BC-6 with a maximum hourly capacity of 450 tons;
- (K) Grain handling from BC-6 to BC-7 with a maximum hourly capacity of 600 tons;
- (L) Grain handling from BC-7 to Bins with a maximum hourly capacity of 600 tons;
- (M) Grain handling from Leg 5 to BC-4 with a maximum hourly capacity of 450 tons;
- (N) Grain handling from Bins to DC-1 with a maximum hourly capacity of 300 tons;
- (O) Grain handling from BC-2 to Bins with a maximum hourly capacity of 600 tons;
- (P) Grain handling from BC-2 to BC-3 with a maximum hourly capacity of 600 tons;
- (Q) Grain handling from BC-3 to Bins with a maximum hourly capacity of 600 tons;
- (R) Grain handling from Tank 100 to BC-11 with a maximum hourly capacity of 1,200 tons;
- (S) Grain handling from Tank 200 to BC-11 with a maximum hourly capacity of 1,200 tons;
- (T) Totally enclosed grain handling from Tank 300 to BC-12 with a maximum hourly capacity of 1,200 tons;
- (U) Totally enclosed grain handling from Tank 400 to BC-12 with a maximum hourly capacity of 1,200 tons (this conveyor was added to the system in 1994);
- (V) Totally enclosed grain handling from BC-12 to BC-11 with a maximum hourly capacity of 1,200 tons;
- (W) Totally enclosed grain handling from BC-11 to BC-10 with a maximum hourly capacity of 1,200 tons;
- (X) Grain handling from Bins to BC-10 with a maximum hourly capacity of 1,200 tons;
- (Y) Grain handling from BC-10 to Leg 1 with a maximum hourly capacity of 600 tons;

- (Z) Grain handling from BC-10 to Leg 2 with a maximum hourly capacity of 600 tons;
 - (AA) Grain handling from Leg 2 to Scales with a maximum hourly capacity of 600 tons;
 - (BB) Grain handling from Scales to Rail Loadout with a maximum hourly capacity of 600 tons;
 - (CC) Grain handling from Shipping to Rail Loadout, with a maximum hourly capacity of 1,200 tons;
 - (DD) One (1) truck and railcar receiving area, identified as Truck/Rail Dump #3, with a maximum hourly capacity of 600 tons;
 - (EE) Grain handling from Truck/Rail Dump #3 to conveyor BC-13, with a maximum hourly capacity of 600 tons (this conveyor was added to the system in 2006);
 - (FF) Grain handling from conveyor BC-13 to Leg 2, with a maximum hourly capacity of 600 tons; and
 - (GG) Grain handling from the conveyor bins to conveyor BC-14, with a maximum hourly capacity of 600 tons.
- (3) System 3, using a polypropylene baghouse, identified as DS-3, for particulate control, exhausting through a stack identified as S-3. Under NSPS Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD), grain elevator System 3 is considered an affected source. System 3 was constructed in 1976 and consists of the following emission units:
- (A) Grain handling from DC-4 to Tank 100 with a maximum hourly capacity of 300 tons;
 - (B) Grain handling from BC-3 to BC-4 with a maximum hourly capacity of 600 tons;
 - (C) Grain handling from BC-4 to Tank 100 with a maximum hourly capacity of 600 tons;
 - (D) Totally enclosed grain handling from BC-4 to BC-5 with a maximum hourly capacity of 600 tons;
 - (E) Totally enclosed grain handling from BC-5 to Tank 200 with a maximum hourly capacity of 600 tons;
 - (F) Totally enclosed grain handling from BC-5 to BC-6 with a maximum hourly capacity of 600 tons;
 - (G) Totally enclosed grain handling from BC-6 to Tank 300 with a maximum hourly capacity of 600 tons (this conveyor was added to the system in 1997);
 - (H) Totally enclosed grain handling from BC-6 to BC-7 with a maximum hourly capacity of 600 tons (this conveyor was added to the system in 1997); and

- (I) Totally enclosed grain handling from BC-7 to Tank 400 with a maximum hourly capacity of 600 tons (this conveyor was added to the system in 1997).
- (4) System 4 using a polypropylene baghouse, identified as DS-4, for particulate control, exhausting through a stack identified as S-4. Under NSPS Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD), grain elevator System 4 is considered an affected source. System 4 was constructed in 1997 and consists of the following emission units:
 - (A) One (1) truck receiving area, identified as Truck Dump #2, with a maximum hourly capacity of 450 tons. The truck unloading station is considered an affected source under the Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD). This facility was constructed in 1997.
 - (B) Grain handling from Truck Dump #2 to DC-51 with a maximum hourly capacity of 450 tons; and
 - (C) Grain handling from DC-51 to Leg 5 with a maximum hourly capacity of 450 tons.
- (b) One (1) outdoor grain storage bunker, identified as FS-4, with a maximum storage of 2.13 million bushels of grain, which includes grain handling from conveyor BC-14 to the storage bunker with a maximum hourly capacity of 600 tons. This bunker was constructed in 2006.
- (c) Two (2) grain dryers, identified as emission units ID 5 and 6, heated by natural gas, each with a heat input rate of forty five (45) million Btu (MMBtu) per hour, exhausting through stacks S-5 and S-6, respectively. Each grain dryer has a maximum throughput of 120 tons per hour. Grain dryer #1 was constructed in 1992. Grain dryer #2 was constructed in 1997.
- (d) One (1) temporary grain storage system, constructed in 2006, consisting of the following:
 - (1) One (1) enclosed grain handling operation from conveyor BC7 to discharge spout with a maximum capacity of 600 tons per hour;
 - (2) One (1) discharge spout to temporary ground pile #1 with a maximum capacity of 600 tons per hour;
 - (3) One (1) portable conveyor to temporary ground pile #2 with a maximum capacity of 200 tons per hour;
 - (4) One (1) temporary ground pile #1 with a maximum throughput rate of 600 tons per hour and a maximum capacity storage capacity of 60,000 tons (2,000,000 bushels); and
 - (5) One (1) temporary ground pile #2 with a maximum throughput rate of 200 tons per hour and a maximum capacity storage capacity of 30,000 tons (1,000,000 bushels).

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) One (1) natural gas-fired infra-red radiant heater with a maximum heat input of 0.1 MMBtu per hour;
- (b) Application of oils, greases, lubricants, or other nonvolatile materials applied as temporary protective coatings;
- (c) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (d) Paved and unpaved roads and parking lots with public access [326 IAC 6-4]; and
- (e) Underground conveyors.

Existing Approvals

The source has been operating under the previous FESOP 159-12501-00005 issued on December 14, 2001, with an expiration date of December 14, 2006, and the following amendments and revisions:

- (a) AA159-15323-00005 issued on January 4, 2002;
- (b) AA159-15174-00005 issued on January 14, 2002;
- (c) Interim MPM159-21326I-00005 issued on June 30, 2005;
- (d) AA159-21326-00005 issued on December 19, 2005; and
- (e) MPR159-23136-00005 issued on July 25, 2006.

All conditions from previous approvals were incorporated into this FESOP, except the following:

The following terms and conditions from previous approvals have been revised in this permit:

Condition D.1.3 in Permit No. F159-12501-00005, issued on December 14, 2001, applied a particulate emissions rate limitation under 326 IAC 2-2 (PSD) to each operation. In order to make the existing limits practically enforceable, the particulate limits have been converted to hourly emission rates.

Condition D.1.4 in Permit No. F159-23136-00005, issued July 25, 2006 applied a throughput rate limit on temporary ground pile #1 and #2. Since throughput alone does not limit emissions an hourly emission rate has been added.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S-1	dust system 1 (DS-1)	37	2.8	22,700	Ambient
S-2	dust system 2 (DS-2)	36	2.5 x 5	44,200	Ambient
S-3	dust system 3 (DS-3)	129	1.7	4,000	Ambient
S-4	dust system 4 (DS-4)	29	2.0	14,000	Ambient
S-5	grain dryer #1	75 (top of screen)	50 (screen diameter); 9.0 (column diameter)	214,000	180
S-6	grain dryer #2	75 (top of screen)	50 (screen diameter); 9.0 (column diameter)	227,140	180

Emission Calculations

See Appendix A of this document for detailed emission calculations in Appendix A pages 1 through 12.

County Attainment Status

The source is located in Tipton County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO ₂	Attainment
NO ₂	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Tipton County has been classified as attainment for PM2.5. 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 PM2.5 emissions. See the State Rule Applicability - Entire Source section.
- (b) Volatile organic compounds (VOC) and Nitrogen Oxides are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Tipton 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. See the State Rule Applicability - Entire Source section.

- (c) Tipton County has been classified as attainment or unclassifiable in Indiana for PM₁₀, SO₂, NO₂, CO, and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability - Entire Source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions
The fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are counted toward determination of PSD and Emission Offset applicability. The source belongs to the category of sources regulated under the New Source Performance Standards, 40 CFR 60, Subpart DD Standards of Performance for Grain Elevators. Subpart DD, which was promulgated prior to August 7, 1980.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source, excluding the emission limits that were contained in the previous FESOP.

Pollutant	Unrestricted Potential Emissions (tons/yr)
PM	490
PM ₁₀	372
SO ₂	0.23
VOC	2.13
CO	32.5
NO _x	38.7

HAPs	Unrestricted Potential Emissions (tons/yr)
Total	0.73

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM₁₀ is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7. The source will be issued a FESOP because the source will limit its PM₁₀ emissions below the Title V levels.
- (b) Fugitive Emissions
The fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are counted toward determination of PSD and Emission Offset applicability. The source is the source category regulated under New Source Performance Standards, 40 CFR 60, Subpart DD Standards of Performance for Grain Elevators. Subpart DD, which was promulgated prior to August 7, 1980.

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/emission unit	Potential To Emit (tons/year)						
	PM	PM10	SO ₂	VOC	CO	NO _x	HAPs
Grain Dryers, Combustion Only	0.73	2.94	0.23	2.13	32.5	38.6	0.73
Grain Receiving	10.3*	3.39*	-	-	-	-	-
Grain Handling	31.9*	31.9*	-	-	-	-	-
Grain Drying	39.0*	9.76*	-	-	-	-	-
Grain Shipping	1.55*	0.13*	-	-	-	-	-
Temporary Ground Piles	0.12**	0.06**	-	-	-	-	-
Insignificant Combustion	8.2x10 ⁻⁴	3.3x10 ⁻³	2.6x10 ⁻⁴	2.4x10 ⁻⁴	0.04	0.04	8.1x10 ⁻⁴
Road Fugitives	3.03	0.59	-	-	-	-	-
Total Emissions	86.7	48.7	0.23	2.13	32.5	38.7	0.73

* Pursuant to F159-12501-00005, issued on December 14, 2001 and revised in this permit, the total grain processed shall be limited to 1,200,000 tons per year. Particulate emissions from grain handling are controlled by baghouses. The PM and PM10 emissions for System 1 through 4 are 1.95, 3.79, 0.34, and 1.20 pounds per hour, respectively.

** Pursuant to MPR159-23136-00005 issued on July 25, 2006 the throughput rate limit for temporary ground piles #1 and #2 shall be limited to 60,000 and 30,000 tons per year, respectively. PM shall not exceed 0.0027 pounds per ton processed and PM10 shall not exceed 0.0013 pounds per ton processed. Compliance with this limit renders the requirements of 326 IAC 2-8-11.1(f) (Significant Permit Revision) not applicable.

Federal Rule Applicability

(a) This source is subject to the New Source Performance Standards of Performance for Grain Elevators (40 CFR 60.300 through 60.304, Subpart DD), which is incorporated by reference as 326 IAC 12. The source operates a grain elevator that has a total grain storage capacity greater than one (1) million bushels. Nonapplicable portions of the NSPS will not be included in the permit. This source is subject to the following portions of 40 CFR 60, Subpart DD.

- (1) Fugitive emissions from grain handling operations and Truck Dump #2 are subject to the following portions of Subpart DD:
- (i) 40 CFR 60.300
 - (ii) 40 CFR 60.302(c)
 - (iii) 40 CFR 60.303
 - (iv) 40 CFR 60.304

[Note: Truck Dump #1 is not subject to this NSPS because it was constructed before the applicability date of August 3, 1978.]

- (2) The polypropylene baghouses (DS-1, DS-2, DS-3, and DS-4) exhausting through four (4) stacks, identified as S-1, S-2, S-3, and S-4 are subject to the following portions of Subpart DD:
- (i) 40 CFR 60.300
 - (ii) 40 CFR 60.302(b)
 - (iii) 40 CFR 60.303
 - (iv) 40 CFR 60.304

[Note: The column dryers are not subject to the requirements of Subpart DD. Pursuant to 40 CFR 60.302(b), opacity limits only apply to dryers with column plate perforation greater than 0.094 inches in diameter. Grain Dryer #1 and Grain Dryer #2 have plate perforations that are 0.078 inches in diameter.]

Pursuant to 40 CFR 60.1, Subpart A, the provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, apply to this facility, except as otherwise specified in 40 CFR 60, Subpart DD.

Initial performance testing occurred on October 14, 1998.

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 20 and 40 CFR Part 61, 63) included in this permit.

State Rule Applicability – Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)

The source submitted a Preventive Maintenance Plan (PMP) on July 19, 2000.

326 IAC 2-2 (PSD) and 326 IAC 2-8-4 (FESOP)

This existing source is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD applicability.

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

Unit Description	Baghouse	Stack	PM/PM10 Emission Limit (lbs/hr)
System 1	Polypropylene baghouse (DS-1)	S-1	1.95
System 2	Polypropylene baghouse (DS-2)	S-2	3.79
System 3	Polypropylene baghouse (DS-3)	S-3	0.34
System 4	Polypropylene baghouse (DS-4)	S-4	1.20

- (b) The total grain processed at this source shall be limited to 1,200,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month (40 million bushels at 60 pounds per bushel).
- (c) The allowable emission rates from the grain dryers shall not exceed the following:
 - (1) When burning natural gas PM emissions shall not exceed 0.22 pounds per tons of grain processed.
 - (2) When burning natural gas PM10 emissions shall not exceed 0.055 pounds per tons of grain processed.

Compliance with the above limits ensure that the potential to emit of PM from the entire source is limited to less than 250 tons per year and the potential to emit PM10 from the entire source is limited to less than 100 tons per year. Therefore, this existing unit is a PSD minor source and the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) are not applicable.

On December 19, 2005, AA159-21326-00005 was issued for the addition of a new truck and railcar grain receiving area (Truck/Rail Dump #3) and to convert the existing outdoor grain storage pile to an outdoor grain storage bunker (FS-4). The addition of these new emission units did not affect the source's ability to operate below the total grain processing limit of 1,200,000 tons per year. Therefore, this modification did not trigger PSD review and the PSD minor source status was maintained.

On July 25, 2006, MPR159-23136-00005 was issued for the addition of two (2) temporary ground storage piles (temporary ground pile #1 and #2) and associated grain transfer equipment. In order to render the requirements of 326 IAC 2-8-11.1(f) (Significant Permit Revision) not applicable and to maintain the PSD minor source status, the Permittee accepted the following limits for these new emission units:

- (a) The temporary ground pile #1 throughput of grain shall not exceed 60,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The temporary ground pile #2 throughput of grain shall not exceed 30,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (c) PM emissions shall not exceed 0.0027 lbs PM per ton of material processed.
- (d) PM10 emissions shall not exceed 0.0013 lbs PM10 per ton of material processed

The allowable emission rate for these units was calculated using uncontrolled emission factors, from AP-42 Chapter 13.2.4 - Aggregate Handling and Storage Piles published in November 2006.

Compliance with the above limits ensures that the PM/PM10 emissions from this revision are limited to less than 25 tons per year. This modification did not trigger PSD review and the PSD minor source status was maintained.

326 IAC 6-4 (Fugitive Dust Emissions)

The Permittee shall not allow fugitive dust to escape beyond 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 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is subject to this rule because it is a new source of particulate matter (PM) constructed after December 13, 1985, it is located in Tipton County, and it requires a permit as set forth in 326 IAC 2.

This rule requires a fugitive dust plan to be submitted. The plan was received on February 22, 2007. The source shall comply with all dust abatement measures contained therein, which include applying water or sweeping the paved roadways/unpaved parking areas and not actively operating temporary grain storage piles during high wind.

Records shall be kept and maintained to document all control measures and activities to be implemented in accordance with the control plan. Records shall be made available to IDEM upon request and shall be retained for three (3) years.

326 IAC 5-1 (Visible Opacity Limitations)

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

- (a) Opacity shall not exceed an average of forty percent (40%) 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 non-overlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability – Individual Facilities

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

Pursuant to 326 IAC 6-3-2 the particulate emissions from the receiving, handling, drying, and shipping facilities shall be limited as follows:

Process/Facility	Process Weight Rate (ton/hr)	Process Weight Rate (lb/hr)	Allowable Emission Rate (lb/hr)
System 1			
Truck Dump #1	600	1,200,000	71.2
Truck Dump #1 to BC1	600	1,200,000	71.2
BC1 to Leg 1	600	1,200,000	71.2
DC1 to Leg 3 (see dryers)	300	600,000	63.0
BC1 to Leg 4 (25% of grain received)	300	600,000	63.0
Leg 3 to Dryer #1	300	600,000	63.0
Dryer #2 to DC2N	300	600,000	63.0
Leg 3 to DC8	300	600,000	63.0
Dryer #1 to DC2N	300	600,000	63.0
DC2S to Leg 4 (see receiving)	300	600,000	63.0
DC8 to Dryer #2	300	600,000	63.0
DC2N to DC2S	300	600,000	63.0
System 2			
Leg 1 to Rail Loadout (see loadout)	600	1,200,000	71.2
Leg 1 to Bins	600	1,200,000	71.2
Leg 1 to BC2 (see transfer)	600	1,200,000	71.2
Leg 4 to DC3 (includes dryer recycle)	300	600,000	63.0
DC3 to Bins	300	600,000	63.0
DC3 to DC4	300	600,000	63.0
Leg 4 to BC2 (includes dryer recycle)	300	600,000	63.0
Leg 4 to Bins (includes dryer recycle)	300	600,000	63.0
Leg 5 to Bins (45% of grain received)	450	900,000	67.7
Leg 5 to BC6 (45% of grain received)	450	900,000	67.7
BC6 to BC7	600	1,200,000	71.2
DC7 to Bins	600	1,200,000	71.2
Leg 5 to BC4 (see transfers)	450	900,000	67.7
Bins to DC1	300	600,000	63.0
BC2 to Bins	600	1,200,000	71.2
BC2 to BC3	600	1,200,000	71.2
BC3 to Bins	600	1,200,000	71.2
Tank 100 to BC11	1,200	2,400,000	80.0
Tank 200 to BC11	1,200	2,400,000	80.0
Tank 300 to BC12	1,200	2,400,000	80.0
Tank 400 to BC12	1,200	2,400,000	80.0
BC12 to BC11	1,200	2,400,000	80.0
BC11 to BC10	1,200	2,400,000	80.0
Bins to BC10	1,200	2,400,000	80.0
BC10 to Leg 1 (10% recycle)	600	1,200,000	71.2
Conveyor Bins to BC14	600	1,200,000	71.2

Process/Facility	Process Weight Rate (ton/hr)	Process Weight Rate (lb/hr)	Allowable Emission Rate (lb/hr)
BC10 to Leg 2 (see loadout)	600	1,200,000	71.2
Leg 2 to Scales	600	1,200,000	71.2
Scales to Rail Loadout	600	1,200,000	71.2
Shipping to Rail Loadout	1,200	2,400,000	80.0
Truck and Railcar Receiving	600	1,200,000	71.2
Dump #3 to BC-13	600	1,200,000	71.2
BC13 to Leg 2	600	1,200,000	71.2
System 3			
DC4 to Tank 100 (20% of DC3)	300	600,000	63.0
BC3 to BC4	600	1,200,000	71.2
BC4 to Tank 100	600	1,200,000	71.2
BC4 to BC5	600	1,200,000	71.2
BC5 to Tank 200	600	1,200,000	71.2
BC5 to BC6	600	1,200,000	71.2
BC6 to Tank 300	600	1,200,000	71.2
BC6 to BC7	600	1,200,000	71.2
BC7 to Tank 400	600	1,200,000	71.2
System 4			
Truck Dump #2	450	900,000	67.7
Truck Dump #2 to DC51	450	900,000	67.7
DC51 to Leg 5	450	900,000	67.7
Misc (Grain Dryers, Temporary Storage, etc.)			
BC14 to Outdoor Storage Bunker *	600	1,200,000	71.2
Grain Dryer ID5 *	120	240,000	53.1
Grain Dryer ID6 *	120	240,000	53.1
BC 7 to Discharge Spout	600	1,200,000	71.2
Discharge Spout to Pile #1 *	600	1,200,000	71.2
Portable Conveyor to Pile #2 *	200	400,000	58.5
Temporary Ground Pile #1 *	600	1,200,000	71.2
Temporary Ground Pile #2 *	600	1,200,000	71.2

* These units are uncontrolled. Emission calculations based on AP-42 emission factors indicate that each emission unit is able to comply with this limit without using a control device. All other units must use the baghouses to be able to comply with this rule.

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

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

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

Compliance Determination and Monitoring Requirements

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

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also 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.

1. The compliance determination requirements applicable to this source are as follows:
 - (a) In order to demonstrate compliance with the FESOP limits pursuant to 326 IAC 2-8-4 within one hundred eighty (180) days after the issuance of this permit, the Permittee shall perform PM and PM10 testing on one of the polypropylene baghouses (identified as DS1 through DS4) using methods as approved by the Commissioner. IDEM will select the specific baghouse for testing. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C - Performance Testing.
 - (b) The PM and PM10 emissions for grain dryers were calculated using AP-42 emission factors. Although these emission factors are considered unreliable, IDEM has not required stack testing on either of these two units. Emissions from the grain dryers represent a small amount of source-wide PM and PM10 emissions.
2. The grain elevator systems and grain dryers have applicable compliance monitoring conditions as specified below:
 - (a) Daily visible emission notations of each stack exhaust (identified as S-1, S-2, S-3, S-4, S-5, and S-6) shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
 - (c) Daily visible emission notations of the exhausts of the discharge spout associated with temporary ground pile #1 and the portable conveyor associated with temporary ground pile #2 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
 - (d) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
 - (e) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

- (f) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (g) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions 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.
- (h) The Permittee shall record the pressure drop across each of the baghouses (identified as DS1 through DS4) used in conjunction with the grain handling processes mentioned above, at least once per day when the processes are in operation. When for any one reading, the pressure drop across any baghouse is outside the normal range of 0.5 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and 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.
- (i) For a single compartment baghouses controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (j) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line (or emissions unit – choose the most appropriate). Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

These monitoring conditions are necessary because the baghouses for the grain elevator system process must operate properly to ensure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration Minor Limits), 326 IAC 6-3, and 326 IAC 2-8 (FESOP).

The compliance monitoring requirements applicable to this source are as follows:

Control	Parameter	Frequency	Range	Excursions and Exceedances
Baghouses (identified as DS1 through DS4) and associated stack exhaust (identified as S-1 through S-4)	Water Pressure Drop	Daily	0.5 and 6.0 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Discharge spout associated with temporary ground pile #1 and the portable conveyor associated with temporary ground pile #2	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Grain dryer stack exhausts (identified as S-5 and S-6)	Visible Emissions	Daily	Normal-Abnormal	Response Steps

Recommendation

The staff recommends to the Commissioner that the FESOP renewal be approved. This recommendation is based on the following facts and conditions:

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

An administratively complete FESOP renewal application for the purposes of this review was received on March 16, 2006.

Conclusion

The operation of this wholesale grain processing source shall be subject to the conditions of the FESOP 159-22807-00005.

**Appendix A: Emission Calculations
Summary**

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

Process/emission unit	Potential To Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NOx	HAPs
Grain Dryers, Combustion Only	0.73	2.94	0.23	2.13	32.5	38.6	0.73
Grain Receiving	103	33.9	-	-	-	-	-
Grain Handling	319	319	-	-	-	-	-
Grain Drying	39.0	9.76	-	-	-	-	-
Grain Shipping	15.5	1.26	-	-	-	-	-
Temporary Ground Piles	9.60	4.54	-	-	-	-	-
Insignificant Combustion	8.16E-04	3.26E-03	2.58E-04	2.36E-03	0.04	0.04	8.10E-04
Road Fugitives	3.03	0.59	-	-	-	-	-
Total	490	372	0.23	2.13	32.5	38.7	0.73

Process/emission unit	Potential to Emit After Issuance (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NOx	HAPs
Grain Dryers, Combustion Only	0.73	2.94	0.23	2.13	32.5	38.6	0.73
Grain Receiving	10.3	3.39	-	-	-	-	-
Grain Handling	31.9	31.9	-	-	-	-	-
Grain Drying	39.0	9.76	-	-	-	-	-
Grain Shipping	1.55	0.13	-	-	-	-	-
Temporary Ground Piles	0.12	0.06	-	-	-	-	-
Insignificant Combustion	8.2E-04	3.3E-03	2.6E-04	2.4E-03	0.04	0.04	8.1E-04
Road Fugitives	3.03	0.59	-	-	-	-	-
Total	86.7	48.7	0.23	2.13	32.5	38.7	0.73

**Appendix A: Emission Calculations
 Natural Gas Combustion Only
 MMBTU/HR <100
 Small Industrial Boiler - Grain Dryer # 1 (S-5)**

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

Total Heat Input Capacity (MMBtu/hr) 45.0

Potential Throughput (MMCF/yr) 386
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	Pollutant						
	PM*	PM10*	SO ₂	NOx **	VOC	CO	HAPs
Emission Factor in lb/MMCF	1.9	7.6	0.6	100	5.5	84.0	1.89
Potential to Emit in tons/yr	0.37	1.47	0.12	19.3	1.06	16.2	0.36

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM combined.

**Emission factor for NOx: Uncontrolled = 100

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 7/98)

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Methodology

Potential Throughput (MMCF/yr) = Total Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF) x 1 ton/2,000 lbs

**Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR <100
Small Industrial Boiler - Grain Dryer # 2 (S-6)**

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

Total Heat Input Capacity (MMBtu/hr) 45.0

Potential Throughput (MMCF/yr) 386
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	Pollutant						
	PM*	PM10*	SO ₂	NOx **	VOC	CO	HAPs
Emission Factor in lb/MMCF	1.9	7.6	0.6	100	5.5	84.0	1.89
Potential to Emit in tons/yr	0.37	1.47	0.12	19.3	1.06	16.2	0.36

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM combined.

**Emission factor for NOx: Uncontrolled = 100

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 7/98)

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Methodology

Potential Throughput (MMCF/yr) = Total Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF) x 1 ton/2,000 lbs

**Appendix A: Emission Calculations
PM and PM10 Emissions from Grain Elevator
Small Country Terminal Elevator (Receiving)**

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

ACTUAL HOURS OF OPERATION	
Hours per day:	24
Days per week:	7
Weeks per year:	52
HOURS PER YEAR:	8,760

Limited Potential Scenario	Proposed (bushels/yr)	Actual Location % Contribution
Truck Dump#1	22,400,000	56.0%
Truck Dump#2	14,400,000	36.0%
Truck/Rail Dump #3	3,200,000	8.00%
	40,000,000	

BUSHEL PER YEAR	Actual (bushels/yr)	Actual Product % Contribution	Limited Potential Throughput (bushels/yr)	Conversion (lbs/bushel)	Limited Potential Throughput (tons/yr)
Corn:	11,724,879	63.1%	25,235,143	56	706,584
Soybeans:	6,732,241	36.2%	14,489,622	60	434,689
Wheat:	127,881	0.69%	275,235	60	8,257
Total	18,585,001	100%	40,000,000		1,149,530

Emission Point	Emission Process	Max Grain Throughput (tons/yr)	Worst Case Grain Throughput * (tons/yr)	Grain Throughput (lbs/hr)	PM Emission Factor (lbs/ton)	PTE PM Emissions (tons/yr)	PM10 Emission Factor (lbs/ton)	PTE PM10 Emissions (tons/yr)
Truck Dump #1	Receiving	5,256,000	643,737	146,972	0.18	57.9	0.059	19.0
Truck Dump #2	Receiving	3,942,000	413,831	94,482	0.18	37.2	0.059	12.2
Truck/Rail Dump #3 (95% Railcar)	Receiving	5,256,000	-	0	0.027	0	0.0022	0
Truck/Rail Dump #3 (5% Straight Trucks)	Receiving		91,962	20,996	0.18	8.28	0.06	2.71
TOTAL =			1,149,530			103		33.9

Emission Point	Control Efficiency (%)	Emission Control System Type	Controlled PM Emissions (tons/yr)	Controlled PM-10 Emissions (tons/yr)
Truck Dump #1	90.0%	DS1	5.79	1.90
Truck Dump #2	90.0%	DS4	3.72	1.22
Truck/Rail Dump #3 (95% Hopper Trucks)	90.0%	DS2	0	0
Truck/Rail Dump #3 (5% Straight Trucks)	90.0%	DS2	0.83	0.27
			10.3	3.39

Emission factors are from AP 42 Table 9.9.1-1 Particulate Emission Factors for Uncontrolled Grain Elevators (5th Edition Supplement 1998)

Actual throughput of 18 million bushels per year was scaled to the maximum of 40 million bushels.

AP 42 9.9.1-1 - Country elevators are generally smaller elevators that receive grain by truck directly from farms during harvest season. Terminal elevators dry, clean, blend and store grain for shipment to other terminals or processors, or for export.

These elevators may receive grain by truck, rail, or barge, and generally have greater grain handling and storage capacities than country elevators.

* Receiving and shipping by truck produces more particulate emissions than receiving and shipping by railcar. To constitute a realistic maximum particulate emissions IDEM has assumed a maximum amount of shipping and receiving is handled by truck with the balance handled by railcar.

Methodology

Potential to Emit (tons/yr) = Grain Processing Rate (tons/yr) * Particulate Emission Factor (lbs/ton) * 1 ton / 2,000 lbs

Limited Potential Throughput (bushels/yr) = Actual Product % Contribution of Corn, Soybeans, or Wheat * Total Proposed (bushels/yr)

Limited Potential Throughput (tons/yr) = Limited Potential Throughput (bushels/yr) * Conversion (lbs/bushel) * 1 ton / 2,000 lbs

Grain Throughput (tons/yr) = Actual Location % Contribution * Limited Potential Throughput (tons/yr)

**Appendix A: Emission Calculations
PM/PM10 Emissions from Grain Elevator
Small Country Terminal Elevator (Handling)**

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

PM/PM10 emissions from grain handling, controlled by baghouses

Elevator Systems	Polypropylene Baghouse ID	Stack ID	Stack Max Flow Rate (dscf/min)	Uncontrolled * PTE of PM/PM10 (tons/yr)	Controlled ** PTE of PM/PM10 (tons/yr)
System 1	DS-1	S-1	22,700	85.2	8.52
System 2	DS-2	S-2	44,200	166	16.6
System 3	DS-3	S-3	4,000	15.0	1.50
System 4	DS-4	S-4	14,000	52.6	5.26
Total				319	31.9

* A baghouse control efficiencies is assumed 90%.

** Controlled grain loading emissions are assumed to be 0.01 grains per dry standard cubic feet of stack gas.

Methodology

Controlled Potential to Emit of PM/PM (tons/yr) = Stack Max Flow Rate (dscm) * Particulate Loading (gr/dscfm) * 1lb/7000lbs * 60min/1hr * 8760hrs/yr * 1ton/2,000 lbs

Uncontrolled Potential to Emit of PM/PM (tons/yr) = Controlled Potential to Emit of PM/PM (tons/yr) / (1 - Control Efficiency)

Appendix A: Emission Calculations
PM Emissions from Grain Handling
Demonstration of Compliance with 326 IAC 6-3-2

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

System 1

Emission Point	Max Throughput (tons/hr)	Grain Throughput (tons/yr)	Grain Throughput (lbs/hr)	PM Emission Factor (lbs/ton)	Uncontrolled PTE PM Emissions (tons/yr)	Emission Control System Type	Control Efficiency (%)	326 IAC 6-3-2 Allowable PM Emissions (lbs/hr)	Controlled PM Emissions (lbs/hr)
Truck Dump #1	600	5,256,000	1,200,000	0.061	160	DS1	90.0%	71.2	3.66
Truck Dump #1 to BC1	600	5,256,000	1,200,000	0.061	160	DS1	90.0%	71.2	3.66
BC1 to Leg 1	600	5,256,000	1,200,000	0.061	160	DS1	90.0%	71.2	3.66
DC1 to Leg 3 (see dryers)	300	2,628,000	600,000	0.061	80.2	DS1	90.0%	63.0	1.83
BC1 to Leg 4 (25% of grain received)	300	2,628,000	600,000	0.061	80.2	DS1	90.0%	63.0	1.83
Leg 3 to Dryer #1	300	2,628,000	600,000	0.061	80.2	DS1	90.0%	63.0	1.83
Dryer #2 to DC2N	300	2,628,000	600,000	0.061	80.2	DS1	90.0%	63.0	1.83
Leg 3 to DC8	300	2,628,000	600,000	0.061	80.2	DS1	90.0%	63.0	1.83
Dryer #1 to DC2N	300	2,628,000	600,000	0.061	80.2	DS1	90.0%	63.0	1.83
DC2S to Leg 4 (see receiving)	300	2,628,000	600,000	0.061	80.2	DS1	90.0%	63.0	1.83
DC8 to Dryer #2	300	2,628,000	600,000	0.061	80.2	DS1	90.0%	63.0	1.83
DC2N to DC2S	300	2,628,000	600,000	0.061	80.2	DS1	90.0%	63.0	1.83

System 2

Leg 1 to Rail Loadout (see loadout)	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
Leg 1 to Bins	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
Leg 1 to BC2 (see transfer)	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
Leg 4 to DC3 (includes dryer recycle)	300	2,628,000	600,000	0.061	80.2	DS2	90.0%	63.0	1.83
DC3 to Bins	300	2,628,000	600,000	0.061	80.2	DS2	90.0%	63.0	1.83
DC3 to DC4	300	2,628,000	600,000	0.061	80.2	DS2	90.0%	63.0	1.83
Leg 4 to BC2 (includes dryer recycle)	300	2,628,000	600,000	0.061	80.2	DS2	90.0%	63.0	1.83
Leg 4 to Bins (includes dryer recycle)	300	2,628,000	600,000	0.061	80.2	DS2	90.0%	63.0	1.83
Leg 5 to Bins (45% of grain received)	450	3,942,000	900,000	0.061	120	DS2	90.0%	67.7	2.75
Leg 5 to BC6 (45% of grain received)	450	3,942,000	900,000	0.061	120	DS2	90.0%	67.7	2.75
BC6 to BC7	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
DC7 to Bins	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
Leg 5 to BC4 (see transfers)	450	3,942,000	900,000	0.061	120	DS2	90.0%	67.7	2.75
Bins to DC1	300	2,628,000	600,000	0.061	80.2	DS2	90.0%	63.0	1.83
BC2 to Bins	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
BC2 to BC3	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
BC3 to Bins	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
Tank 100 to BC11	1200	10,512,000	2,400,000	0.061	321	DS2	90.0%	80.0	7.32
Tank 200 to BC11	1200	10,512,000	2,400,000	0.061	321	DS2	90.0%	80.0	7.32
Tank 300 to BC12	1200	10,512,000	2,400,000	0.061	321	Enclosed	99.0%	80.0	0.73
Tank 400 to BC12	1200	10,512,000	2,400,000	0.061	321	Enclosed	99.0%	80.0	0.73
BC12 to BC11	1200	10,512,000	2,400,000	0.061	321	Enclosed	99.0%	80.0	0.73
BC11 to BC10	1200	10,512,000	2,400,000	0.061	321	Enclosed	99.0%	80.0	0.73
Bins to BC10	1200	10,512,000	2,400,000	0.061	321	DS2	90.0%	80.0	7.32
BC10 to Leg 1 (10% recycle)	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
BC10 to Leg 2 (see loadout)	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
Leg 2 to Scales	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
Scales to Rail Loadout	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
Shipping to Rail Loadout	1200	10,512,000	2,400,000	0.061	321	DS2	90.0%	80.0	7.32
Truck and Railcar Receiving	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
Dump #3 to BC-13	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66
BC13 to Leg 2	600	5,256,000	1,200,000	0.061	160	DS2	90.0%	71.2	3.66

System 3

DC4 to Tank 100 (20% of DC3)	300	2,628,000	600,000	0.061	80.15	DS3	90.0%	63.0	1.83
BC3 to BC4	600	5,256,000	1,200,000	0.061	160	DS3	90.0%	71.2	3.66
BC4 to Tank 100	600	5,256,000	1,200,000	0.061	160	DS3	90.0%	71.2	3.66
BC4 to BC5	600	5,256,000	1,200,000	0.061	160	Enclosed	99.0%	71.2	0.37
BC5 to Tank 200	600	5,256,000	1,200,000	0.061	160	Enclosed	99.0%	71.2	0.37
BC5 to BC6	600	5,256,000	1,200,000	0.061	160	Enclosed	99.0%	71.2	0.37
BC6 to Tank 300	600	5,256,000	1,200,000	0.061	160	Enclosed	99.0%	71.2	0.37
BC6 to BC7	600	5,256,000	1,200,000	0.061	160	Enclosed	99.0%	71.2	0.37
BC7 to Tank 400	600	5,256,000	1,200,000	0.061	160	Enclosed	99.0%	71.2	0.37

System 4

Truck Dump #2	450	3,942,000	900,000	0.061	120	DS4	90.0%	67.7	2.75
Truck Dump #2 to DC51	450	3,942,000	900,000	0.061	120	DS4	90.0%	67.7	2.75
DC51 to Leg 5	450	3,942,000	900,000	0.061	120	DS4	90.0%	67.7	2.75

Misc (Grain Dryers, Temporary Storage, etc.)

Outdoor Storage Bunker	600	5,256,000	1,200,000	0.061	160	None	0.0%	71.2	36.6
Grain Dryer ID5	120	1,051,200	240,000	0.22	116	None	0.0%	53.1	26.4
Grain Dryer ID6	120	1,051,200	240,000	0.22	116	None	0.0%	53.1	26.4
BC 7 to Discharge Spout	600	5,256,000	1,200,000	0.061	160	Enclosed	99.0%	71.2	0.37
Discharge Spout to Pile #1	600	5,256,000	1,200,000	0.061	160	None	0.0%	71.2	36.6
Portable Conveyor to Pile #2	200	1,752,000	400,000	0.061	53.4	None	0.0%	58.5	12.2
Temporary Ground Pile #1	600	5,256,000	1,200,000	0.061	160	None	0.0%	71.2	36.6
Temporary Ground Pile #2	600	5,256,000	1,200,000	0.061	160	None	0.0%	71.2	36.6

Emission factors are from AP 42 Table 9.9.1-1 Particulate Emission Factors for Uncontrolled Grain Elevators (March 2003)

Actual throughput of 18 million bushels per year was scaled to the maximum of 40 million bushels.

AP 42 9.9.1-1 - Country elevators are generally smaller elevators that receive grain by truck directly from farms during harvest season. Terminal elevators dry, clean, blend and store grain for shipment to other terminals or processors, or for export.

These elevators may receive grain by truck, rail, or barge, and generally have greater grain handling and storage capacities than country elevators.

Methodology

Potential to Emit (tons/yr) = Grain Processing Rate (tons/yr) * Particulate Emission Factor (lbs/ton) * 1 ton / 2,000 lbs

Where the process weight rate is in excess of sixty thousand (60,000) pounds per hour calculate the allowable emissions using the equation:

$$E = 55.0 P^{0.11} - 40$$

where

E = rate of emission in pounds per hour and

P = process weight rate in tons per hour

**Appendix A: Emission Calculations
PM and PM10 Emissions from Grain Elevator
Small Country Terminal Elevator (Drying)**

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

ACTUAL HOURS OF OPERATION	
Hours per day:	24
Days per week:	7
Weeks per year:	52
HOURS PER YEAR:	8,760

Limited Potential Scenario	Proposed (bushels/yr)	Actual Location % Contribution
Truck Dump#1	22,400,000	56.0%
Truck Dump#2	14,400,000	36.0%
Truck/Rail Dump #3	3,200,000	8.00%
	40,000,000	

BUSHEL PER YEAR	Actual (bushels/yr)	Actual Product % Contribution	Limited Potential Throughput (bushels/yr)	Conversion (lbs/bushel)	Limited Potential Throughput (tons/yr)
Corn:	11,724,879	63.1%	25,235,143	56	706,584
Soybeans:	6,732,241	36.2%	14,489,622	60	434,689
Wheat:	127,881	0.69%	275,235	60	8,257
Total	18,585,001	100%	40,000,000		1,149,530

Emission Point	Emission Process	Grain Throughput (tons/yr)	Grain Throughput (lbs/hr)	PM Emission Factor (lbs/ton)	PTE PM Emissions (tons/yr)	PM10 Emission Factor (lbs/ton)	PTE PM10 Emissions (tons/yr)
Dryer #1	Drying (uncontrolled)	177,397	40,502	0.22	19.5	0.055	4.88
Dryer #2	Drying (uncontrolled)	177,397	40,502	0.22	19.5	0.055	4.88
	TOTAL =	354,794			39.0		9.76

Emission factors are from AP 42 Table 9.9.1-1 Particulate Emission Factors for Uncontrolled Grain Elevators (March 2003)
 Actual throughput of 18 million bushels per year was scaled to the maximum of 40 million bushels.
 AP 42 9.9.1-1 - Country elevators are generally smaller elevators that receive grain by truck directly from farms during harvest season. Terminal elevators dry, clean, blend and store grain for shipment to other terminals or processors, or for export.
 These elevators may receive grain by truck, rail, or barge, and generally have greater grain handling and storage capacities than country elevators

Methodology

Potential to Emit (tons/yr) = Grain Processing Rate (tons/yr) * Particulate Emission Factor (lbs/ton) * 1 ton / 2,000 lbs
 Limited Potential Throughput (bushels/yr) = Actual Product % Contribution of Corn, Soybeans, or Wheat * Total Proposed (bushels/yr)
 Limited Potential Throughput (tons/yr) = Limited Potential Throughput (bushels/yr) * Conversion (lbs/bushel) * 1 ton / 2,000 lbs

**Appendix A: Emission Calculations
PM and PM10 Emissions from Grain Elevator
Small Country Terminal Elevator (Shipping)**

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East State Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

ACTUAL HOURS OF OPERATION	
Hours per day:	24
Days per week:	7
Weeks per year:	52
HOURS PER YEAR:	8760

Limited Potential Scenario	Proposed (bushels/yr)	Actual Location % Contribution
Truck Dump#1	22,400,000	56.0%
Truck Dump#2	14,400,000	36.0%
Truck/Rail Dump #3	3,200,000	8.00%
	40,000,000	

BUSHEL PER YEAR	Actual (bushels/yr)	Actual Product % Contribution	Limited Potential Throughput (bushels/yr)	Conversion (lbs/bushel)	Limited Potential Throughput (tons/yr)
Corn:	11,724,879	63.1%	25,235,143	56	706,584
Soybeans:	6,732,241	36.2%	14,489,622	60	434,689
Wheat:	127,881	0.69%	275,235	60	8,257
Total	18,585,001	100%	40,000,000		1,149,530

Emission Point	Emission Process	Grain Throughput (tons/yr)	Grain Throughput (lbs/hr)	PM Emission Factor (lbs/ton)	PTE PM Emissions (tons/yr)	PM10 Emission Factor (lbs/ton)	PTE PM10 Emissions (tons/yr)	Control Efficiency (%)	Controlled PM Emissions (tons/yr)	Controlled PM-10 Emissions (tons/yr)
Rail Loadout (includes direct loadout)	Shipping	1,149,530	262,450	0.027	15.5	0.0022	1.26	90.0%	1.55	0.13
	TOTAL =	1,149,530			15.5		1.26		1.55	0.13

Emission factors are from AP 42 Table 9.9.1-1 Particulate Emission Factors for Uncontrolled Grain Elevators (March 2003)

Actual throughput of 18 million bushels per year was scaled to the maximum of 40 million bushels.

AP 42 9.9.1-1 - Country elevators are generally smaller elevators that receive grain by truck directly from farms during harvest season. Terminal elevators dry clean, blend and store grain for shipment to other terminals or processors, or for export. These elevators may receive grain by truck, rail, or barge, and generally have greater grain handling and storage capacities than country elevators.

Methodology

Potential to Emit (tons/yr) = Grain Processing Rate (tons/yr) * Particulate Emission Factor (lbs/ton) * 1 ton / 2,000 lbs

Limited Potential Throughput (bushels/yr) = Actual Product % Contribution of Corn, Soybeans, or Wheat * Total Proposed (bushels/yr)

Limited Potential Throughput (tons/yr) = Limited Potential Throughput (bushels/yr) * Conversion (lbs/bushel) * 1 ton / 2,000 lbs

Appendix A: Emission Calculations
PM and PM10 Emissions from Grain Elevator
Temporary Ground Pile #1

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

1. Emission Factors:

According to AP-42, Chapter 13.2.4 - Aggregate Handling and Storage Piles (AP-42, 11/06), the PM/PM10 emission factors for aggregate handling process can be estimated from the following equation:

$$E_f = \frac{k \times 0.0032 \times (U/5)^{1.3}}{(M/2)^{1.4}}$$

where:

E _f = Emission Factor (lbs/ton)	
k = Particle size multipliers =	0.74 for PM and 0.35 for PM10
U = Mean wind speed (mph) =	15 mph (AP-42)
M = Moisture content (%) =	5 % (from a similar source)

Therefore,

PM Emission Factor =	0.0027 lbs/ton process
PM10 Emission Factor =	0.0013 lbs/ton process

2. Unlimited Potential to Emit PM/PM10:

Max. Throughput Rate: 600 tons/hr

PTE of PM (tons/yr) = 600 tons/hr x 0.0027 lbs/ton x 8760 hrs/yr x 1 ton/2000 lbs = 7.20 tons/yr

PTE of PM10 (tons/yr) = 600 tons/hr x 0.0013 lbs/ton x 8760 hrs/yr x 1 ton/2000 lbs = 3.40 tons/yr

3. Potential to Emit PM/PM10 with Limits:

Annual Throughput Limit: 60,000 tons/yr (= 2 million bushels)

PTE of PM (tons/yr) = 60,000 tons/yr x 0.0027 lbs/ton x 1 ton/2000 lbs = 0.08 tons/yr

PTE of PM10 (tons/yr) = 60,000 tons/yr x 0.0013 lbs/ton x 1 ton/2000 lbs = 0.04 tons/yr

**Appendix A: Emission Calculations
PM and PM10 Emissions from Grain Elevator
Temporary Ground Pile #2**

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

1. Emission Factors:

According to AP-42, Chapter 13.2.4 - Aggregate Handling and Storage Piles (AP-42, 01/95), the PM/PM10 emission factors for aggregate handling process can be estimated from the following equation:

$$E_f = \frac{k \times 0.0032 \times (U/5)^{1.3}}{(M/2)^{1.4}}$$

where:

E _f = Emission Factor (lbs/ton)	
k = Particle size multipliers =	0.74 for PM and 0.35 for PM10
U = Mean wind speed (mph) =	15 mph (AP-42)
M = Moisture content (%) =	5 % (from a similar source)

Therefore,

PM Emission Factor =	0.0027 lbs/ton process
PM10 Emission Factor =	0.0013 lbs/ton process

2. Unlimited Potential to Emit PM/PM10:

Max. Throughput Rate: 200 tons/hr

PTE of PM (tons/yr) = 200 tons/hr x 0.0027 lbs/ton x 8760 hrs/yr x 1 ton/2000 lbs = 2.40 tons/yr

PTE of PM10 (tons/yr) = 200 tons/hr x 0.0013 lbs/ton x 8760 hrs/yr x 1 ton/2000 lbs = 1.13 tons/yr

3. Potential to Emit PM/PM10 with Limits:

Annual Throughput Limit: 30,000 tons/yr (= 1 million bushels)

PTE of PM (tons/yr) = 30,000 tons/yr x 0.0027 lbs/ton x 1 ton/2000 lbs = 0.04 tons/yr

PTE of PM10 (tons/yr) = 30,000 tons/yr x 0.0013 lbs/ton x 1 ton/2000 lbs = 0.02 tons/yr

**Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR <100
Insignificant Combustion**

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

Total Heat Input Capacity (MMBtu/hr) 0.10

Potential Throughput (MMCF/yr) 0.86

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	SO ₂	NOx **	VOC	CO	HAPs
	1.9	7.6	0.6	100	5.5	84.0	1.89
Potential to Emit in tons/yr	8.16E-04	3.26E-03	2.58E-04	4.29E-02	2.36E-03	3.61E-02	8.10E-04

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM combined.

**Emission factor for NOx: Uncontrolled = 100

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 7/98)

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Methodology

Potential Throughput (MMCF/yr) = Total Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF) x 1 ton/2,000 lbs

Appendix A: Emission Calculations
Fugitive Emissions From Paved Roads

Company Name: Cargill AgHorizons - Tipton Farm Service Center
Address: 500 East Road 28, Tipton, IN 46072
Permit: 159-22807-00005
Reviewer: ERG/BL
Date: September 12, 2006

1. Emission Factors: AP-42

According to AP-42, Chapter 13.2.1 - Paved Roads (12/03), the PM/PM10 emission factors for paved roads can be estimated from the following equation:

$$E = (k \times (sL/2)^a \times (w/3)^b - C) \times (1 - p/(4 \times 365))$$

where:

E = emission factor (lb/vehicle mile traveled)

sL (non-Winter) = road surface silt loading (g/m²) = 0.6 (g/m²) (AP-42, Table 13.2.1-3)

sL (Winter) = sL (non-Winter) x 4 (g/m²) = 2.4 (g/m²) (AP-42, Table 13.2.1-3)

w = mean vehicle weight (tons) = 11.9 tons

k = empirical constant = 0.082 for PM and 0.016 for PM10

a = empirical constant = 0.65

b = empirical constant = 1.5

C = emission factor for exhaust, brake and tire wear = 0.00047 for PM and PM10

p = number of days per year with 0.01 inches precipitation = 120

PM Emission Factor (non-Winter) = $(0.082 \times (0.6/2)^{0.65} \times (27.5/3)^{1.5} - 0.00047) \times (1 - 120/1460) = 0.27$ lbs/mile

PM10 Emission Factor (non-Winter) = $(0.016 \times (0.6/2)^{0.65} \times (27.5/3)^{1.5} - 0.00047) \times (1 - 120/1460) = 0.05$ lbs/mile

PM Emission Factor (Winter) = $(0.082 \times (2.4/2)^{0.65} \times (27.5/3)^{1.5} - 0.00047) \times (1 - 120/1460) = 0.67$ lbs/mile

PM10 Emission Factor (Winter) = $(0.016 \times (2.4/2)^{0.65} \times (27.5/3)^{1.5} - 0.00047) \times (1 - 120/1460) = 0.13$ lbs/mile

PM Emission Factor (Average Annual) = ((PM Emission Factor (non-Winter) x 9) + (PM Emission Factor (Winter) x 3))/12

PM Emission Factor (Average Annual) = 0.37 lbs/mile

PM10 Emission Factor (Average Annual) = ((PM10 Emission Factor (non-Winter) x 9) + (PM10 Emission Factor (Winter) x 3))/12

PM10 Emission Factor (Average Annual) = 0.07 lbs/mile

2. Potential to Emit (PTE) of PM/PM10 from Paved Roads:

Vehicle Type	Ave Weight of Vehicles* (tons)	Trip Number* (trips/yr)	Round Trip Distance* (mile/trip)	Vehicle Mile Traveled (VMT) (miles/yr)	Traffic Component (%)	Component Vehicle Weight (tons)	PTE of PM (tons/yr)	PTE of PM10 (tons/yr)
Grain Delivery	15.0	48,000	0.25	12,000	73.3%	10.99	2.22	0.43
Employee Vehicles	2.0	7,300	0.50	3,650	22.3%	0.45	0.68	0.13
Package Trucks	10.0	1,460	0.50	730	4.46%	0.45	0.14	0.03
Total				16,380	100%	11.9	3.03	0.59

* This information is provided by the source.

Methodology

Vehicle Mile Traveled (miles/yr) = Trip Number (trips/yr) x Round Trip Distance (mile/trip)

Traffic Component (%) = VMT / Total VMT

Component Vehicle Weight = Ave. Weight of Vehicles (tons) x Traffic Component (%)

PTE of PM/PM10 (tons/yr) = VMT (miles/yr) x PM/PM10 Emission Factors (Average Annual) x 1 ton/2000 lbs