INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

To:	Interested Parties
Date:	December 2, 2014
From:	Matthew Stuckey, Chief Permits Branch Office of Air Quality
Source Name:	Consolidated Grain and Barge Co.
Permit Level:	Title V - Significant Permit Modification
Permit Number:	129 - 34338 - 00035
Source Location:	2781 Bluff Road, Mt. Vernon, Indiana
Type of Action Taken:	Modification at an existing source

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the matter referenced above.

The final decision is available on the IDEM website at: http://www.in.gov/apps/idem/caats/
To view the document, select Search option 3, then enter permit 34338.

If you would like to request a paper copy of the permit document, please contact IDEM's central file room:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

(continues on next page)

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

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

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Mr. Doug VanMeter
Consolidated Grain and Barge Co.
P.O. Box 289
Mt. Vernon, Indiana 47620

December 2, 2014

Re: 129-34338-00035
Significant Permit Modification to
Part 70 Renewal No.: T129-31079-00035

Dear Mr. VanMeter:

Consolidated Grain and Barge Co. was issued a Part 70 Operating Permit Renewal No. T129-31079-00035 on January 25, 2013 for a stationary soybean oil extraction plant located at 2781 Bluff Road, Mt. Vernon. An application requesting changes to this permit was received on March 18, 2014. Pursuant to the provisions of 326 IAC 2-7-12, a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

Please find attached the entire Part 70 Operating Permit as modified. The permit references the below listed attachments. Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this modification:

Attachment A:	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR 60, Subpart Dc]
Attachment B:	Standards of Performance for Grain Elevators [40 CFR 60, Subpart DD]
Attachment C:	National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production [40 CFR 63, Subpart GGGG]
Attachment D:	National Emission Standards for Hazardous Air Pollutants: Stationary Reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ]
Attachment E:	National Emission Standards for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR 63, Subpart DDDDD]
Attachment F:	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR 60, Subpart IIII]

Previously issued approvals for this source containing these attachments are available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/.

Federal rules under Title 40 of United States Code of Federal Regulations may also be found on the U.S. Government Printing Office's Electronic Code of Federal Regulations (eCFR) website, located on the Internet at: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl.

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: http://www.in.gov/idem/5881.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Heath Hartley, of my staff, at 317-232-8217 or 1-800-451-6027, and ask for extension 2-8217.

Sincerely,

Jason R. Krawczyk, Section Chief
Permits Branch
Office of Air Quality

Attachment(s): Updated Permit, Technical Support Document and Appendix A

JK/hh

cc: File - Posey County
Posey County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing and Training Section
IDEM Southwest Regional Office

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Commissioner

Part 70 Operating Permit Renewal

OFFICE OF AIR QUALITY

Consolidated Grain and Barge Co.
2781 Bluff Road
Mt. Vernon, Indiana 47620

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T129-31079-00035	
Issued by: Original Signed Jenny Acker, Section Chief Permits Branch, Office of Air Quality	Issuance Date: January 25, 2013 Expiration Date: January 25, 2018

Significant Permit Modification No. 129-33315-00035, issued on October 9, 2013
Administrative Amendment No. 129-34009-00035, issued on January 2, 2014
Administrative Amendment No. 129-33867-00035, issued on January 17, 2014

Significant Permit Modification No.: 129-34338-00035	
Issued by: Jason Krawczyk, Section Chief Permits Branch Office of Air Quality	Issuance Date: December 2, 2014 Expiration Date: January 25, 2018

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SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary soybean oil extraction plant.

Source Address:	2781 Bluff Road, Mt. Vernon, Indiana 47620
General Source Phone Number:	(812) 833-3256
SIC Code:	2075
County Location:	Posey
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD Greenhouse Gas (GHG) potential to emit (PTE) is less than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year Major Source, under Section 112 of the Clean Air Act Not in 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

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

(a) Three (3) 33.7 MMBtu per hour natural gas fired boilers, identified as P17, P18, and P18A, approved in 1996 for construction, and exhausting to Stacks 17, 18, and 18A, respectively. Under NSPS, Subpart Dc, boilers P17, P18, and P18A are considered small industrial-commercial-institutional steam generating units. Under NESHAP, Subpart DDDDD, boilers P17, P18, and P18A are considered part of the existing, affected source.

(b) Two (2) wood/shredded tire fired boilers, identified as P17B and P17C, approved in 2006 for construction, each with a nominal heat input capacity of 57.3 MMBtu/hr, both controlled by one (1) electrostatic precipitator (ESP) (identified as ES1), and exhausting through Stack 17A. Stack 17A is equipped with a continuous opacity monitoring system (COMS). Under NSPS, Subpart Dc, boilers P17B and P17C are considered small industrial-commercial-institutional steam generating units. Under NESHAP, Subpart DDDDD, boilers P17B and P17C are considered part of the existing, affected source.

(c) One (1) north truck receiving area, identified as P24, approved in 2001 for construction, with a nominal throughput capacity of 360 tons per hour, controlled by baghouse C24, and exhausting to Stack 24. Under NSPS, Subpart DD, this unit is considered a truck unloading station.

(d) One (1) north house bin loading area, identified as P27, approved in 2001 for construction, with a nominal throughput capacity of 360 tons per hour, and exhausting inside the north house, consisting of the following:

(1) One (1) totally enclosed aspirated elevator leg that transfers soybeans to enclosed conveyors.

(2) Two (2) enclosed conveyors that transfer the soybean from the north receiving area to the soybean storage areas.

Under NSPS, Subpart DD, this area is considered a grain handling operation.

(e) One (1) soybean expander system, approved in 1996 for construction and approved in 2004 for modification, with a nominal capacity of 50 tons per hour. This system consists of the following:

(1) One (1) expander, forming soybean collets.

(2) One (1) totally enclosed conveying system transferring material from the expander system to the extraction system.

Under NESHAP, Subpart GGGG, these emission units are considered vegetable oil production processes.

(f) One (1) truck only soybean receiving area, identified as P1, approved in 1996 for construction, with a nominal throughput capacity of 600 tons per hour. This area consists of the following:

(1) One (1) truck only receiving pit.

(2) One (1) totally enclosed belt conveyor system (or equivalent), using an oil application to control PM emissions.

(3) One (1) aspirated soybean receiving leg, controlled by an oil application to control PM emissions and also controlled by baghouse C1, exhausting to Stack 1.

(4) One (1) enclosed belt conveyor that transfers the soybean from the receiving leg to the soybean enclosed belt conveyor.

(5) One (1) enclosed belt conveyor that loads the soybean storage silos.

Under NSPS, Subpart DD, the emission units at this area are considered a truck unloading station and grain handling operations.

(g) One (1) truck and railcar soybean receiving area, identified as P2, approved in 1996 for construction, with a nominal throughput capacity of 540 tons per hour, consisting of the following:

(1) One (1) truck and railcar receiving pit, with PM emissions controlled by restricting vehicles unloading grain at these stations to hopper-bottom rail cars and trucks with choke unloading applications.

(2) One (1) enclosed drag conveyor system (or equivalent), using an oil application to control PM emissions.

(3) Two (2) aspirated soybean receiving legs, using an oil application to control PM emissions and also controlled by baghouse C1, exhausting to Stack 1.

(4) One (1) aspirated bulkweigher, using and oil application to control PM emissions and also controlled by baghouse C1, exhausting to Stack 1.

(5) One (1) enclosed drag conveyor that transfers the soybean at a nominal rate of 540 tons per hour from the receiving leg to the soybean covered belt conveyor that loads the soybean silos.

Under NSPS, Subpart DD, the emission units at this area are considered truck and railcar unloading stations and grain handling operations.

(h) One (1) annex silo loading operation, identified as P2A, approved in 1996 for construction, with a nominal throughput rate of 1,740 tons per hour, controlled by an oil application system, and consisting of the following:

(1) Twelve (12) concrete soybean silos, each with a nominal storage capacity of 73,053 bushels.

(2) Four (4) concrete soybean storage silos, each with a nominal capacity of 19,375 bushels.

(3) Two (2) concrete soybean storage silos, each with a nominal capacity of 18,801 bushels.

(4) Three (3) totally enclosed drag conveyors (or equivalent) comprising two conveyance systems located below the storage silos that transfer the soybeans from the silos to the elevator legs.

Under NSPS, Subpart DD, this silo loading operation is considered a grain handling operation.

(i) One (1) soybean storage system, identified as P2B, approved in 2002 for construction and approved in 2009 for modification, with a nominal throughput of 600tons per hour, controlled by an oil application system, and consisting of the following:

(1) Two (2) soybean silos (P2B and P2C), with a nominal combined storage capacity of 1,177,000 bushels.

(2) Two (2) enclosed belt conveyors.

(3) Two (2) enclosed drag conveyors.

Under NSPS, Subpart DD, this soybean storage system is considered a grain handling operation.

(j) One (1) flow coating material kaolin handling operation, identified as P3, approved in 1996 for construction, controlled by baghouse C3, and exhausting to Stack 3. This operation consists of the following:

(1) One (1) flow coating material kaolin receiving bin.

(2) One (1) flow coating material enclosed conveyor system that transfers kaolin to the enclosed mixing screw conveyor, with a nominal throughput rate of 0.459 tons per hour.

(k) One (1) soybean cleaning process, identified as P4, approved in 1996 for construction, with a nominal throughput rate of 125 tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

(1) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner, using an oil application to control PM emissions.

(2) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the cleaner.

(3) One (1) cleaning system, consisting of the following:

(A) Two (2) cleaners, controlled by an oil application system and baghouse C4.

(B) Two (2) whole bean aspirators, controlled by an oil application system and baghouse C4.

(C) One (1) conveyor transferring beans from the aspirator to the hopper, controlled by an oil application system and baghouse C4.

(D) One (1) hopper, controlled by an oil application system and baghouse C4.

(E) One (1) scale, controlled by an oil application system and baghouse C4.

(F) Two (2) pods aspirators, approved in 2014 for construction, identified as P4A, with a maximum capacity of 125 tons per hour, controlled by baghouse C4A and exhausting through stack 4A.

(G) One (1) pods aspirator, controlled by cyclone C5E, exhausting to stack 5.

(H) One (1) pods breaker, controlled by cyclone C5E, and exhausting to stack 5.

Under NSPS, Subpart DD, this cleaning system is considered a grain handling operation.

(l) One (1) soybean heater with one (1) L-Path totally enclosed drag conveyor, identified as P21, approved in 1996 for construction and approved in 2008 for replacement, with a nominal capacity of 125 tons per hour, and exhausting to Stack 21. Under NESHAP, Subpart GGGG, the soybean heater is considered vegetable oil production processes.

(m) One (1) soybean cracking and dehulling operation, identified as P5, approved in 1996 for construction, with a nominal throughput rate of 125 tons per hour, and consisting of the following:

(1) One (1) enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers soybeans to the jet dryers.

(2) Three (3) jet dryers, each with a nominal capacity of 42 tons per hour, controlled by cyclones C5A, C5B, and C5F, respectively, and exhausting to Stack 5.

(3) Three (3) primary CCD dryers, controlled by cyclones C5C and C5G, and exhausting to Stack 5.

(4) Three (3) secondary CCC coolers, controlled by cyclones C5D and C5H, and exhausting to Stack 5.

(5) Six (6) cracking and dehulling rolls that transfer the hulls through four (4) cyclones (C5C, C5D, C5G, and C5H) to an enclosed conveyor.

(6) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system, with a nominal throughput rate of 8.75 tons per hour.

(7) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G, C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator, with a nominal throughput rate of 8.75 tons per hour.

(8) Two (2) hull screeners and aspirators, with a total nominal throughput rate of 8.75 tons per hour, controlled by cyclone C5E, and exhausting to Stack 5.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(n) One (1) hull grinding operation, identified as P6, approved in 1996 for construction, with a nominal throughput rate of 8.75 tons per hour, controlled by baghouse C6, and exhausting to Stack 6. This operation is consisting of the following:

(1) Two (2) hull grinders.

(2) One (1) ground hulls cyclone.

(3) One (1) totally enclosed drag conveyor (or equivalent) that transfers hulls from the ground hulls cyclone to the hull hopper.

(o) One (1) hull storage operation, identified as P7, approved in 1996 for construction, with a nominal throughput rate of 15 tons per hour, controlled by baghouse C7, and exhausting to Stack 7. This operation is consisting of the following:

(1) One (1) ground hulls blower that transfers hulls to the Hull storage bins.

(2) Hull storage bins, with a nominal capacity of 39,000 cubic feet.

(3) Two (2) totally enclosed drag conveyor (or equivalent) that transfers hulls to the ground hulls blower.

(4) One (1) ground hulls blower that transfers hulls to the hull hopper.

(p) One (1) hull handling operation, approved in 1996 for construction, with a nominal throughput rate of 15 tons per hour, controlled by baghouse C7A, and exhausting to Stack 7A. This operation is consisting of the following:

(1) One (1) hull hopper that feeds to the pellet mills.

(2) Two (2) hull pellet mills, identified as P7A, approved in 1996 for construction, and P7B, approved in 2008 for construction. Only one (1) pellet mill is capable of operating at any given time.

(q) One (1) hull pellet cooler, identified as P8, approved in 1996 for construction, with a nominal capacity of 15 tons per hour, controlled by cyclone C8, and exhausting to Stack 8.

(r) Pellet storage operation consisting of the following:

(1) Pellet storage bin, identified as P8A, approved in 1996 for construction, with a nominal capacity of 29,000 cubic feet, controlled by baghouse C8A that exhausts to Stack 8A.

(2) Pellet storage building, identified as P8B, approved in 1996 for construction, with a nominal capacity of 70,000 cubic feet, controlled by baghouse C8B that exhausts to Stack 8B.

(3) Only one pellet storage can receive product at any one time.

(s) One (1) soybean flaking operation, identified as P19, approved in 1996 for construction and approved in 2009 and in 2010 for modification, with a nominal throughput rate of 114.0 tons per hour, and consisting of the following:

(1) One (1) totally enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers beans from cracking and dehulling to the flakers.

(2) Ten (10) flakers, controlled by baghouses C19A, C19B, and C19C, exhausting to Stack 19, and/or controlled by baghouse C19D, exhausting to Stack P19D.

(3) Two (2) totally enclosed drag conveyors (or equivalent) in series that transfer soybean flakes and collets from the flakers and the expander system to the feed screw conveyor.

(4) One (1) feed screw conveyor that transfers soybean flakes and collets to the extractor.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(t) One (1) soybean oil extraction system, identified as P13, approved in 1996 for construction, controlled by mineral oil absorber system C13, and exhausting to Stack 13. This system consists of the following:

(1) One (1) soybean oil extractor, with a nominal capacity of 114.0 tons of soybean flakes and collets per hour and 114.0 tons of hexane per hour.

(2) One (1) desolventizer unit, with a nominal capacity of 94.4 tons of spent soybean flakes and collets per hour.

(3) A set of evaporators, with a nominal capacity of 24.0 tons of soybean oil per hour.

(4) A set of condensers and water separator to separate hexane and water, with a nominal capacity of 24.0 tons of soybean oil per hour.

(5) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a nominal rate of 94.4 tons per hour and 37.5 tons per hour, respectively.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(u) One (1) DTDC meal dryer section 1, identified as P10, approved in 1996 for construction, with a nominal drying capacity of 90.7 tons of meal per hour, controlled by cyclone C10, and exhausting to Stack 10. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(v) One (1) DTDC meal dryer section 2, identified as P11, approved in 1996 for construction, with a nominal drying capacity of 90.7 tons of meal per hour, controlled by cyclone C11, and exhausting to Stack 11. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(w) One (1) DTDC meal dryer section 3, identified as P12, approved in 2009 for modification, with a nominal capacity of 90.7 tons of meal per hour, controlled by cyclone C12, and exhausting to Stack 12.

(x) One (1) enclosed conveyor transferring meal from the meal dryer section 3 to the meal cooling operation, approved in 2009 for construction.

(y) One (1) meal cooling operation, identified as P12A, approved in 2009 for construction, with a nominal capacity of 90.7 tons of meal per hour, controlled by cyclone C12A, and exhausting to Stack 12A. This operation consists of the following:

(1) Two (2) meal cooler sections, exhausting to the common cyclone C12A and Stack 12A.

(2) One (1) Meal Cooler enclosed drag conveyor (or equivalent) that transfers meal from the Meal Cooler and the C12A Cyclone to the one (1) DTDC enclosed drag conveyor.

(3) One (1) DTDC enclosed drag conveyor (or equivalent) that transfers meal from the Meal Cooler/DTDC and four (4) DTDC cyclones (C10, C11, C12, C12A) to the meal surge bin conveyor.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(z) One (1) meal handling process, identified as P9, approved in 1996 for construction, with a nominal capacity of 90.7 tons of meal per hour, controlled by baghouse C9, and exhausting to Stack 9. This process consists of the following:

(1) One (1) totally enclosed conveyor that transfers the meal to the surge bin or the Screener.

(2) One (1) meal surge bin, with a nominal storage capacity of 19,000 cubic feet, that feeds to the recycle leg.

(3) One (1) elevator leg that transfers the meal to the sizing process.

(4) One (1) meal screener.

(5) Two (2) meal grinders.

(6) Two (2) meal grinding hoppers.

(7) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the grinding hoppers to the meal mixing screw conveyor.

(8) One (1) enclosed meal mixing screw conveyor (or equivalent) that transfers meal to the mixed meal elevator leg.

(9) One (1) mixed meal elevator leg.

(10) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the mixed meal elevator leg to the meal storage tanks, load out bins and bulk weigh system.

(aa) One (1) meal storage operation, identified as P20, approved in 1996 for construction, with a nominal throughput rate of 300 tons of meal per hour, controlled by baghouse C20, and exhausting to Stack 20. This operation consists of the following:

(1) Meal storage tanks (capacity 292,000 cubic feet) and loadout bin (capacity 29,000 cubic feet), with a combined nominal storage capacity of 321,000 cubic feet.

(2) One (1) totally enclosed drag conveyor (or equivalent) that transfers soybean meal from the meal storage tanks to the meal elevator leg.

(3) One (1) meal elevator leg that operates at a nominal capacity of 300 tons per hour.

(bb) One (1) truck meal loadout operation, identified as P14, approved in 1996 for construction, with a nominal throughput rate of 383.3 tons of meal per hour, controlled by baghouse C14, and exhausting to Stack 14. This operation consists of the following:

(1) Three (3) totally enclosed drag conveyors (or equivalent) that transfer meal from the meal loadout bins to the truck.

(2) Two (2) truck loadout chutes, with only one chute having flow at any given time.

(cc) One (1) barge/railcar meal loadout operation, identified as P15, approved in 1996 for construction, with a nominal throughput rate of 383.3 tons of meal per hour, controlled by baghouse C15, and exhausting to Stack 15. This operation consists of the following:

(1) One (1) rail and barge loadout scalper with a totally enclosed ball breaker.

(2) One (1) rail and barge bulk weigh system consisting of one (1) upper garner, one (1) weigh hopper, and one (1) lower surge. The bulk weigh system is controlled by baghouse C15A, installed in 2013, exhausting to Stack 15A.

(3) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the lower surge to rail or barge.

(4) Two (2) rail loadout systems, with only one system operating at a time.

(5) One (1) enclosed conveyor that transfers soybean meal from the lower surge to the barge loadout system.

(6) One (1) barge loadout system.

(dd) Three (3) fixed roof hexane storage tanks.

(1) Two (2) fixed roof hexane storage tanks, approved in 2013 for construction, each with a nominal storage capacity of 12,000 gallons.

(2) One (1) horizontal fixed roof hexane storage tank, approved in 2012 for construction, with a nominal storage capacity of 28,000 gallons.

All hexane tanks are vented to the distillation system and exhausted through to Stack 13 (P13). Under NESHAP, Subpart GGGG, these tanks are considered vegetable oil production processes.

(ee) One (1) fixed roof hexane work tank, approved in 1996 for construction, with a nominal storage capacity of 8,000 gallons. Under NESHAP, Subpart GGGG, this tank is considered a vegetable oil production process.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]

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

(a) Degreasing operations that do not exceed 145 gallons per twelve (12) months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-8]

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

(c) Emergency generators as follows: one (1) natural gas-fired emergency generator, approved in 1997 for construction, with a maximum generating rate of 343 kilowatts. [40 CFR 63, Subpart ZZZZ]

(d) Stationary fire pump engines as follows: two (2) diesel-fired pumps, one (1) approved in 1997 for construction and one (1) approved in 2012 for construction, each with a nominal power output rate of 305 hp. [40 CFR 60, Subpart IIII] [40 CFR 63, Subpart ZZZZ]

(e) Two (2) natural gas-fired heaters, identified as Welfare Building Heaters 1 and 2, Welfare Building Heater 2 was constructed in 2008 and Welfare Building Heater 1 was constructed in 2011, each with a heat input capacity of 0.22 MMBtu/hr.

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

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

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

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

SECTION B GENERAL CONDITIONS

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

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

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

(a) This permit, T129-31079-00035, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.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 2-7-7] [IC 13-17-12]

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 2-7-5(5)]

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

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

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

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

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. 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 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

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

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)] [326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(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.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

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

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

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

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

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

The Permittee shall implement the PMPs.

(c) 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. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(d) 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.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Southwest Regional Office or Southeast Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Southwest Regional Office phone: (812) 380-2305; fax: (812) 380-2304.
Southeast Regional Office phone: (812) 358-2027; fax: (812) 358-2058.

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

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

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

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

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

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

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

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

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

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

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

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

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

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

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

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

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

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

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

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T129-31079-00035 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

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

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

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

B.14 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Request for renewal shall be submitted to:

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

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

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

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

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

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

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]

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

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

B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

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

(4) The Permittee notifies the:

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

and

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

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

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b) or (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

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

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

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

(3) Any change in emissions; and

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

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

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

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

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

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

B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

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

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

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

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

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

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

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

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

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

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

C.2 Opacity [326 IAC 5-1]

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

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

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

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

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

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

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

The Permittee shall comply with the applicable requirements of 326 IAC 14-10, 326 IAC 18, and 40 CFR 61.140.

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

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

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(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 a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)] [40 CFR 64] [326 IAC 3-8]

(a) For new units:

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

in writing, prior to 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 a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(d) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

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

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

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

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

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

C.13 Risk Management Plan [326 IAC 2-7-5(11)] [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.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6] [40 CFR 64] [326 IAC 3-8]

(I) Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to 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 excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning 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 normal or usual manner of operation.

(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 record the reasonable response steps taken.

(II)

(a) CAM *Response to excursions or exceedances.*

(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the 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. 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). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or 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.

(2) 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, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

(e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:

(1) Failed to address the cause of the control device performance problems; or

(2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or record keeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(h) *CAM record keeping requirements.*

(1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

(2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable record keeping requirements.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) 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 a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(b)(3), starting in 2006 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

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

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

The statement must be submitted to:

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

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

(AA) All calibration and maintenance records.

(BB) All original strip chart recordings for continuous monitoring instrumentation.

(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following, where applicable:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.

(BB) The dates analyses were performed.

(CC) The company or entity that performed the analyses.

(DD) The analytical techniques or methods used.

(EE) The results of such analyses.

(FF) The operating conditions as existing at the time of sampling or measurement.

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, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of

permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [40 CFR 64] [326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B – Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C – General Reporting. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that 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. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

(b) The address for report submittal is:

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

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.19 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 applicable standards for recycling and emissions reduction.

SECTION D.1 FACILITY OPERATION CONDITIONS - Boilers

Facility Description [326 IAC 2-7-5(14)]

(a) Three (3) 33.7 MMBtu per hour natural gas fired boilers, identified as P17, P18, and P18A, approved in 1996 for construction, and exhausting to Stacks 17, 18, and 18A, respectively.

(b) Two (2) wood/shredded tire fired boilers, identified as P17B and P17C, approved in 2006 for construction, each with a nominal heat input capacity of 57.3 MMBtu/hr, both controlled by one (1) electrostatic precipitator (ESP) (identified as ES1), and exhausting through Stack 17A. Stack 17A is equipped with a continuous opacity monitoring system (COMS).

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

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

D.1.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from the natural gas fired boilers (P17, P18, and P18A) shall be limited to 0.328 pounds per million BTU heat input each.

D.1.2 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

(a) The total emissions from boilers P17B and P17C (Stack 17A) shall not exceed the emission limits listed in the table below:

Pollutants	Emission Limit (lb/MMBtu)
CO	0.2
NO_x	0.44
PM	0.025
PM_{10}	0.042
$PM_{2.5}$	0.035
SO_2	0.115
VOC	0.017

(b) The total equivalent dry wood input to boilers P17B, P17C, P17, P18, and P18A shall not exceed 51,875 tons per twelve consecutive month period with compliance determined at the end of each month.

(1) Dry wood is defined as wood with a moisture content less than 5% by weight.

(2) The use of one ton of shredded tire is equivalent to the use of 2.0 tons of equivalent dry wood.

(3) The use of 1 MMCF of natural gas in boilers P17, P18, or P18A is equivalent to the use of 37.8 tons of equivalent dry wood.

Therefore, the total equivalent dry wood usage shall be calculated using the following equation:

Total Equivalent Dry Wood Usage (tons) = Dry Wood Usage (tons) + [Wet Wood Usage (tons)/ (1+Moisture Content of Wet Wood)] + 2.0 x Shredded Tire (tons) + 37.8 x NG Usage (MMCF)

(c) The total shredded tire input to boilers P17B and P17C shall not exceed 7,410 tons per twelve consecutive month period with compliance determined at the end of each month.

(d) The heating value of the dry wood combusted in boilers P17B or P17C shall not exceed 16 MMBtu/ton.

(e) The heating value of the shredded tire combusted in boilers P17B or P17C shall not exceed 32 MMBtu/ton.

(f) The wood combusted in boilers P17B and P17C shall be limited to fresh cut wood, painted/unpainted/untreated kiln dried wood scraps, or pallets.

(g) The tires combusted in boilers P17B and P17C shall be limited to shredded tires.

Compliance with these limits, in combination with the limits in Conditions D.2.1, D.3.1, and D.4.1 and the potential to emit from other units at the source, shall limit the potential to emit NO_X, VOC, PM, PM_{10}, and $PM_{2.5}$ from the entire source to less than 250 tons per twelve (12) consecutive month period, each. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

Compliance with these limits, combined with the potential to emit greenhouse gases from all other emission units at this source, shall limit the source-wide total potential to emit greenhouse gases (GHGs) to less than 100,000 tons of CO_2 equivalent emissions (CO_2e) per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and their control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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

D.1.4 Particulate Control

In order to ensure compliance with Condition D.1.2, the ESP for particulate control shall be in operation and control emissions from boilers P17B and P17C at all times that these boilers are in operation.

D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.1.2, the Permittee shall perform PM, PM_{10}, $PM_{2.5}$, SO_2, NO_x, VOC, and CO testing for the emissions from Stack 17A (boilers 17B and 17C), utilizing methods as approved by the Commissioner, at least once every five (5) years from the date of the most recent valid compliance demonstration. The performance testing for each pollutant shall be performed at the worst case combustion scenario for each pollutant. PM_{10} and $PM_{2.5}$ include filterable and condensable PM.

(b) If boilers P17B and P17C have been shutdown for 90 days or more before the five (5) year date of the most recent valid compliance demonstration, the Permittee shall perform PM, PM_{10}, $PM_{2.5}$, SO_2, NO_x, VOC, and CO testing for the emissions not later than one hundred eighty (180) days after start-up, utilizing methods as approved by the Commissioner. The performance testing for each pollutant shall be performed at the worst case combustion scenario for each pollutant. PM_{10} and $PM_{2.5}$ includes filterable and condensable PM.

(c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(d) In order to demonstrate compliance with Condition D.1.2(b)(1), the Permittee shall perform analytical testing once every two (2) weeks to determine the moisture content of the wood received.

D.1.6 Continuous Emissions Monitoring [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5, and in order to ensure compliance with Condition D.1.2 and the requirements of 40 CFR 60, Subpart Dc as specified in Section E.1, continuous emission monitoring systems (CEMS) for boilers P17B and P17C shall be installed, calibrated, maintained, operated, and certified for measuring opacity which meet all applicable performance specifications of 326 IAC 3-5-2.

(b) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

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

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

D.1.7 Continuous Opacity Monitoring [326 IAC 3-5]

Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.

(a) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6)-minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.

(b) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6)-minute averaging periods at least twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(c) Method 9 readings may be discontinued once a COMS is online.

(d) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.

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

D.1.8 Transformer-Rectifier (T-R) Sets [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The ability of the ESP to control particulate emissions shall be monitored once per day, when the unit is in operation, by measuring and recording the number of T-R sets in service and the primary and secondary voltages and the currents of the T-R sets.

(b) Reasonable response steps shall be taken whenever the percentage of T-R sets in service falls below ninety percent (90%). Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. T-R set failure resulting in less than ninety percent (90%) availability is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.9 Wood Inspections

In order to demonstrate compliance with Condition D.1.2(f), the Permittee shall perform visual inspection of the wood received at this source for combustion. Inspections required by this condition shall be performed when performing the moisture content testing for the wood received.

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

D.1.10 Record Keeping Requirements

(a) To document the compliance status with Section C - Opacity, and the particulate matter and opacity requirements in Conditions D.1.2, D.1.6, D.1.7, and D.1.8, the Permittee shall maintain records in accordance with (1) through (4) below. Records shall be complete and sufficient to establish compliance with the limits in Condition D.1.2.

(1) Data and results from the most recent stack test.

(2) All continuous opacity monitoring data, pursuant to 326 IAC 3-5-6.

(3) The results of all Method 9 visible emission readings taken during any periods of COMS downtime.

(4) All ESP parametric monitoring readings.

(b) To document the compliance status with Condition D.1.2, the Permittee shall maintain monthly records of the following:

(1) The amount of the wood combusted each month in boilers P17B and P17C.

(2) The type (fresh cut wood, painted/unpainted/untreated kiln dried wood scraps, or pallets) and the moisture contents of the wood combusted in boilers P17B and P17C.

(3) The amount of shredded tire combusted in boilers P17B and P17C.

(4) The total natural gas usage in boilers P17, P18, and P18A.

(5) The amount of equivalent dry wood usage for each month using the equation in Condition D.1.2(b).

(c) To document the compliance status with Condition D.1.2(f), the Permittee shall maintain a copy of the contract which indicates that the wood supplier cannot deliver any type of wood which is not specified in Condition D.1.2(f).

(d) To document the compliance status with Condition D.1.9, the Permittee shall maintain records of the results of the inspections required under Condition D.1.9.

(e) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

D.1.11 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.2(b) and D.1.2(c) shall be submitted no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.2 FACILITY OPERATION CONDITIONS - Grain Receiving and HandlingGrain Receiving and Handling

Facility Description [326 IAC 2-7-5(14)]:

(c) One (1) north truck receiving area, identified as P24, approved in 2001 for construction, with a nominal throughput capacity of 360 tons per hour, controlled by baghouse C24, and exhausting to Stack 24. Under NSPS, Subpart DD, this unit is considered a truck unloading station.

(d) One (1) north house bin loading area, identified as P27, approved in 2001 for construction, with a nominal throughput capacity of 360 tons per hour, and exhausting inside the north house, consisting of the following:

(1) One (1) totally enclosed aspirated elevator leg that transfers soybeans to enclosed conveyors.

(2) Two (2) enclosed conveyors that transfer the soybean from the north receiving area to the soybean storage areas.

(f) One (1) truck only soybean receiving area, identified as P1, approved in 1996 for construction, with a nominal throughput capacity of 600 tons per hour. This area consists of the following:

(1) One (1) truck only receiving pit.

(2) One (1) totally enclosed belt conveyor system (or equivalent), using an oil application to control PM emissions.

(3) One (1) aspirated soybean receiving leg, controlled by an oil application to control PM emissions and also controlled by baghouse C1, exhausting to Stack 1.

(4) One (1) enclosed belt conveyor that transfers the soybean from the receiving leg to the soybean enclosed belt conveyor.

(5) One (1) enclosed belt conveyor that loads the soybean storage silos.

(g) One (1) truck and railcar soybean receiving area, identified as P2, approved in 1996 for construction, with a nominal throughput capacity of 540 tons per hour, consisting of the following:

(1) One (1) truck and railcar receiving pit, with PM emissions controlled by restricting vehicles unloading grain at these stations to hopper-bottom rail cars and trucks with choke unloading applications.

(2) One (1) enclosed drag conveyor system (or equivalent), using an oil application to control PM emissions.

(3) Two (2) aspirated soybean receiving legs, using an oil application to control PM emissions and also controlled by baghouse C1, exhausting to Stack 1.

(4) One (1) aspirated bulkweigher, using and oil application to control PM emissions and also controlled by baghouse C1, exhausting to Stack 1.

(5) One (1) enclosed drag conveyor that transfers the soybean at a nominal rate of 540 tons per hour from the receiving leg to the soybean covered belt conveyor that loads the soybean silos.

(h) One (1) annex silo loading operation, identified as P2A, approved in 1996 for construction, with a

Facility Description [326 IAC 2-7-5(14)]:

nominal throughput rate of 1,740 tons per hour, controlled by an oil application system, and consisting of the following:

(1) Twelve (12) concrete soybean silos, each with a nominal storage capacity of 73,053 bushels.

(2) Four (4) concrete soybean storage silos, each with a nominal capacity of 19,375 bushels.

(3) Two (2) concrete soybean storage silos, each with a nominal capacity of 18,801 bushels.

(4) Three (3) totally enclosed drag conveyors (or equivalent) comprising two conveyance systems located below the storage silos that transfer the soybeans from the silos to the elevator legs.

(i) One (1) soybean storage system, identified as P2B, approved in 2002 for construction and approved in 2009 for modification, with a nominal throughput of 600 tons per hour, controlled by an oil application system, and consisting of the following:

(1) Two (2) soybean silos (P2B and P2C), with a nominal combined storage capacity of 1,177,000 bushels.

(2) Two (2) enclosed belt conveyors.

(3) Two (2) enclosed drag conveyors.

(k) One (1) soybean cleaning system, identified as P4, approved in 1996 for construction, with a nominal throughput rate of 125 tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

(1) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner, using an oil application to control PM emissions.

(2) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the cleaner.

(3) One (1) cleaning system, consisting of the following:

(A) Two (2) cleaners, controlled by an oil application system and baghouse C4.

(B) Two (2) whole bean aspirators, controlled by an oil application system and baghouse C4.

(C) One (1) conveyor transferring beans from the aspirator to the hopper, controlled by an oil application system and baghouse C4.

(D) One (1) hopper, controlled by an oil application system and baghouse C4.

(E) One (1) scale, controlled by an oil application system and baghouse C4.

(F) Two (2) pods aspirators, approved in 2014 for construction, identified as P4A, with a maximum capacity of 125 tons per hour, controlled by baghouse C4A and exhausting through stack 4A.

(G) One (1) pods aspirator, controlled by cyclone C5E, and exhausting to stack 5.

Facility Description [326 IAC 2-7-5(14)]:

(H) One (1) pods breaker, controlled by cyclone C5E, and exhausting to stack 5.

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

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

D.2.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

(a) The PM, PM_{10}, and $PM_{2.5}$ emissions from the following emission units shall be limited as follows:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)	PM_{10} Emission Limit (lbs/hr)	$PM_{2.5}$ Emission Limit (lbs/hr)
P24	North Truck Receiving	Baghouse C24	0.43	0.43	0.43
P4	Soybean Cleaning	Baghouse C4	0.81	0.81	0.81
P1	Truck Soybean Receiving	Baghouse C1	0.56	0.56	0.56
P4A	Pods Aspirators	Baghouse C4A	0.69	0.69	0.69

(b) The total grain received at P1 and P2 combined shall not exceed 1,174,760 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(c) The total grain received at the north house bin loading area, identified as P27, shall not exceed 108,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(d) The PM, PM_{10}, and $PM_{2.5}$ emissions from the following emission units shall be limited as follows:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/ton)	PM_{10} Emission Limit (lbs/ton)	$PM_{2.5}$ Emission Limit (lbs/ton)
P27	North House Bin Loading	None	0.061	0.034	0.0058
P2	Truck and Railcar Receiving	restricting vehicles unloading grain to hopper-bottom rail cars	0.035	0.0078	0.00013
P2A	Annex Silo Storage	oil application system	0.010	0.0025	0.0004
P2A	Annex Silo Loading	oil application system	0.024	0.0136	0.0023
P2B	Soybean Storage	oil application system	0.010	0.0025	0.0004
P2B	Soybean Loading	oil application system	0.024	0.0136	0.0023

Compliance with these limits, in combination with the limits in Conditions D.1.2, D.3.1, and D.4.1 and the potential to emit from other units at the source, shall limit the potential to emit PM, PM_{10}, and $PM_{2.5}$ from the entire source to less than 250 tons per twelve (12) consecutive month period, each. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and their control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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

D.2.3 Particulate Control

(a) In order to ensure compliance with Condition D.2.1, each of the following emission units shall be controlled by the associated baghouse, as listed in the table below, when these units are in operation:

Unit ID	Unit Description	Baghouse ID
P24	North Truck Receiving	C24
P4	Soybean Cleaning	C4
P1	Truck Soybean Receiving	C1
P4A	Pods Aspirators	C4A

(b) In order to ensure compliance with Conditions D.2.1(a) and D.2.1(d), dust control oil shall be applied on all soybeans handled by emission units identified as P1, P2, P2A, P2B, and P4.

(c) In order to ensure compliance with Conditions D.2.1(a) and D.2.1(d), vehicles unloading grain (Units P1 and P2) shall be restricted to grain to hopper-bottom rail cars or trucks with choke unloading applications.

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

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

In order to demonstrate the compliance status with Conditions D.2.1(a), the Permittee shall perform PM, $PM_{10,}$ and $PM_{2.5}$ testing for baghouse C4A, controlling pods aspirators P4A, within sixty (60) days of reaching maximum capacity but no later than one hundred eighty (180) days after the initial startup of pods aspirators P4A, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM_{10} and $PM_{2.5}$ include filterable and condensable particulate matter.

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

D.2.5 Visible Emissions Notations [40 CFR 64]

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the exhausts from the baghouse stacks (Stacks 24 and 4) shall be performed daily during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the exhausts from the baghouse C4A stack (Stack 4A) shall be performed daily 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 noncontinuous 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 a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.6 Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across the baghouses used in conjunction with the north truck receiving (P24), the truck receiving (P1), and the soybean cleaning (P4) operations, at least once per day when the any of these operations is in operation. When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.0 and 7.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps 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 or replaced at least once every six (6) months.

D.2.7 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

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

D.2.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.1(b), the Permittee shall maintain monthly records of the total amount of the grain received.

(b) To document the compliance status with Condition D.2.1(c), the Permittee shall maintain monthly records of the total amount of the grain received at the north house bin loading area, identified as P27.

(c) To document the compliance status with Condition D.2.4, the Permittee shall maintain records of the daily visible emission notations. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.2.5, the Permittee shall maintain once per day records of the pressure drop during normal operation for baghouses. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(e) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

D.2.9 Reporting Requirements

(a) A quarterly summary of the information to document the compliance status with Condition D.2.1(b) shall be submitted not later than thirty (30) days after the end of each calendar quarter.

(b) A quarterly summary of the information to document the compliance status with Condition D.2.1(c) shall be submitted not later than thirty (30) days after the end of each calendar quarter.

(c) The reports submitted by the Permittee do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reports required by this condition.

SECTION D.3 FACILITY OPERATION CONDITIONS - Oil Extraction Processes Oil Extraction Processes

Facility Description [326 IAC 2-7-5(14)]:

(e) One (1) soybean expander system, approved in 1996 for construction and approved in 2004 for modification, with a nominal capacity of 50 tons per hour. This system consists of the following:

(1) One (1) expander, forming soybean collets.

(2) One (1) totally enclosed conveying system transferring material from the expander system to the extraction system.

(l) One (1) soybean heater with one (1) L-Path totally enclosed drag conveyor, identified as P21, approved in 1996 for construction and approved in 2008 for replacement, with a nominal capacity of 125 tons per hour, and exhausting to Stack 21. Under NESHAP, Subpart GGGG, the soybean heater is considered vegetable oil production processes.

(m) One (1) soybean cracking and dehulling operation, identified as P5, approved in 1996 for construction, with a nominal throughput rate of 125 tons per hour, and consisting of the following:

(1) One (1) enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers soybeans to the jet dryers.

(2) Three (3) jet dryers, each with a nominal capacity of 42 tons per hour, controlled by cyclones C5A, C5B, and C5F, respectively, and exhausting to Stack 5.

(3) Three (3) primary CCD dryers, controlled by cyclones C5C and C5G, and exhausting to Stack 5.

(4) Three (3) secondary CCC coolers, controlled by cyclones C5D and C5H, and exhausting to Stack 5.

(5) Six (6) cracking and dehulling rolls that transfer the hulls through four (4) cyclones (C5C, C5D, C5G, and C5H) to an enclosed conveyor.

(6) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system, with a nominal throughput rate of 8.75 tons per hour.

(7) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G, C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator, with a nominal throughput rate of 8.75 tons per hour.

(8) Two (2) hull screeners and aspirators, with a total nominal throughput rate of 8.75 tons per hour, controlled by cyclone C5E, and exhausting to Stack 5.

(s) One (1) soybean flaking operation, identified as P19, approved in 1996 for construction and approved in 2009 and in 2010 for modification, with a nominal throughput rate of 114.0 tons per hour, and consisting of the following:

(1) One (1) totally enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers beans from cracking and dehulling to the flakers.

Facility Description [326 IAC 2-7-5(14)]:

(2) Ten (10) flakers, controlled by baghouses C19A, C19B, and C19C, exhausting to Stack 19, and/or controlled by baghouse C19D, exhausting to Stack P19D.

(3) Two (2) totally enclosed drag conveyors (or equivalent) in series that transfer soybean flakes and collets from the flakers and the expander system to the feed screw conveyor.

(4) One (1) feed screw conveyor that transfers soybean flakes and collets to the extractor.

(t) One (1) soybean oil extraction system, identified as P13, approved in 1996 for construction, controlled by mineral oil absorber system C13, and exhausting to Stack 13. This system consists of the following:

(1) One (1) soybean oil extractor, with a nominal capacity of 114.0 tons of soybean flakes and collets per hour and 114.0 tons of hexane per hour.

(2) One (1) desolventizer unit, with a nominal capacity of 94.4 tons of spent soybean flakes and collets per hour.

(3) A set of evaporators, with a nominal capacity of 24.0 tons of soybean oil per hour.

(4) A set of condensers and water separator to separate hexane and water, with a nominal capacity of 24.0 tons of soybean oil per hour.

(5) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a nominal rate of 94.4 tons per hour and 37.5 tons per hour, respectively.

(u) One (1) DTDC meal dryer section 1, identified as P10, approved in 1996 for construction, with a nominal drying capacity of 90.7 tons of meal per hour, controlled by cyclone C10, and exhausting to Stack 10.

(v) One (1) DTDC meal dryer section 2, identified as P11, approved in 1996 for construction, with a nominal drying capacity of 90.7 tons of meal per hour, controlled by cyclone C11, and exhausting to Stack 11.

(w) One (1) DTDC meal dryer section 3, identified as P12, approved in 2009 for modification, with a nominal capacity of 90.7 tons of meal per hour, controlled by cyclone C12, and exhausting to Stack 12.

(x) One (1) enclosed conveyor transferring meal from the meal dryer section 3 to the meal cooling operation, approved in 2009 for construction.

(y) One (1) meal cooling operation, identified as P12A, approved in 2009 for construction, with a nominal capacity of 90.7 tons of meal per hour, controlled by cyclone C12A, and exhausting to Stack 12A. This operation consists of the following:

(1) Two (2) meal cooler sections, exhausting to the common cyclone C12A and Stack 12A.

(2) One (1) Meal Cooler enclosed drag conveyor (or equivalent) that transfers meal from the Meal Cooler and the C12A Cyclone to the one (1) DTDC enclosed drag conveyor.

(3) One (1) DTDC enclosed drag conveyor (or equivalent) that transfers meal from the Meal Cooler/DTDC and four (4) DTDC cyclones (C10, C11, C12, C12A) to the meal surge bin

Facility Description [326 IAC 2-7-5(14)]:

conveyor.

(dd) Three (3) fixed roof hexane storage tanks.

(1) Two (2) fixed roof hexane storage tanks, approved in 2013 for construction, each with a nominal storage capacity of 12,000 gallons.

(2) One (1) horizontal fixed roof hexane storage tank, approved in 2012 for construction, with a nominal storage capacity of 28,000 gallons.

All hexane tanks are vented to the distillation system and exhausted through to Stack 13 (P13). Under NESHAP, Subpart GGGG, these tanks are considered vegetable oil production processes.

(ee) One (1) fixed roof hexane work tank, approved in 1996 for construction, with a nominal storage capacity of 8,000 gallons. Under NESHAP, Subpart GGGG, this tank is considered a vegetable oil production process.

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

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

D.3.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

(a) The PM, PM_{10}, and $PM_{2.5}$ emissions from the following emission unit shall be limited as follows:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)	PM_{10} Emission Limit (lbs/hr)	$PM_{2.5}$ Emission Limit (lbs/hr)
P5	Soybean Cracking/Dehulling	Cyclones C5A-H	21.94	21.94	21.94
P19	Soybean Flaking	Baghouses C19A-C	0.39	0.39	0.39
		Baghouse C19D	0.72	0.72	0.72
P10	DTDC Meal Dryer #1	Cyclone C10	5.39	5.39	5.39
P11	DTDC Meal Dryer #2	Cyclone C11	0.13	0.13	0.13
P12	DTDC Meal Dryer #3	Cyclone C12	0.10	0.10	0.10
P12A	DTDC Meal Cooler	Cyclone C12A	0.22	0.22	0.22

(b) The total grain processed at this source shall not exceed 1,095,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(c) The PM emissions from the soybean heater (P21) shall not exceed 0.001 pounds per ton of grain processed.

(d) The PM_{10} emissions from the soybean heater (P21) shall not exceed 0.001 pounds per ton of grain processed.

(e) The $PM_{2.5}$ emissions from the soybean heater (P21) shall not exceed 0.001 pounds per ton of grain processed.

Compliance with these limits, in combination with the limits in Conditions D.1.2, D.2.1, and D.4.1 and the potential to emit from other units at the source, shall limit the potential to emit PM, PM_{10}, and $PM_{2.5}$ from the entire source to less than 250 tons per twelve (12) consecutive month period, each. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

D.3.2 Particulate Emission Limitations [326 IAC 6-3-2]

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

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
P21	Soybean Heater	125.0	53.5
P5	Soybean Cracking/Dehulling	125.0	53.5
P19	Soybean Flaking	114.0	52.6
P10	DTDC Meal Dryer #1	90.7	50.3
P11	DTDC Meal Dryer #2	90.7	50.3
P12	DTDC Meal Dryer #3	90.7	50.3
P12A	DTDC Meal Cooler	90.7	50.3

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

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

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

D.3.3 VOC Emissions [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (BACT), CP#129-7488-00035 (original BACT), issued on July 17, 1995, and SSM No. 129-27572-00035 (Revised BACT), issued on August 11, 2009 and SSM No. 129-34318-00035, the Permittee shall control the VOC emissions from the soybean oil extraction system (P13), the DTDC dryers (P10, P11 and P12), and the DTDC cooler (P12A) with a Best Available Control Technology (BACT), which have been determined to be the following:

(a) The overall source wide solvent loss ratio shall not exceed 0.19 gallons per ton of soybean processed from the whole plant per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The Permittee shall comply with the following for the soybean oil extraction system (P13):

(1) The extraction and distillation process shall be controlled by a mineral oil absorber system.

(2) The VOC emissions from the soybean oil extraction system (P13) shall not exceed 0.048 pounds per ton of soybean processed.

(c) The VOC emissions from the DTDC dryers (P10, P11 and P12) shall not exceed 0.152 pounds per ton of soybean processed total.

(d) The VOC emissions from the DTDC cooler (P12A) shall not exceed 0.152 pounds per ton of soybean processed.

(e) The maximum annual throughput of soybeans processed shall not exceed 1,095,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and their control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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

D.3.5 Particulate Control

(a) In order to ensure compliance with Conditions D.3.1 and D.3.2, each of the following emission units shall be controlled by the associated baghouse or cyclone, as listed in the table below, when these units are in operation:

Unit ID	Unit Description	Control Device
P5	Soybean Cracking/Dehulling	Cyclones C5A-H
P19	Soybean Flaking	Baghouses C19A-C
		or Baghouse C19D
P10	DTDC Meal Dryer #1	Cyclone C10
P11	DTDC Meal Dryer #2	Cyclone C11
P12	DTDC Meal Dryer #3	Cyclone C12
P12A	DTDC Meal Cooler	Cyclone 12A

(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.3.6 VOC Control

In order to ensure compliance with Condition D.3.3(a), the soybean oil extraction system (P13) shall be controlled by the mineral oil absorber system (C13) when this system is in operation.

D.3.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.3.1 and D.3.2, the Permittee shall perform PM, PM_{10}, and $PM_{2.5}$ testing for the soybean cracking and dehulling operation (P5) and Soybean Flaking (P19, stack P19D) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} and $PM_{2.5}$ include filterable and condensible PM.

(b) In order to demonstrate compliance with Condition D.3.3, the Permittee shall perform VOC testing for the soybean oil extraction system (P13) and the DTDC meal dryers (P10 and P11) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(c) In order to demonstrate compliance with Condition D.3.3(b) and (c), the Permittee shall perform VOC testing for the DTDC meal dryer section 3 (P12) and the DTDC meal cooler (P12A) when P12 and P12A are in operation utilizing methods as approved by the Commissioner. Testing on P12 and P12A shall be repeated in conjunction with testing on P10 and P11 at least once every five (5) years from the date of the most recent valid compliance demonstration for P10 and P11.

(d) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

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

D.3.8 Visible Emissions Notations [40 CFR 64]

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the exhausts from Stacks 5, 19, and P19D shall be performed daily during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the exhausts from Stacks 10, 11, 12 and 12A shall be performed daily 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 noncontinuous 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 a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.3.9 Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across the baghouses used in conjunction with the soybean flaking operation (P19) at least once per day when any of these operations is in operation. When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 6.0 and 12.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps 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 or replaced at least once every six (6) months.

D.3.10 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

D.3.11 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.12 VOC Monitoring

The Permittee shall comply with the following for the mineral oil absorber system (C13), which is used to control the VOC emissions from the soybean extraction system (P13):

(a) The inlet vacuum pressure of the vapor stream to the absorber shall not exceed 10 inches of water and the flow rate of the mineral oil through the absorber shall not be less than 15 gallons per minute. When the process is in operation, an electronic data management system (EDMS) shall record the instantaneous inlet vacuum pressure and flow rate on a frequency of not less than every 15 minutes.

(b) The temperature of the mineral oil entering the absorber shall be kept in a range of 70 to 105 degrees Fahrenheit (°F). When the process is in operation, an electronic data management system (EDMS) shall record the instantaneous temperature on a frequency of not less than every 15 minutes.

(c) The temperature of the mineral oil entering the mineral-oil-stripping column shall not be less than 200 degrees Fahrenheit (°F) for adequate stripping of the absorbed hexane from the oil. When the process is in operation, an EDMS shall record the instantaneous temperature on a frequency of not less than every 15 minutes.

In the event that a breakdown of the EDMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameters should be implemented at intervals no less frequent than every 2 hours.

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

D.3.13 Record Keeping Requirements

(a) To document the compliance status with Conditions D.3.1(b), the Permittee shall maintain monthly records of the amount of soybean processed.

(b) To document the compliance status with Condition D.3.3(a), the Permittee shall maintain monthly records of the source wide solvent loss ratio (SLR).

(c) To document the compliance status with Condition D.3.8, the Permittee shall maintain records of the daily visible emission notations. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.3.9, the Permittee shall maintain once per day records of the pressure drop during normal operation for baghouses. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(e) To document the compliance status with Condition D.3.12, the Permittee shall maintain the following records:

(1) Records of the days the lower meal temperature of the desolventizer is below 215 degrees F and meal laboratory VOC test results for those days.

(2) Electronic data management system (EDMS) records for the inlet vacuum pressure of the vapor stream to the absorber, flow rate of the mineral oil through the absorber, the mineral oil temperature entering the absorber and mineral oil temperature entering the stripping column. Records of the times and reasons of the breakdown of the EDMS and efforts made to correct the problem should accompany any supplemental or intermittent monitoring records occurring as a result of EDMS failure.

(f) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

D.3.14 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.3.1(b) and D.3.3(a) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.4 FACILITY OPERATION CONDITIONS - Kaolin, Hull, and Meal Handling Operations

Facility Description [326 IAC 2-7-5(14)]:

(j) One (1) flow coating material kaolin handling operation, identified as P3, approved in 1996 for construction, controlled by baghouse C3, and exhausting to Stack 3. This operation consists of the following:

(1) One (1) flow coating material kaolin receiving bin.

(2) One (1) flow coating material enclosed conveyor system that transfers kaolin to the enclosed mixing screw conveyor, with a nominal throughput rate of 0.459 tons per hour.

(n) One (1) hull grinding operation, identified as P6, approved in 1996 for construction, with a nominal throughput rate of 8.75 tons per hour, controlled by baghouse C6, and exhausting to Stack 6. This operation is consisting of the following:

(1) Two (2) hull grinders.

(2) One (1) ground hulls cyclone.

(3) One (1) totally enclosed drag conveyor (or equivalent) that transfers hulls from the ground hulls cyclone to the hull hopper.

(o) One (1) hull storage operation, identified as P7, approved in 1996 for construction, with a nominal throughput rate of 15 tons per hour, controlled by baghouse C7, and exhausting to Stack 7. This operation is consisting of the following:

(1) One (1) ground hulls blower that transfers hulls to the Hull storage bins.

(2) Hull storage bins, with a nominal capacity of 39,000 cubic feet.

(3) Two (2) totally enclosed drag conveyor (or equivalent) that transfers hulls to the ground hulls blower.

(4) One (1) ground hulls blower that transfers hulls to the hull hopper.

(p) One (1) hull handling operation, approved in 1996 for construction, with a nominal throughput rate of 15 tons per hour, controlled by baghouse C7A, and exhausting to Stack 7A. This operation is consisting of the following:

(1) One (1) hull hopper that feeds to the pellet mills.

(2) Two (2) hull pellet mills, identified as P7A, approved in 1996 for construction, and P7B, approved in 2008 for construction. Only one (1) pellet mill is capable of operating at any given time.

(q) One (1) hull pellet cooler, identified as P8, approved in 1996 for construction, with a nominal capacity of 15 tons per hour, controlled by cyclone C8, and exhausting to Stack 8.

(r) Pellet storage operation consisting of the following:

(1) Pellet storage bin, identified as P8A, approved in 1996 for construction, with a nominal capacity of 29,000 cubic feet, controlled by baghouse C8A that exhausts to Stack 8A.

(2) Pellet storage building, identified as P8B, approved in 1996 for construction, with a

Facility Description [326 IAC 2-7-5(14)]:

nominal capacity of 70,000 cubic feet, controlled by baghouse C8B that exhausts to Stack 8B.

(3) Only one pellet storage can receive product at any one time.

(z) One (1) meal handling process, identified as P9, approved in 1996 for construction, with a nominal capacity of 90.7 tons of meal per hour, controlled by baghouse C9, and exhausting to Stack 9. This process consists of the following:

(1) One (1) totally enclosed conveyor that transfers the meal to the surge bin or the Screener.

(2) One (1) meal surge bin, with a nominal storage capacity of 19,000 cubic feet, that feeds to the recycle leg.

(3) One (1) elevator leg that transfers the meal to the sizing process.

(4) One (1) meal screener.

(5) Two (2) meal grinders.

(6) Two (2) meal grinding hoppers.

(7) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the grinding hoppers to the meal mixing screw conveyor.

(8) One (1) enclosed meal mixing screw conveyor (or equivalent) that transfers meal to the mixed meal elevator leg.

(9) One (1) mixed meal elevator leg.

(10) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the mixed meal elevator leg to the meal storage tanks, load out bins and bulk weigh system.

(aa) One (1) meal storage operation, identified as P20, approved in 1996 for construction, with a nominal throughput rate of 300 tons of meal per hour, controlled by baghouse C20, and exhausting to Stack 20. This operation consists of the following:

(1) Meal storage tanks (capacity 292,000 cubic feet) and loadout bin (capacity 29,000 cubic feet), with a combined nominal storage capacity of 321,000 cubic feet.

(2) One (1) totally enclosed drag conveyor (or equivalent) that transfers soybean meal from the meal storage tanks to the meal elevator leg.

(3) One (1) meal elevator leg that operates at a nominal capacity of 300 tons per hour.

(bb) One (1) truck meal loadout operation, identified as P14, approved in 1996 for construction, with a nominal throughput rate of 383.3 tons of meal per hour, controlled by baghouse C14, and exhausting to Stack 14. This operation consists of the following:

(1) Three (3) totally enclosed drag conveyors (or equivalent) that transfer meal from the meal loadout bins to the truck.

(2) Two (2) truck loadout chutes, with only one chute having flow at any given time.

Facility Description [326 IAC 2-7-5(14)]:

(cc) One (1) barge/railcar meal loadout operation, identified as P15, approved in 1996 for construction, with a nominal throughput rate of 383.3 tons of meal per hour, controlled by baghouse C15, and exhausting to Stack 15. This operation consists of the following:

(1) One (1) rail and barge loadout scalper with a totally enclosed ball breaker.

(2) One (1) rail and barge bulk weigh system consisting of one (1) upper garner, one (1) weigh hopper, and one (1) lower surge. The bulk weigh system is controlled by baghouse C15A, installed in 2013, exhausting to Stack 15A.

(3) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the lower surge to rail or barge.

(4) Two (2) rail loadout systems, with only one system operating at a time.

(5) One (1) enclosed conveyor that transfers soybean meal from the lower surge to the barge loadout system.

(6) One (1) barge loadout system.

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

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

D.4.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the PM, PM_{10}, and $PM_{2.5}$ emissions from the following emission units shall be limited as follows:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)	PM_{10} Emission Limit (lbs/hr)	$PM_{2.5}$ Emission Limit (lbs/hr)
P3	Kaolin Handling	Baghouse C3	0.10	0.10	0.10
P6	Hull Grinding	Baghouse C6	0.30	0.30	0.30
P7	Hull Storage	Baghouse C7	0.17	0.17	0.17
P7A or P7B	Hull Handling	Baghouse C7A	0.17	0.17	0.17
P8	Hull Pellet Cooler	Cyclone C8	5.14	5.14	5.14
P8A or P8B	Hull Pellet Storage	Baghouse C8A or Bin Vent Filter System C8B	0.17	0.17	0.17
P9	Meal Handling	Baghouse C9	0.26	0.26	0.26
P20	Meal Storage	Baghouse C20	0.26	0.26	0.26
P14	Truck Meal Loadout	Baghouse C14	0.69	0.69	0.69
P15	Barge/Railcar Meal Loadout	Baghouses C15	0.69	0.69	0.69
P15A	Rail & Barge Bulk Weigh System	Baghouse C15A	0.26	0.26	0.26

Compliance with these limits, in combination with the limits in Conditions D.1.2, D.2.1, and D.3.1 and the potential to emit from other units at the source, shall limit the potential to emit PM, PM_{10}, and $PM_{2.5}$ from the entire source to less than 250 tons per twelve (12) consecutive month period, each. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

D.4.2 Minor Source Modifications [326 IAC 2-7-10.5(d)]

Pursuant to 326 IAC 2-7-10.5(d)(4)(C) (Minor Source Modifications) and MSM 129-25576-00035, issued on January 14, 2008, the baghouse (identified as C7A) to be used in conjunction with the hull handling operation (identified as P7A and P7B) shall comply with the following limits when the hull handling operation is in operation:

(a) Operate with a control efficiency of at least 99%;

(b) Have no visible emissions; and

(c) PM and PM_{10} emissions shall be less than 5.7 lbs per hour and 3.42 lbs per hour, respectively.

D.4.3 Particulate Emission Limitations [326 IAC 6-3-2]

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

Unit ID	Unit Description	Process Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
P3	Kaolin Handling	0.459	2.4
P6	Hull Grinding	8.75	17.5
P7	Hull Storage	15	25.2
P7A or P7B	Hull Handling	15	25.2
P8	Hull Pellet Cooler	15	25.2
P8A or P8B	Hull Pellet Storage	15	25.2
P9	Meal Handling	90.7	50.3
P20	Meal Storage Bins	300	63.0
P14	Truck Meal Loadout	383.3	65.8
P15	Barge/Railcar Meal Loadout	383.3	65.8
P15A	Rail & Barge Bulk Weigh System	383.3	65.8

The pounds per hour limitation were calculated using one the following equations:

(a) Interpolation of the data for the process weight between one hundred (100) to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

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

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

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.4.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and their control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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

D.4.5 Particulate Control

(a) In order to ensure compliance with Conditions D.4.1, D.4.2, and D.4.3, each of the following emission units shall be controlled by the associated baghouse or cyclone, as listed in the table below, when these units are in operation:

Unit ID	Unit Description	Control Device
P3	Kaolin Handling	Baghouse C3
P6	Hull Grinding	Baghouse C6
P7	Hull Storage	Baghouse C7
P7A & P7B	Hull Handling	Baghouse C7A
P8	Hull Pellet Cooler	Cyclone C8
P8A or P8B	Hull Pellet Storage	Baghouse C8A or Bin Vent Filter System C8B
P9	Meal Handling	Baghouse C9
P20	Meal Storage	Baghouse C20
P14	Truck Meal Loadout	Baghouse C14
P15	Barge/Railcar Meal Loadout	Baghouse C15
P15A	Rail & Barge Bulk Weigh System	Baghouse C15A

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

In order to demonstrate the compliance status with Conditions D.4.1 and D.4.3, the Permittee shall perform PM, $PM_{10,}$ and $PM_{2.5}$ testing for the rail and barge bulk weigh system baghouse, no later than sixty (60) days after achieving the maximum capacity with the new baghouse, but not later than one hundred eighty (180) days after initial startup of the new baghouse, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

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

D.4.7 Visible Emissions Notations [40 CFR 64]

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the exhausts from the Stacks 6, 8, 9, 20, 14, 15, and 15A shall be performed daily during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the exhausts from the Stacks 3, 7, 7A, 8A, and 8B shall be performed daily 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 noncontinuous 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 a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.4.8 Parametric Monitoring [40 CFR 64]

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across the baghouses used in conjunction with the hull grinding operation (P6), the meal handling process (P9), the meal storage operation (P20), the truck meal loadout operation (P14), and the barge/railcar meal loadout operation (P15), and the rail and barge bulk weigh system (P15A) at least once per day when any of these operations is in operation. When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 3.0 and 9.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.

(b) The Permittee shall record the pressure drop across the baghouses used in conjunction with the kaolin handling operation (P3), the hull storage and operation (P7), the hull handling operation (P7A or P7B), and the pellet storage bins (P8A or P8B), at least once per day when the any of the these operations is in operation. When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 3.0 and 9.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.

(c) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) 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 or replaced at least once every six (6) months.

D.4.9 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

D.4.10 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

D.4.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.4.6, the Permittee shall maintain records of the daily visible emission notations. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.4.7, the Permittee shall maintain once per day records of the pressure drop during normal operation for baghouses. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)] - Insignificant Activities

(a) Degreasing operations that do not exceed 145 gallons per twelve (12) months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-8]

(e) Two (2) natural gas-fired heaters, identified as Welfare Building Heaters 1 and 2, Welfare Building Heater 2 was constructed in 2008 and Welfare Building Heater 1 was constructed in 2011, each with a heat input capacity of 0.22 MMBtu/hr.

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

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

D.5.1 Cold Cleaner Degreaser Control Equipment and Operating Requirements [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control and Equipment Operating Requirements), the Permittee shall:

(a) Ensure the following control equipment and operating requirements are met:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) Ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
(B) A water cover when solvent used is insoluble in, and heavier than, water.
(C) A refrigerated chiller.
(D) Carbon adsorption.
(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:
(A) must be a solid, fluid stream; and
(B) shall be applied at a pressure that does not cause excessive splashing.

D.5.2 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), on and after January 1, 2015, the Permittee shall not operate a cold cleaning degreaser with a solvent vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

D.5.3 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, particulate emissions from Welfare Building Heater 1 and Welfare Building Heater 2 shall be limited to 0.269 pounds per MMBtu heat input, each.

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

D.5.4 Record Keeping Requirements

To document the compliance status with Condition D.5.2, on and after January 1, 2015, the Permittee shall maintain the following records for each purchase of solvent used in the cold cleaner degreasing operations. These records shall be retained on-site or accessible electronically for the most recent three (3) year period and shall be reasonably accessible for an additional two (2) year period.

(a) The name and address of the solvent supplier.

(b) The date of purchase.

(c) The type of solvent purchased.

(d) The total volume of the solvent purchased.

(e) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

SECTION E.1 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR 60, Subpart Dc] [326 IAC 12]

Facility Description [326 IAC 2-7-5(14)]

(a) Three (3) 33.7 million (MM)Btu per hour natural gas boilers, identified as P17, P18, and P18A, approved in 1996 for construction, and exhausting to Stacks 17, 18, and 18A, respectively. Under NSPS, Subpart Dc, boilers P17, P18, and P18A are considered small industrial-commercial-institutional steam generating units.

(b) Two (2) wood/shredded tire fired boilers, identified as P17B and P17C, approved in 2006 for construction, each with a nominal heat input capacity of 57.3 MMBtu/hr, both controlled by one (1) electrostatic precipitator (ESP) (identified as ES1), and exhausting through Stack 17A. Stack 17A is equipped with a continuous opacity monitoring system (COMS). Under NSPS, Subpart Dc, boilers P17B and P17C are considered small industrial-commercial-institutional steam generating units.

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

New Source Performance Standards (NSPS)

E.1.1 General Provisions Relating to NSPS Dc [326 IAC 12-1] [40 CFR 60, Subpart 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 the facilities described in Section E.1 except as otherwise specified in 40 CFR Part 60, Subpart Dc.

E.1.2 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR 60, Subpart Dc] [326 IAC 12]

Pursuant to 40 CFR 60, Subpart Dc, the Permittee shall comply with the provisions of Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, which are incorporated by reference as 326 IAC 12, (included as Attachment A of this permit) as specified as follows:

(a) 40 CFR 60.40c;
(b) 40 CFR 60.41c;
(c) 40 CFR 60.43c(b), (c), (d), (e)(1), (e)(2), (e)(3);
(d) 40 CFR 60.45c(a), (b), (c);
(e) 40 CFR 60.47c(a), (b), (d), (e), (g); and
(f) 40 CFR 60.48c(a), (c), (g), (h), (i), (j).

SECTION E.2 Standards of Performance for Grain Elevators [40 CFR 60, Subpart DD] [326 IAC 12]

Facility Description [326 IAC 2-7-5(14)]

(c) One (1) north truck receiving area, identified as P24, approved in 2001 for construction, with a nominal throughput capacity of 360 tons per hour, controlled by baghouse C24, and exhausting to Stack 24. Under NSPS, Subpart DD, this unit is considered a truck unloading station.

(d) One (1) north house bin loading area, identified as P27, approved in 2001 for construction, with a nominal throughput capacity of 360 tons per hour, and exhausting inside the north house, consisting of the following:

(1) One (1) totally enclosed aspirated elevator leg that transfers soybeans to enclosed conveyors.

(2) Two (2) enclosed conveyors that transfer the soybean from the north receiving area to the soybean storage areas.

Under NSPS, Subpart DD, this area is considered a grain handling operation.

(f) One (1) truck only soybean receiving area, identified as P1, approved in 1996 for construction, with a nominal throughput capacity of 600 tons per hour. This area consists of the following:

(1) One (1) truck only receiving pit.

(2) One (1) totally enclosed belt conveyor system (or equivalent), using an oil application to control PM emissions.

(3) One (1) aspirated soybean receiving leg, controlled by an oil application to control PM emissions and also controlled by baghouse C1, exhausting to Stack 1.

(4) One (1) enclosed belt conveyor that transfers the soybean from the receiving leg to the soybean enclosed belt conveyor.

(5) One (1) enclosed belt conveyor that loads the soybean storage silos.

Under NSPS, Subpart DD, the emission units at this area are considered a truck unloading station and grain handling operations.

(g) One (1) truck and railcar soybean receiving area, identified as P2, approved in 1996 for construction, with a nominal throughput capacity of 540 tons per hour, consisting of the following:

(1) One (1) truck and railcar receiving pit, with PM emissions controlled by restricting vehicles unloading grain at these stations to hopper-bottom rail cars and trucks with choke unloading applications.

(2) One (1) enclosed drag conveyor system (or equivalent), using an oil application to control PM emissions.

(3) Two (2) aspirated soybean receiving legs, using an oil application to control PM emissions and also controlled by baghouse C1, exhausting to Stack 1.

(4) One (1) aspirated bulkweigher, using and oil application to control PM emissions and also controlled by baghouse C1, exhausting to Stack 1.

(5) One (1) enclosed drag conveyor that transfers the soybean at a nominal rate of 540 tons per hour from the receiving leg to the soybean covered belt conveyor that loads the soybean silos.

Under NSPS, Subpart DD, the emission units at this area are considered truck and railcar unloading stations and grain handling operations.

(h) One (1) annex silo loading operation, identified as P2A, approved in 1996 for construction, with a nominal throughput rate of 1,740 tons per hour, controlled by an oil application system, and consisting of the following:

(1) Twelve (12) concrete soybean silos, each with a nominal storage capacity of 73,053 bushels.

(2) Four (4) concrete soybean storage silos, each with a nominal capacity of 19,375 bushels.

(3) Two (2) concrete soybean storage silos, each with a nominal capacity of 18,801 bushels.

(4) Three (3) totally enclosed drag conveyors (or equivalent) comprising two conveyance systems located below the storage silos that transfer the soybeans from the silos to the elevator legs.

Under NSPS, Subpart DD, this silo loading operation is considered a grain handling operation.

(i) One (1) soybean storage system, identified as P2B, approved in 2002 for construction and approved in 2009 for modification, with a nominal throughput of 116.4 tons per hour, controlled by an oil application system, and consisting of the following:

(1) Two (2) soybean silos (P2B and P2C), with a nominal combined storage capacity of 1,177,000 bushels.

(2) Two (2) enclosed belt conveyors.

(3) Two (2) enclosed drag conveyors.

Under NSPS, Subpart DD, this soybean storage system is considered a grain handling operation.

(k) One (1) soybean cleaning system, identified as P4, approved in 1996 for construction, with a nominal throughput rate of 125 tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

(1) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner, using an oil application to control PM emissions.

(2) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the cleaner.

(3) One (1) cleaning system, consisting of the following:

(A) Two (2) cleaners, controlled by an oil application system and baghouse C4.

(B) Two (2) whole bean aspirators, controlled by an oil application system and baghouse C4.

(C) One (1) conveyor transferring beans from the aspirator to the hopper, controlled by an oil application system and baghouse C4.

(D) One (1) hopper, controlled by an oil application system and baghouse C4.

(E) One (1) scale, controlled by an oil application system and baghouse C4.

(F) Two (2) pods aspirators, approved in 2014 for construction, identified as P4A, with a maximum capacity of 125 tons per hour, controlled by baghouse C4A and exhausting through stack 4A.

(G) One (1) pods aspirator, controlled by cyclone C5E, and exhausting to stack 5.

(H) One (1) pods breaker, controlled by cyclone C5E, and exhausting to stack 5.

Under NSPS, Subpart DD, this cleaning system is considered a grain handling operation.

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

New Source Performance Standards (NSPS)

E.2.1 General Provisions Relating to NSPS DD [326 IAC 12-1] [40 CFR 60, Subpart 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 the facilities described in Section E.2 except as otherwise specified in 40 CFR Part 60, Subpart DD.

E.2.2 Standards of Performance for Grain Elevators [40 CFR 60, Subpart DD] [326 IAC 12]

Pursuant to 40 CFR 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, (included as Attachment B of this permit) as specified as follows:

(a) 40 CFR 60.300;
(b) 40 CFR 60.301;
(c) 40 CFR 60.302(b), (c)(1), (c)(2), (c)(3);
(d) 40 CFR 60.303; and
(e) 40 CFR 60.304.

SECTION E.3 National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production [40 CFR Part 63, Subpart GGGG] [326 IAC 20-60]

Facility Description [326 IAC 2-7-5(14)]

(e) One (1) soybean expander system, approved in 1996 for construction and approved in 2004 for modification, with a nominal capacity of 50 tons per hour. This system consists of the following:

(1) One (1) expander, forming soybean collets.

(2) One (1) totally enclosed conveying system transferring material from the expander system to the extraction system.

Under NESHAP, Subpart GGGG, these emission units are considered vegetable oil production processes.

(l) One (1) soybean heater with one (1) L-Path totally enclosed drag conveyor, identified as P21, approved in 1996 for construction and approved in 2008 for replacement, with a nominal capacity of 125 tons per hour, and exhausting to Stack 21. Under NESHAP, Subpart GGGG, the soybean heater is considered vegetable oil production processes.

(m) One (1) soybean cracking and dehulling operation, identified as P5, approved in 1996 for construction, with a nominal throughput rate of 125 tons per hour, and consisting of the following:

(1) One (1) enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers soybeans to the jet dryers.

(2) Three (3) jet dryers, each with a nominal capacity of 42 tons per hour, controlled by cyclones C5A, C5B, and C5F, respectively, and exhausting to Stack 5.

(3) Three (3) primary CCD dryers, controlled by cyclones C5C and C5G, and exhausting to Stack 5.

(4) Three (3) secondary CCC coolers, controlled by cyclones C5D and C5H, and exhausting to Stack 5.

(5) Six (6) cracking and dehulling rolls that transfer the hulls through four (4) cyclones (C5C, C5D, C5G, and C5H) to an enclosed conveyor.

(6) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system, with a nominal throughput rate of 8.75 tons per hour.

(7) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G, C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator, with a nominal throughput rate of 8.75 tons per hour.

(8) Two (2) hull screeners and aspirators, with a total nominal throughput rate of 8.75 tons per hour, controlled by cyclone C5E, and exhausting to Stack 5.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production

processes.

(s) One (1) soybean flaking operation, identified as P19, approved in 1996 for construction and approved in 2009 and in 2010 for modification, with a nominal throughput rate of 114.0 tons per hour, and consisting of the following:

(1) One (1) totally enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers beans from cracking and dehulling to the flakers.

(2) Ten (10) flakers, controlled by baghouses C19A, C19B, and C19C, exhausting to Stack 19, and/or controlled by baghouse C19D, exhausting to Stack P19D.

(3) Two (2) totally enclosed drag conveyors (or equivalent) in series that transfer soybean flakes and collets from the flakers and the expander system to the feed screw conveyor.

(4) One (1) feed screw conveyor that transfers soybean flakes and collets to the extractor.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(t) One (1) soybean oil extraction system, identified as P13, approved in 1996 for construction, controlled by mineral oil absorber system C13, and exhausting to Stack 13. This system consists of the following:

(1) One (1) soybean oil extractor, with a nominal capacity of 114.0 tons of soybean flakes and collets per hour and 114.0 tons of hexane per hour.

(2) One (1) desolventizer unit, with a nominal capacity of 94.4 tons of spent soybean flakes and collets per hour.

(3) A set of evaporators, with a nominal capacity of 24.0 tons of soybean oil per hour.

(4) A set of condensers and water separator to separate hexane and water, with a nominal capacity of 24.0 tons of soybean oil per hour.

(5) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a nominal rate of 94.4 tons per hour and 37.5 tons per hour, respectively.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(u) One (1) DTDC meal dryer section 1, identified as P10, approved in 1996 for construction, with a nominal drying capacity of 90.7 tons of meal per hour, controlled by cyclone C10, and exhausting to Stack 10. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(v) One (1) DTDC meal dryer section 2, identified as P11, approved in 1996 for construction, with a nominal drying capacity of 90.7tons of meal per hour, controlled by cyclone C11, and exhausting to Stack 11. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(w) One (1) DTDC meal dryer section 3, identified as P12, approved in 2009 for modification, with

a nominal capacity of 90.7 tons of meal per hour, controlled by cyclone C12, and exhausting to Stack 12. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(x) One (1) enclosed conveyor transferring meal from the meal dryer section 3 to the meal cooling operation, approved in 2009 for construction. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(y) One (1) meal cooling operation, identified as P12A, approved in 2009 for construction, with a nominal capacity of 90.7 tons of meal per hour, controlled by cyclone C12A, and exhausting to Stack 12A. This operation consists of the following:

(1) Two (2) meal cooler sections, exhausting to the common cyclone C12A and Stack 12A.

(2) One (1) Meal Cooler enclosed drag conveyor (or equivalent) that transfers meal from the Meal Cooler and the C12A Cyclone to the one (1) DTDC enclosed drag conveyor.

(3) One (1) DTDC enclosed drag conveyor (or equivalent) that transfers meal from the Meal Cooler/DTDC and four (4) DTDC cyclones (C10, C11, C12, C12A) to the meal surge bin conveyor.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(dd) Three (3) fixed roof hexane storage tanks.

(1) Two (2) fixed roof hexane storage tanks, approved in 2013 for construction, each with a nominal storage capacity of 12,000 gallons.

(2) One (1) horizontal fixed roof hexane storage tank, approved in 2012 for construction, with a nominal storage capacity of 28,000 gallons.

All hexane tanks are vented to the distillation system and exhausted through to Stack 13 (P13). Under NESHAP, Subpart GGGG, these tanks are considered vegetable oil production processes.

(ee) One (1) fixed roof hexane work tank, approved in 1996 for construction, with a nominal storage capacity of 8,000 gallons. Under NESHAP, Subpart GGGG, this tank is considered a vegetable oil production process.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

E.3.1 General Provisions Relating to NESHAP GGGG [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.2870, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in 40 CFR Part 63, Subpart GGGG in accordance with schedule in 40 CFR 63 Subpart GGGG.

E.3.2 National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production [40 CFR Part 63, Subpart GGGG] [326 IAC 20-60]

The Permittee which engages in production of vegetable oil shall comply with the following provisions of 40 CFR 63, Subpart GGGG (included as Attachment C of this permit), as specified as follows:

(a) 40 CFR 63.2830;
(b) 40 CFR 63.2831;
(c) 40 CFR 63.2832(a);
(d) 40 CFR 63.2833;
(e) 40 CFR 63.2834(a);
(f) 40 CFR 63.2840 all except (e);
(g) 40 CFR 63.2850(a), (b), (d), (e)(1)(i), (e)(1)(iii), (e)(2);
(h) 40 CFR 63.2851;
(i) 40 CFR 63.2852;
(j) 40 CFR 63.2853;
(k) 40 CFR 63.2854;
(l) 40 CFR 63.2855;
(m) 40 CFR 63.2860;
(n) 40 CFR 63.2861;
(o) 40 CFR 63.2862;
(p) 40 CFR 63.2863;
(q) 40 CFR 63.2870;
(r) 40 CFR 63.2871; and
(s) 40 CFR 63.2872.

SECTION E.4 National Emission Standards for Hazardous Air Pollutants: Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

Facility Description [326 IAC 2-7-5(14)]: Reciprocating Internal Combustion Engines

Specifically Regulated Insignificant Activities

(c) Emergency generators as follows: one (1) natural gas-fired emergency generator, approved in 1997 for construction, with a nominal generating rate of 343 kilowatts. Under NESHAP, Subpart ZZZZ, this engine is considered an existing affected source.

(d) Stationary fire pump engines as follows: two (2) diesel-fired pumps, one (1) approved in 1997 for construction and one (1) approved in 2012 for construction, each with a nominal power output rate of 305 hp. Under NESHAP, Subpart ZZZZ, this engine is considered a new affected source.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

E.4.1 General Provisions Relating to NESHAP ZZZZ [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.6665, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR 63, Subpart ZZZZ in accordance with the Schedule in 40 CFR Part 63, Subpart ZZZZ.

E.4.2 National Emission Standards for Hazardous Air Pollutants: Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

The Permittee which engages in the use of a reciprocating internal combustion engine shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment D of this permit):

(a) for the natural gas-fired emergency generator:

(1) 40 CFR 63.6580;
(2) 40 CFR 63.6585(a), (b);
(3) 40 CFR 63.6590(a)(1)(ii);
(4) 40 CFR 63.6595(a)(1), (c);
(5) 40 CFR 63.6602;
(6) 40 CFR 63.6605;
(7) 40 CFR 63.6612;
(8) 40 CFR 63.6620;
(9) 40 CFR 63.6625(e)(2), (f), (h), (j);
(10) 40 CFR 63.6630;
(11) 40 CFR 63.6635;
(12) 40 CFR 63.6640(a), (b), (f);
(13) 40 CFR 63.6645(a)(5);
(14) 40 CFR 63.6650(a), (b), (c)(1) through (c)(5), (d), (f);
(15) 40 CFR 63.6655(a), (d), (e)(2);
(16) 40 CFR 63.6660;
(17) 40 CFR 63.6665;
(18) 40 CFR 63.6670;
(19) 40 CFR 63.6675;
(20) Table 2c to 40 CFR 63 Subpart ZZZZ;

(21) Table 4 to 40 CFR 63 Subpart ZZZZ;
(22) Table 6 to 40 CFR 63 Subpart ZZZZ and;
(23) Table 7 to 40 CFR 63 Subpart ZZZZ.

(b) for the stationary fire pump engine approved in 1997 for construction:

(1) 40 CFR 63.6580;
(2) 40 CFR 63.6585(a), (b);
(3) 40 CFR 63.6590(a)(1)(ii);
(4) 40 CFR 63.6595(a)(1), (c);
(5) 40 CFR 63.6602;
(6) 40 CFR 63.6604(b);
(7) 40 CFR 63.6605;
(8) 40 CFR 63.6612;
(9) 40 CFR 63.6620;
(10) 40 CFR 63.6625(e)(2), (f), (g), (h), (i);
(11) 40 CFR 63.6630;
(12) 40 CFR 63.6635;
(13) 40 CFR 63.6640(a), (b), (f);
(14) 40 CFR 63.6645(a)(5);
(15) 40 CFR 63.6650(a), (b), (c)(1) through (c)(5), (d), (f);
(16) 40 CFR 63.6655(a), (d), (e)(2);
(17) 40 CFR 63.6660;
(18) 40 CFR 63.6665;
(19) 40 CFR 63.6670;
(20) 40 CFR 63.6675;
(21) Table 2c to 40 CFR 63 Subpart ZZZZ;
(22) Table 4 to 40 CFR 63 Subpart ZZZZ;
(23) Table 6 to 40 CFR 63 Subpart ZZZZ; and
(24) Table 7 to 40 CFR 63 Subpart ZZZZ.

(c) for the stationary fire pump engine approved in 2012 for construction:

(1) 40 CFR 63.6580;
(2) 40 CFR 63.6585(a), (b);
(3) 40 CFR 63.6590(a)(2)(ii), (c)(6);
(4) 40 CFR 63.6595(a)(5), (c);
(5) 40 CFR 63.6665;
(6) 40 CFR 63.6670;
(7) 40 CFR 63.6675;

SECTION E.5 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Facility Description [326 IAC 2-7-5(14)]:

(a) Three (3) 33.7 MMBtu per hour natural gas fired boilers, identified as P17, P18, and P18A, approved in 1996 for construction, and exhausting to Stacks 17, 18, and 18A, respectively. Under NESHAP, Subpart DDDDD, boilers P17, P18, and P18A are considered part of the existing, affected source.

(b) Two (2) wood/shredded tire fired boilers, identified as P17B and P17C, approved in 2006 for construction, each with a nominal heat input capacity of 57.3 MMBtu/hr, both controlled by one (1) electrostatic precipitator (ESP) (identified as ES1), and exhausting through Stack 17A. Stack 17A is equipped with a continuous opacity monitoring system (COMS). Under NESHAP, Subpart DDDDD, boilers P17B and P17C are considered part of the existing, affected source.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.5.1 General Provisions Relating to NESHAP DDDDD [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.7565, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1 for the wood/shredded tire fired boilers (P17B and P17C) as specified in Table 10 of 40 CFR Part 63, Subpart DDDDD in accordance with schedule in 40 CFR 63, Subpart DDDDD.

E.5.2 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR 63, Subpart DDDDD] [326 IAC 20-95]

Pursuant to 40 CFR 63.7495, the Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters) (included as Attachment E), which are incorporated by reference as 326 IAC 20-95:

(a) for the natural gas fired boilers (P17, P18, and P18A):

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490(a)(1) and (d)
(4) 40 CFR 63.7491
(5) 40 CFR 63.7495(b),(d), and (g)
(6) 40 CFR 63.7499
(7) 40 CFR 63.7500(a), (b), (e), and (f)
(8) 40 CFR 63.7501
(9) 40 CFR 63.7505
(10) 40 CFR 63.7510
(11) 40 CFR 63.7515
(12) 40 CFR 63.7520(a), (b), (d), (e), and (f)
(13) 40 CFR 63.7545(a), (b) and (f)
(14) 40 CFR 63.7550 (a) through (d), and (h)
(15) 40 CFR 63.7555(a), (h), (i), and (j)
(16) 40 CFR 63.7560
(17) 40 CFR 63.7565
(18) 40 CFR 63.7570

(19) 40 CFR 63.7575
(20) Table 3 (items 3 and 4) to 40 CFR 63, Subpart DDDDD
(21) Table 10 to 40 CFR 63, Subpart DDDDD

(b) for the wood/shredded tire fired boilers (P17B and P17C):

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490
(4) 40 CFR 63.7495(b) and (d)
(5) 40 CFR 63.7499
(6) 40 CFR 63.7500
(7) 40 CFR 63.7501
(8) 40 CFR 63.7505
(9) 40 CFR 63.7507
(10) 40 CFR 63.7510(a), (b), (c), and (d)
(11) 40 CFR 63.7515
(12) 40 CFR 63.7520(a), (b), (d), (e), and (f),
(13) 40 CFR 63.7521
(14) 40 CFR 63.7522
(15) 40 CFR 63.7525
(16) 40 CFR 63.7530(a), (c), (d), and (e)
(17) 40 CFR 63.7535
(18) 40 CFR 63.7540
(19) 40 CFR 63.7541
(20) 40 CFR 63.7545(a), (b), and (d)
(21) 40 CFR 63.7550 (a) through (e)
(22) 40 CFR 63.7555
(23) 40 CFR 63.7560
(24) 40 CFR 63.7565
(25) 40 CFR 63.7570
(26) Table 1 to 40 CFR 63, Subpart DDDDD
(27) Table 2 to 40 CFR 63, Subpart DDDDD
(28) Table 3 to 40 CFR 63, Subpart DDDDD
(29) Table 4 to 40 CFR 63, Subpart DDDDD
(30) Table 5 to 40 CFR 63, Subpart DDDDD
(31) Table 6 to 40 CFR 63, Subpart DDDDD
(32) Table 7 to 40 CFR 63, Subpart DDDDD
(33) Table 8 to 40 CFR 63, Subpart DDDDD
(34) Table 9 to 40 CFR 63, Subpart DDDDD
(35) Table 10 to 40 CFR 63, Subpart DDDDD

SECTION E.6 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR 60, Subpart IIII] [326 IAC 12]

Facility Description [326 IAC 2-7-5(14)]

One (1) stationary diesel-fired fire pump engine, approved in 2012 for construction, with a nominal power output rate of 305 hp. Under NSPS, Subpart IIII, this engine is an affected source.

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

New Source Performance Standards (NSPS)

E.6.1 General Provisions Relating to NSPS IIII [326 IAC 12-1] [40 CFR 60, Subpart 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 the facilities described in Section E.6 except as otherwise specified in Table 8 to 40 CFR Part 60, Subpart IIII.

E.6.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR 60, Subpart IIII] [326 IAC 12]

Pursuant to 40 CFR 60, Subpart IIII, the Permittee shall comply with the provisions of Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, which are incorporated by reference as 326 IAC 12, (included as Attachment F of this permit) as specified as follows:

(1) 40 CFR 60.4200(a)(2)(ii) and (a)(4)
(2) 40 CFR 60.4205(c) and (e)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(b)
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209(a)
(7) 40 CFR 60.4211(a), (c), (f), and (g)(2)
(8) 40 CFR 60.4212(a), (c), (e), (f), and (g)
(9) 40 CFR 60.4214(b) and (d)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 4 to 40 CFR 60, Subpart IIII
(13) Table 5 to 40 CFR 60, Subpart IIII
(14) Table 8 to 40 CFR 60, Subpart IIII

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035

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

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify): _____

☐ Report (specify): _____

☐ Notification (specify): _____

☐ Affidavit (specify): _____

☐ Other (specify): _____

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

Signature:

Printed Name:

Title/Position:

Phone:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

100 North Senate Avenue
MC 61-53, IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035

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), no later than four (**4**) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance and Enforcement Branch); and
- The Permittee must submit notice in writing or by facsimile no later than 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: _____

Quarterly Reports
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035
Facility: Boilers P17B and P17C
Parameter: Total Equivalent Dry Wood Usage
Limit: Less than 51,875 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Total Equivalent Dry Wood Usage (tons) = Dry Wood Usage (tons) + [Wet Wood Usage (tons) / (1+Moisture Content of Wet Wood)] + 2.0 x Shredded Tire (tons) + 37.8 x NG Usage (MMCF)

QUARTER: _____ **YEAR:** _____

Month	Total Equivalent Dry Wood Usage for This Month (tons)	Total Equivalent Dry Wood Usage for Previous 11 Months (tons)	Total Equivalent Dry Wood Usage for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035
Facility: Boilers P17B and P17C
Parameter: Total Shredded Tire Usage
Limit: Less than 7,410 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: _____ **YEAR:** _____

Month	Total Shredded Tire Usage for This Month (tons)	Total Shredded Tire Usage for Previous 11 Months (tons)	Total Shredded Tire Usage for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035
Facility: Grain Receiving Facilities
Parameter: Total Grain Received (P1 and P2 Combined)
Limit: Less than 1,174,760 tons per twelve (12) consecutive month period with compliance determined at the end of each month

QUARTER: _____ **YEAR:** _____

Month	Total Grain Received for This Month (tons)	Total Grain Received for Previous 11 Months (tons)	Total Grain Received for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035
Facility: Grain Processing Facilities
Parameter: Total Grain Processed
Limit: Less than 1,095,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month

QUARTER: _____ **YEAR:** _____

Month	Total Grain Processed for This Month (tons)	Total Grain Processed for Previous 11 Months (tons)	Total Grain Processed for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035
Facility: North House Bin Loading Area (P27)
Parameter: Total Grain Received
Limit: Less than 108,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month

QUARTER: _____ **YEAR:** _____

Month	Total Grain Received for This Month (tons)	Total Grain Received for Previous 11 Months (tons)	Total Grain Received for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035
Facility: Overall source
Parameter: Solvent Loss Ratio
Limit: The overall solvent loss ratio shall not exceed 0.19 gallons per ton of soybean processed from the whole plant per twelve (12) consecutive month period, with compliance determined at the end of each month

QUARTER: _____ YEAR: _____

Month	Hexane Usage This Month (gal)	Total Grain Processed This Month (tons)	Solvent Loss Ratio (gal/ton)

Solvent Loss Ratio (gal/ton) = Hexane Usage for This Month (gal) / Total Grain Processed for This Month (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035

Months: _____ to _____ Year: _____

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B – Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C – General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

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

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: _____

Indiana Department of Environmental Management
Office of Air Quality

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

Source Background and Description

Source Name:	Consolidated Grain and Barge Co.
Source Location:	2781 Bluff Road, Mt. Vernon, Indiana 47620
County:	Posey
SIC Code:	2075 (Soybean Oil Mills)
Operation Permit Renewal No.:	T 129-31079-00035
Operation Permit Renewal Issuance Date:	January 25, 2013
Significant Source Modification No.:	129-34318-00035
Significant Permit Modification No.:	129-34338-00035
Permit Reviewer:	Heath Hartley

On October 8, 2014, the Office of Air Quality (OAQ) had a notice published in the Mount Vernon Democrat, Mount Vernon, Indiana, stating that Consolidated Grain and Barge Co. had applied for a Significant Source Modification and Significant Permit Modification relating to the addition of two (2) new pods aspirators in the soybean cleaning process and the addition of a second hull screener and aspirator to the soybean cracking and dehulling operation. The notice also stated that the OAQ proposed to issue a Significant Source Modification and Significant Permit Modification for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On November 4, 2014, Consolidated Grain and Barge Co. submitted comments to IDEM, OAQ on the draft Significant Source Modification and Significant Permit Modification.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

Condition A.2(k)(2) – This unit is described as "One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the magnet." The magnet has been removed, and this description should be revised to read "One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the **cleaner**." This change should also be made to the corresponding descriptions that appear in the facility description for Section D.2 and E.2.

Response to Comment 1:

IDEM agrees with the recommended changes. The permit has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

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

……

(k) One (1) soybean cleaning process, identified as P4, approved in 1996 for construction, with a nominal throughput rate of 125 tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

(1) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner, using an oil application to control PM emissions.

(2) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the ~~magnet~~**cleaner**.

……

Note: This change was also made in D.2(k)(2) and E.2(k)(2).

Comment 2:

Condition D.2.1(a) – The allowable PM/PM10/PM2.5 limits for the Pods Aspirators are listed as 3.00 pounds per hour. The emission calculations show that the hourly emission rate for this unit is 0.69 lb/hr (3.00 is the allowable emission rate in tons per year). We believe that the allowable PM/PM10/PM2.5 emission limit should be changed from 3.00 pounds per hour to 0.69 pounds per hour.

Response to Comment 2:

IDEM agrees with the recommended changes. The permit has been revised as follows:

D.2.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

(a) The PM, PM_{10}, and $PM_{2.5}$ emissions from the following emission units shall be limited as follows:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)	PM_{10} Emission Limit (lbs/hr)	$PM_{2.5}$ Emission Limit (lbs/hr)
P24	North Truck Receiving	Baghouse C24	0.43	0.43	0.43
P4	Soybean Cleaning	Baghouse C4	0.81	0.81	0.81
P1	Truck Soybean Receiving	Baghouse C1	0.56	0.56	0.56
P4A	Pods Aspirators	Baghouse C4A	~~3.00~~**0.69**	~~3.00~~**0.69**	~~3.00~~**0.69**

……

Comment 3:

Condition D.2.1(d) – The emission limitations in Condition D.2.1(d) have been lowered for emission units P2, P2A (storage and loading) and P2B (storage and loading). It appears this occurred as a result of the inclusion of a control efficiency for the oil application system in emission calculations, which had not been done previously. While this is correct for units P2A and P2B, emission unit P2 does not experience any reduction in emissions as a result of the oil application system (oil application occurs after grain is received). We believe that the allowable emission rate for emission unit P2 should remain the same as in the previous permit. These values were 0.035 lb/ton for PM, 0.0078 lb/ton for PM10, and 0.00013 lb/ton for PM2.5.

Response to Comment 3:

IDEM agrees with the recommended changes. The calculations will be revised to show there is no control for P2 (see App A to this ATSD). The permit has been revised as follows:

D.2.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

……

(d) The PM, PM_{10}, and $PM_{2.5}$ emissions from the following emission units shall be limited as follows:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/ton)	PM_{10} Emission Limit (lbs/ton)	$PM_{2.5}$ Emission Limit (lbs/ton)
P27	North House Bin Loading	None	0.061	0.034	0.0058
P2	Truck and Railcar Receiving	restricting vehicles unloading grain to hopper-bottom rail cars	~~0.014~~**0.035**	~~0.0031~~**0.0078**	~~0.0001~~**0.00013**
P2A	Annex Silo Storage	oil application system	0.010	0.0025	0.0004
P2A	Annex Silo Loading	oil application system	0.024	0.0136	0.0023
P2B	Soybean Storage	oil application system	0.010	0.0025	0.0004
P2B	Soybean Loading	oil application system	0.024	0.0136	0.0023

……

Comment 4:

Condition D.2.4 – This condition requires that "… the Permittee shall perform PM, PM10, and PM2.5 testing for baghouse C4A, controlling pods aspirators P4A, no later than one hundred eighty (180) days after the issuance of permit 129-34338-00035,…." We request that the stack testing requirement be reworded to read "… no later than one hundred eighty (180) days after the **Permittee commences operation of pods Aspirators P4A**…."

Response to Comment 4:

IDEM agrees with the recommended changes. The permit has been revised as requested as follows:

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

In order to demonstrate the compliance status with Conditions D.2.1(a), the Permittee shall perform PM, $PM_{10,}$ and $PM_{2.5}$ testing for baghouse C4A, controlling pods aspirators P4A, **within sixty (60) days of reaching maximum capacity but** no later than one hundred eighty (180) days after ~~the issuance of permit 129-34338-00035~~ **initial startup of pods aspirators P4A**, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM_{10} and $PM_{2.5}$ include filterable and condensable particulate matter.

……

IDEM Contact

(a) Questions regarding this proposed Significant Source Modification and Significant Permit Modification can be directed to Heath Hartley at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 232-8217 or toll free at 1-800-451-6027 extension 2-8217.

(b) A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: http://www.in.gov/idem/5881.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

Summary of Unrestricted Potential To Emit of Modification

		Regulated Pollutants									
Emission Unit/Process	**Unit IDs**	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC***	**GHGs as CO_2e**	**n-Hexane***	**Total HAP***
Pods Aspirator - *New*	P4A	--	--	300.34	300.34	300.34	--	--	--		--
Grain Handling Units without Device - *Modified*	Multiple	--	--	0	0	0	--	338.3	--	216.60	216.60
Dryers - *Modified*	Multiple	--	--	121.50	121.50	121.50	--	3,318.0	--	2123.60	2123.60
Total PTE Increase of Modification		--	--	421.8	421.8	421.8	--	3,656.3	--	2,340.2	2,340.2

*Note: The hexane density has been corrected; therefore the increase in PTE for VOC and HAPs has been calculated by taking the difference of the unit after the modification and before the modification using the updated density for both.

Summary of Unrestricted Potential To Emit

		Regulated Pollutants								HAPs - Organics									HAPs - Metals			
Emission Unit/Process	**Unit IDs**	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**GHGs as CO_2e**	**Acrolein**	**Benzene**	**1,3 Butadiene**	**Ethyl-benzene**	**Formal-dehyde**	**n-Hexane**	**HCl**	**PAH**	**Styrene**	**Cadmium**	**Lead**	**Mercury**	**Total HAP**
Point Sources																						
Natural Gas Fired Boilers	P17, P18, & P18A	36.47	43.41	0.82	3.30	3.30	0.26	2.39	52,413	--	9.1E-04	--	--	3.3E-02	0.78	--	--	--	4.8E-04	2.2E-04	--	0.82
Wood/Tires Boilers	P17B & P17C	100.39	220.86	151	253	211	57.72	8.53	100,124	1.33	4.66	0.24	0.72	1.46	--	6.31	7.90	1.59	7.7E-03	7.4E-04	1.1E-04	24.21
North Truck Receiving	P24	--	--	187.71	187.71	187.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kaolin Handling	P3	--	--	45.05	45.05	45.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Cleaning	P4	--	--	356.66	356.66	356.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pods Aspirator	P4A	--	--	300.34	300.34	300.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Cracking/Dehulling	P5	--	--	9,611	9,611	9,611	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Grinding	P6	--	--	131.40	131.40	131.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Storage	P7	--	--	75.09	75.09	75.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Handling	P7A	--	--	75.09	75.09	75.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Pellet Cooler	P8	--	--	2,253	2,253	2,253	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Pellet Storage	P8A	--	--	75.09	75.09	75.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Flaking	P19	--	--	170.82	170.82	170.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Meal Handling	P9	--	--	113.16	113.16	113.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Meal Storage	P20	--	--	112.63	112.63	112.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Truck Meal Loadout	P14	--	--	300.34	300.34	300.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rail/Barge Meal Loadout	P15	--	--	300.34	300.34	300.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rail/Barge Bulk Weigh	P15A	--	--	112.63	112.63	112.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Oil Extraction System	P13	--	--	--	--	--	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
DTDC Meal Dryer Section 1	P10	--	--	68.59	68.59	68.59	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
DTDC Meal Dryer Section 2	P11	--	--	68.59	68.59	68.59	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
DTDC Meal Dryer Section 3	P12	--	--	68.59	68.59	68.59	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
DTDC Meal Cooling Operation	P12A	--	--	72.40	72.40	72.40	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
Diesel Fired Fire Pumps (Emerge	NA	1.01	4.71	0.33	0.33	0.33	0.31	0.38	175.66	9.87E-05	9.96E-04	4.17E-05	--	1.3E-03	--	--	1.8E-04	--	--	--	--	4.1E-03
Natural Gas Fired Emergency Ge	NA	0.11	0.93	1.12E-02	1.41E-02	1.41E-02	1.72E-04	3.51E-02	41.10	2.28E-03	5.67E-04	--	--	1.6E-02	1.3E-04	--	--	1.6E-05	--	--	--	1.8E-02
Natural Gas Fired Heaters	NA	0.16	0.19	0.00	0.01	0.01	0.00	0.01	228	--	4.0E-06	--		1.4E-04	0.00	--	--	--	2.1E-06	9.4E-07	--	0.00
Subtotal (Point Source Emissions)		138.14	270.09	14,650	14,755	14,713	58.30	13,655	152,982	1.33	4.66	0.24	0.72	1.51	8,733	6.31	7.90	1.59	8.2E-03	9.6E-04	1.1E-04	8,757
Truck Receiving	P1	--	--	244.03	244.03	244.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Truck and Railcar Receiving	P2	--	--	82.78	18.45	0.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Annex Silo Storage	P2A	--	--	190.53	48.01	8.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Annex Silo Loading	P2A	--	--	464.89	259.12	44.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Storage	P2B	--	--	65.70	16.56	2.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Loading	P2B	--	--	160.31	89.35	15.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Heater	P21	--	--	0.55	0.55	0.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
North House Bin Loading	P27	--	--	96.18	53.61	9.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Degreasing Operations	NA	--	--	--	--	--	--	0.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Subtotal (Counted Emissions)		0	0	1,304.97	729.68	324.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Fugitive Emissions																						
Unpaved Roads	NA	--	--	0.677	0.183	0.018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paved Roads	NA	--	--	6.180	1.236	0.303	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grain Storage Piles	NA	--	--	0.532	0.532	0.532	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Subtotal (Other Fugitive Emissions)		--	--	7.39	1.95	0.85	--	0.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Source Total (All Units)		*138.14*	*270.09*	*15,954.85*	*15,484.48*	*15,037.37*	*58.30*	*13,655.64*	*152,982.22*	*1.33*	*4.66*	*0.24*	*0.72*	*1.51*	*8,732.75*	*6.31*	*7.90*	*1.59*	*0.01*	*0.00*	*0.00*	*8,757.03*
Source Total ("Counted" Units)		**138**	**270**	**15,955**	**15,484**	**15,037**	**58.3**	**13,655**	**152,982**	**1.33**	**4.66**	**0.24**	**0.72**	**1.51**	**8,732.75**	**6.31**	**7.90**	**1.59**	**0.01**	**0.00**	**0.00**	**8,757.03**

Potential to Emit (Limited PTE) (tpy)
Potential to Emit after Issuance of Permit (Limited PTE) (tpy)

		Regulated Pollutants								HAPs - Organics									HAPs - Metals		
Emission Unit/Process	**Unit IDs**	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**GHGs as CO_2e**	**Acrolein**	**Benzene**	**1,3 Butadiene**	**Ethyl Benzene**	**Formal-dehyde**	**n-Hexane***	**HCl**	**PAH**	**Styrene**	**Lead**	**Mercury**	**Total HAP**
Point Sources																					
Natural Gas Fired Boilers	P17, P18, & P18A	36.47	43.41	0.82	3.30	3.30	0.26	2.39	++	--	9.1E-04	--	--	3.3E-02	0.78	--	--	--	2.2E-04		0.82
Wood/Tires Boilers	P17B & P17C	83.00	182.60	10.38	17.43	14.53	47.73	7.06	82,780	1.33	4.66	0.24	0.72	1.46	--	6.31	7.90	1.59	7.4E-04	1.1E-04	24.21
North Truck Receiving	P24	--	--	1.88	1.88	1.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kaolin Handling	P3	--	--	0.45	0.45	0.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Cleaning	P4	--	--	3.57	3.57	3.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pods Aspirator	P4A	--	--	3.00	3.00	3.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Cracking/Dehulling	P5	--	--	96.11	96.11	96.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Grinding	P6	--	--	1.31	1.31	1.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Storage	P7	--	--	0.75	0.75	0.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Handling	P7A	--	--	0.75	0.75	0.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Pellet Cooler	P8	--	--	22.53	22.53	22.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Pellet Storage	P8A	--	--	0.75	0.75	0.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Flaking	P19	--	--	1.71	1.71	1.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Meal Handling	P9	--	--	1.13	1.13	1.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Meal Storage	P20	--	--	1.13	1.13	1.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Truck Meal Loadout	P14	--	--	3.00	3.00	3.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rail/Barge Meal Loadout	P15	--	--	3.00	3.00	3.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rail/Barge Bulk Weigh	P15A	--	--	1.13	1.13	1.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Oil Extraction System	P13	--	--	--	--	--	--	26.28	--	--	--	--	--	--		--	--	--			
DTDC Meal Dryer Section 1	P10	--	--	23.60	23.60	23.60	--		--	--	--	--	--	--		--	--	--			
DTDC Meal Dryer Section 2	P11	--	--	0.56	0.56	0.56	--	83.22	--	--	--	--	--	--	372.83	--	--	--			372.83
DTDC Meal Dryer Section 3	P12	--	--	0.43	0.43	0.43	--		--	--	--	--	--	--		--	--	--			
DTDC Meal Cooling Operation	P12A	--	--	0.95	0.95	0.95	--	83.22	--	--	--	--	--	--		--	--	--			
Diesel Fired Fire Pumps (Emergency)	NA	1.01	4.71	0.33	0.33	0.33	0.31	0.38	175.66	9.87E-05	9.96E-04	4.17E-05	--	1.26E-03	--	--	1.79E-04	--			4.14E-03
Natural Gas Fired Emergency Generator	NA	0.11	0.93	1.12E-02	1.41E-02	1.41E-02	1.72E-04	3.51E-02	41.10	2.28E-03	5.67E-04	--	--	1.61E-02	1.30E-04	--	--	1.60E-05			1.79E-02
Natural Gas Fired Heaters	NA	0.16	0.19	3.59E-03	1.44E-02	1.44E-02	1.13E-03	1.04E-02	228.11	--	4.0E-06	--	--	1.4E-04	3.40E-03	--	--	--	9.4E-07		3.57E-03
Subtotal (Point Source Emissions)		120.75	231.84	179.28	188.83	185.92	48.30	202.59	83,225	1.33	4.66	0.24	0.72	1.51	373.61	6.31	7.90	1.59	9.61E-04	1.09E-04	397.88
Truck Receiving	P1	--	--	2.44	2.44	2.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Truck and Railcar Receiving	P2	--	--	20.56	4.58	0.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Annex Silo Storage	P2A	--	--	5.87	1.48	0.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Annex Silo Loading	P2A	--	--	14.33	7.99	1.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Storage	P2B	--	--	5.87	1.48	0.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Loading	P2B	--	--	14.33	7.99	1.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
North House Bin Loading	P27	--	--	0.99	0.55	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Heater	P21	--	--	0.55	0.55	0.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Degreasing Operations	NA	--	--	--	--	--	--	0.59	--	--	--	--	--	--	--	--	--	--	--	--	--
Subtotal (Counted Emissions)		--	--	64.95	27.06	6.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other Fugitive Emissions																					
Unpaved Roads	NA	--	--	0.677	0.183	0.018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paved Roads	NA	--	--	6.180	1.236	0.303	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grain Storage Piles	NA	--	--	0.532	0.532	0.532	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Subtotal (Other Fugitive Emissions)		--	--	7.39	1.95	0.85	--	0.59	--	--	--	--	--	--	--	--	--	--	--	--	--
Source Total (All Units)		*120.75*	*231.84*	*357.96*	*264.38*	*202.91*	*48.30*	*203.18*	*83,225*	*1.33*	*4.66*	*0.24*	*0.72*	*1.51*	*374*	*6.31*	*7.90*	*1.59*	*9.61E-04*	*1.09E-04*	*398*
Source Total ("Counted" Units)		**120.75**	**231.84**	**244.23**	**215.88**	**192.32**	**48.30**	**202.59**	**83,225**	**1.33**	**4.66**	**0.24**	**0.72**	**1.51**	**373.61**	**6.31**	**7.90**	**1.59**	**9.6E-04**	**1.1E-04**	**397.88**
Part 70 Major Source Thresholds		100	100	100	100	100	100	100	100,000	10	10	10	10	10	10	10	10	10	10	10	25
PSD Major Source Thresholds		250	250	250	250	250	250	250	100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.6	0.1	NA

++The CO_2e emissions from the boilers are limited by a total equivalent dry wood input limit of 51,875 tons per 12 months.

*HAPs are limited by the BACT limit for Hexane. For calculating HAPs, only the n-Hexane portion is considered a HAP. Therefore, an industry standard factor (from 40 CFR 63, Subpart GGGG) is used to determine a ratio of n-Hexane to Hexane.

Natural Gas Fired Boilers

P17, P18, & P18A

Boilers <100 MMBtu/hr

Emission Unit	Heat Input Capacity		Potential Throughput		Installation Date
NG Boiler P17	33.70	MMBtu/hr	289.42	MMCF/yr	1996
NG Boiler P18	33.70	MMBtu/hr	289.42	MMCF/yr	1996
NG Boiler P18A	33.70	MMBtu/hr	289.42	MMCF/yr	1996
Maximum Capacity:	101.10	MMBtu/hr	868	MMCF/yr	

	Potential To Emit - Regulated Pollutants							Potential To Emit - Greenhouse Gases			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Emission Factor (lb/MMCF)	*84*	*100*	*1.9*	*7.6*	*7.6*	*0.6*	*5.5*	*120,000*	*2.3*	*2.2*	*120,730*
Uncontrolled Potential To Emit (lb/hr)	8.33	9.91	0.19	0.75	0.75	0.06	0.55	11,894	0.23	0.22	11,967
Uncontrolled Potential To Emit (ton/yr)	36.47	43.41	0.82	3.30	3.30	0.26	2.39	52,096	1.00	0.96	52,413

PM emission factor is filterable PM only. PM_{10} emission factor is filterable and condensable PM_{10} combined. $PM_{2.5}$ emission factor is filterable and condensable $PM_{2.5}$ combined.

Emission Factors for NO_X: Uncontrolled = 100, Low NO_X Burner = 50, Low NO_X Burners/Flue gas recirculation = 32

	Potential To Emit - Hazardous Air Pollutants										
	HAPs - Organics					HAPs - Metals					
	Benzene	**Dichloro-benzene**	**Formal-dehyde**	**Hexane**	**Toluene**	**Cadmium**	**Chromium**	**Lead**	**Manganese**	**Nickel**	**Total HAPs**
Emission Factor (lb/MMCF)	*2.1E-03*	*1.2E-03*	*7.5E-02*	*1.8*	*3.4E-03*	*1.1E-03*	*1.4E-03*	*5.0E-04*	*3.8E-04*	*2.1E-03*	
Uncontrolled Potential To Emit (lb/hr)	2.1E-04	1.2E-04	7.4E-03	0.18	3.4E-04	1.1E-04	1.4E-04	5.0E-05	3.8E-05	2.1E-04	0.19
Uncontrolled Potential To Emit (ton/yr)	9.1E-04	5.2E-04	3.3E-02	0.78	1.5E-03	4.8E-04	6.1E-04	2.2E-04	1.6E-04	9.1E-04	0.82

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
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 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
The N_2O Emission Factor for uncontrolled is 2.2. The N_2O Emission Factor for low Nox burner is 0.64.
CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

Wood/Tires Boilers

Combustion of 80% Dry Wood and 20% Shredded Tires

P17B & P17C

Boilers <100 MMBtu/hr

Emission Unit	Heat Input Capacity		Installation Date
wood/shredded tire Boiler P17B	57.30	MMBtu/hr	2006
wood/shredded tire Boiler P17C	57.30	MMBtu/hr	2006
Maximum Capacity:	114.6	MMBtu/hr	1,003,896 MMBtu/yr

Fuel Equivalency Evaluation *Source: SSM: 129-22782-00035, issued 10/20/2006*

	Usage Limits		Heating Value
wood	51,875	tons dry wood/yr @ 0% Moisture	16 MMBtu/ton wood
tires	7,410	tons tires/yr	32 MMBtu/ton tires

2.0 tons dry wood / ton tires = 32 MMBtu/ton tires / 16 MMBtu/ton wood

	Potential To Emit - Regulated Pollutants							Potential To Emit - Greenhouse Gases			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Current Permitted Emission Rate (lb/MMBtu)	0.2	0.44	0.025	0.042	0.035	0.115	0.017	195	0.021	0.013	*199.47*
1.) Current Permitted Potential To Emit (ton/yr)	83.00	182.60	10.38	17.43	14.53	47.73	7.06	80,925	8.72	5.40	**82,780**
AP-42 Emission Rate (lb/MMBtu)	*0.6*	*0.49*	*0.054*	*0.04*	*0.035*	*0.025*	*0.017*	*195*	*0.021*	*0.013*	*199.47*
Tested Emission Rate (lb/MMBtu) [80% Wood & 20% Tires]	0.054	0.302	0.013	0.015		0.111	0.014				
Tested Emission Rate (lb/MMBtu) [100% Wood]	0.069	0.350	0.006	0.008		0.013	0.016				
Control Efficiency (%)			91.67%	91.67%	91.67%						
New Permitted Emission Rate (lb/MMBtu)	**0.20**	**0.44**	**0.025**	**0.042**	**0.035**	**0.115**	**0.017**	**195**	**0.021**	**0.013**	***199.47***
Controlled Potential To Emit (lb/hr)	22.92	50.42	2.87	4.81	4.01	13.18	1.95	22,347	2.41	1.49	22,859
Controlled Potential To Emit (ton/yr)	100.39	220.86	12.55	21.08	17.57	57.72	8.53	97,880	10.54	6.53	100,124
Uncontrolled Potential To Emit (lb/hr)	22.92	50.42	34.39	57.78	48.15	13.18	1.95	22,347	2.41	1.49	22,859
Uncontrolled Potential To Emit (ton/yr)	100.39	220.86	150.64	253.08	210.90	57.72	8.53	97,880	10.54	6.53	100,124
2.) Controlled & Limited Potential To Emit (ton/yr)	83.00	182.60	10.38	17.43	14.53	47.73	7.06	80,925	8.72	5.40	82,780

Notes:

PM emission factor is filterable PM only. PM_{10} emission factor is filterable and condensable PM_{10} combined. $PM_{2.5}$ emission factor is filterable and condensable $PM_{2.5}$ combined.
The emission factors for SO_2 and NOx were provided by the source which were estimated using the stack test results from similar sources. Using 20% tire is the worst case scenario for SO_2 emissions. Using 100% wood is the worst case scenario for NOx emissions. The Permittee is required to perform stack tests to demonstrate compliance with these emission factors.
The emission factors for condensible PM_{10}, CO, and VOC are from AP-42, Tables 1.6-2 and 1.6-3 (09/03) for dry wood combustion (09/03).
All emission factors are based on normal firing. MMBtu = 1,000,000 Btu MMCF = 1,000,000 Cubic Feet of Gas

Methodology

Potential Throughput (pallets/yr) = Heat Input Capacity (MMBtu/yr) / [0.0052 MMBtu/lb pallets x 65 lb/pallet]
1.) Current Permitted Potential to Emit (ton/yr) = Current Permitted Emission Rate (lb/MMBtu) x Dry Wood Equivalent Limit (51,875 tons/yr) x Wood Heating Value (16 MMBtu/ton) / 2000 lb/ton
2.) Controlled & Limited Potential to Emit (ton/yr) = New Permitted Emission Rate (lb/MMBtu) x Dry Wood Equivalent Limit (51,875 tons/yr) x Wood Heating Value (16 MMBtu/ton) / 2000 lb/ton
Emission (lb/hr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu)
Emission (tons/yr) = Emission (lb/hr) x 8760 hr/yr /2000 lb/ton
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
The N_2O Emission Factor for uncontrolled is 2.2. The N_2O Emission Factor for low Nox burner is 0.64.
CO_2e Emission Factor (lb/MMBtu) = CO_2 Emission Factor (lb/MMBtu) x CO_2 GWP + CH4 Emission Factor (lb/MMBtu) x CH_4 GWP + N_2O Emission Factor (lb/MMBtu) x N_2O GWP
CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP

Fuel Equivalency Revision

Previous Limit was 8.75 tons dry wood per MMCF natural gas in order for CO to be limited to less than 250 tons per year. After testing, the new emission rate revealed that the equivalency is not needed to limit CO emissions; however, a new equivalency is needed in order to limit CO_2e to less than 100,000 tons per year. This calculations is as follows:

$$37.8 \frac{\text{tons wood}}{\text{MMCF nat. gas}} = \frac{120{,}730 \frac{\text{lb } CO_2e}{\text{MMCF nat. gas}}}{16 \frac{\text{MMBtu}}{\text{ton wood}} \times 199.47 \frac{\text{lb } CO_2e}{\text{MMBtu}}}$$

	Potential To Emit - Hazardous Air Pollutants																Total HAPs
	HAPs - Organics								HAPs - Metals								
	Acrolein	Benzene	1,3-butadiene	Ethyl Benzene	Formal-dehyde	HCl	Styrene	PAH	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	
Emission Factor (lb/MMBtu dry wood)	4.0E-03	4.2E-03			4.4E-03	1.9E-02	1.9E-03		1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	3.3E-07	1.8E-06	1.8E-06	
Emission Factor (lb/ton tires)		4.41	0.32	0.97			1.29	10.67			9.6E-03		2.0E-04				
Control Efficiency (%)									91.67%	91.67%	91.67%	91.67%	91.67%	91.67%	91.67%	91.67%	
Controlled Potential To Emit (lb/hr)	0.30	1.06	0.05	0.16	0.33	1.44	0.36	1.80	1.1E-05	1.1E-05	1.5E-04	1.1E-05	1.4E-05	2.1E-06	1.1E-05	1.1E-05	5.53
Controlled Potential To Emit (ton/yr)	1.33	1.72	0.02	0.07	1.46	6.31	0.73	0.79	5.0E-05	5.0E-05	1.1E-04	5.0E-05	5.1E-05	9.1E-06	5.0E-05	5.0E-05	12.43
Uncontrolled Potential To Emit (lb/hr)	0.30	1.06	0.05	0.16	0.33	1.44	0.36	1.80	1.4E-04	1.4E-04	1.8E-03	1.4E-04	1.7E-04	2.5E-05	1.4E-04	1.4E-04	5.53
Uncontrolled Potential To Emit (ton/yr)	1.33	4.66	0.24	0.72	1.46	6.31	1.59	7.90	6.0E-04	6.0E-04	7.7E-03	6.0E-04	7.4E-04	1.1E-04	6.0E-04	6.0E-04	24.21
2.) Controlled & Limited Potential To Emit (ton/yr)	1.33	4.66	0.24	0.72	1.46	6.31	1.59	7.90	6.0E-04	6.0E-04	7.7E-03	6.0E-04	7.4E-04	1.1E-04	6.0E-04	6.0E-04	24.21

Notes:

HAP Emission factors for dry wood combustion are from AP-42, Table 1.6-3 for Wood Residue Combustion (09/03). HAP emissions for combustion of painted pallets is derived from testing that was conducted by the source (see below). The HAP emission factors for tire combustion are unknown.

Methodology

Controlled Potential Emissions (lb/hr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 8760 hr/yr }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 8760 hr/yr }] x (1 - CE (%))
Controlled Potential Emissions (ton/yr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 2000 lb/ton }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 2000 lb/ton }] x (1 - CE (%))
Uncontrolled Potential Emissions (lb/hr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 8760 hr/yr }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 8760 hr/yr }]
Uncontrolled Potential Emissions (ton/yr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 2000 lb/ton }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 2000 lb/ton }]
Limited Potential Emissions (ton/yr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 2000 lb/ton }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 2000 lb/ton }]

Painted Pallet Combustion Source: Administrative Amendment No. 129-26154-00038

The following emission calculations assume the worst case that the pallets are entirely and freshly covered by paint. A representative wet sample of the paint used on the pallets was sent by the source for Laboratory testing for metal HAPs. Given that the paint may have been on the pallets for years, there should be no VOC and given the boiler temperatures any VOC would be burned up if there were any trace amounts.

Limited Capacity (Painted Pallets) =	51,875	tons pallets/yr	103,750,000	lb pallets/yr	1,596,154 pallets/yr
Weight of each painted pallet =	65	lb/pallet			
					1,660 MMBtu/yr
Maximum amount of paint on each pallet =	5	oz paint/pallet			
	0.3125	lb paint/pallet			
Maximum amount of paint Combusted =	249.40	tons paint/yr			

Metals	Detection Level	Detection Level	Potential to Emit		Emission Factor
	mg/kg	fraction of metal in the paint	lb/yr	lb/hr	lb/MMBtu
Arsenic	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Barium	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Cadmium	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Chromium	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Lead	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Selenium	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Silver	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Mercury	0.33	3.31E-07	0.2	1.88E-05	3.29E-07

Methodology

Maximum amount of paint Combusted = Amount of Paint on pallet (lb paint/pallet) x Pallet Burning Capacity (pallets/yr) / 2000 lb/ton
Detection Level (fraction) = Detection Level(mg/kg) / 64.8 mg/grain / 7000 grains/lb / 2.2 lb/kg
Potential to Emit (lb/yr) = Maximum Amount of Paint Combusted (tons paint/yr) x Detection Level (fraction) x 2000 lbs/ton

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

Emission Unit	Installation Date	Heat Input Capacity *MMBtu/hr*	Q *MMBtu/hr*	Pt *lb/MMBtu*
NG Boiler P17	1996	33.70	101.10	0.328
NG Boiler P18	1996	33.70	101.10	0.328
NG Boiler P18A	1996	33.70	101.10	0.328
wood/shredded tire Boiler P17B	2006	57.30	215.70	0.270
wood/shredded tire Boiler P17C	2006	57.30	215.70	0.270

[326 IAC 6-2-4] $Pt = \frac{1.09}{Q^{0.26}}$

Where:
Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr).

(e) If any limitation established by this rule is inconsistent with applicable limitations contained in 326 IAC 6.5 and 326 IAC 6.8, then the limitations contained in 326 IAC 6.5 and 326 IAC 6.8 prevail.

(f) If any limitation established by this rule is inconsistent with applicable limitations contained in 326 IAC 12 concerning new source performance standards, then the limitations contained in 326 IAC 12 prevail.

(g) If any limitation established by this rule is inconsistent with a limitation contained in a facility's construction or operation permit as issued pursuant to 326 IAC 2 concerning permit review regulations, then the limitations contained in the source's current permits prevail.

(h) If any limitation established by this rule is inconsistent with a limitation required by 326 IAC 2 concerning permit review regulations, to prevent a violation of the ambient air quality standards set forth in 326 IAC 1-4, then the limitations required by 326 IAC 2 prevail.

Particulate (PM, PM_{10}, & $PM_{2.5}$) from the Receiving, Handling, and Loadout Operations for Grain, Hull, and Meal

Unit ID	Process	Emission Unit	Control Device	Control Device ID	Stack ID	Outlet Grain Loading	Maximum Air Flow Rate	Control Efficiency	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		PTE of PM after Control		PTE of PM_{10} after Control		PTE of $PM_{2.5}$ after Control	
						gr/dscf	*scfm*	*%*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P1	Truck Receiving		Baghouse	C1		0.005	13,000	99.0%	55.71	244.03	55.71	244.03	55.71	244.03	0.56	2.44	0.56	2.44	0.56	2.44
P3	Kaolin Handling		Baghouse	C3		0.005	2,400	99.0%	10.29	45.05	10.29	45.05	10.29	45.05	0.10	0.45	0.10	0.45	0.10	0.45
P4	Soybean Cleaning		Baghouse	C4		0.005	19,000	99.0%	81.43	356.66	81.43	356.66	81.43	356.66	0.81	3.57	0.81	3.57	0.81	3.57
P4A		Pods Aspirators	Baghouse	C4A	4A	0.01	8,000	99.0%	68.57	300.34	68.57	300.34	68.57	300.34	0.69	3.00	0.69	3.00	0.69	3.00
P5	Soybean Cracking/Dehulling	Jet Dryer 1	Cyclone	C5A	5	0.04	64,000	99.0%	2194.29	9610.97	2194.29	9610.97	2194.29	9610.97	21.94	96.11	21.94	96.11	21.94	96.11
		Jet Dryer 2	Cyclone	C5B																
		CCD Dryer 1	Cyclone	C5C																
		CCD Dryer 2																		
		cracking/dehulling roll 1																		
		CCC Cooler 1	Cyclone	C5D																
		CCC Cooler 2																		
		cracking/dehulling roll 2																		
		Two hull screener & aspirators (P5) and pods breaker and pods aspirator (P4)	Cyclone	C5E																
		Jet Dryer 3	Cyclone	C5F																
		CCD Dryer 3	Cyclone	C5G																
		cracking/dehulling roll 3																		
		cracking/dehulling roll 4																		
		CCC Cooler 3	Cyclone	C5H																
		cracking/dehulling roll 5																		
		cracking/dehulling roll 6																		
P6	Hull Grinding		Baghouse	C6		0.005	7,000	99.0%	30.00	131.40	30.00	131.40	30.00	131.40	0.30	1.31	0.30	1.31	0.30	1.31
P7	Hull Storage		Baghouse	C7		0.005	4,000	99.0%	17.14	75.09	17.14	75.09	17.14	75.09	0.17	0.75	0.17	0.75	0.17	0.75
P7A	Hull Handling		Baghouse	C7A		0.005	4,000	99.0%	17.14	75.09	17.14	75.09	17.14	75.09	0.17	0.75	0.17	0.75	0.17	0.75
P7B																				
P8	Hull Pellet Cooler		Cyclone	C8		0.05	12,000	99.0%	514.29	2,253	514.3	2,253	514.3	2,253	5.14	22.53	5.14	22.53	5.14	22.53
P8A	Hull Pellet Storage		Baghouse	C8A		0.005	4,000	99.0%	17.14	75.09	17.14	75.09	17.14	75.09	0.17	0.75	0.17	0.75	0.17	0.75
P8B			Baghouse	C8B																
P9	Meal Handling		Baghouse	C9		0.0065	4,637	99.0%	25.83	113.16	25.83	113.16	25.83	113.16	0.26	1.13	0.26	1.13	0.26	1.13
P14	Truck Meal Loadout		Baghouse	C14		0.005	16,000	99.0%	68.57	300.34	68.57	300.34	68.57	300.34	0.69	3.00	0.69	3.00	0.69	3.00
P15	Rail/Barge Meal Loadout		Baghouse	C15		0.005	16,000	99.0%	68.57	300.34	68.57	300.34	68.57	300.34	0.69	3.00	0.69	3.00	0.69	3.00
P15A	Rail/Barge Bulk Weigh		Baghouse	C15A	P15A	0.005	6,000	99.0%	25.71	112.63	25.71	112.63	25.71	112.63	0.26	1.13	0.26	1.13	0.26	1.13
P19	Soybean Flaking	Flakers 1-10	Baghouse	C19A	P19	0.002	26,000	99.0%	39.00	170.82	39.00	170.82	39.00	170.82	0.39	1.71	0.39	1.71	0.39	1.71
			Baghouse	C19B																
			Baghouse	C19C																
		Flakers 1-10	Baghouse	C19D	P19D	0.00325	26,000	99.0%	72.43	317.24	72.43	317.24	72.43	317.24	0.72	3.17	0.72	3.17	0.72	3.17
P20	Meal Storage		Baghouse	C20		0.005	6,000	99.0%	25.71	112.63	25.71	112.63	25.71	112.63	0.26	1.13	0.26	1.13	0.26	1.13
P24	North Truck Receiving		Baghouse	C24		0.005	10,000	99.0%	42.86	187.71	42.86	187.71	42.86	187.71	0.43	1.88	0.43	1.88	0.43	1.88
Total										14,781		14,781		14,781		**147.81**		**147.81**		**147.81**

Assumptions

All PM emissions equal PM_{10} and $PM_{2.5}$ emissions.

Methodology

Potential to Emit after Control (lb/hr) = Outlet Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr
Potential to Emit after Control (ton/yr) = Potential to Emit after Control (lb/hr) x 8760 hr/yr / 2000 lb/ton
Potential to Emit before Control (lb/hr) = Potential to Emit after Control (lb/hr) / [1 - Control Efficiency (%)]
Potential to Emit before Control (ton/yr) = Potential to Emit before Control (lb/hr) x 8760 hr/yr / 2000 lb/ton

Particulate (PM, PM_{10}, & $PM_{2.5}$) from the Receiving, Handling, and Loadout Operations for Grain, Hull, and Meal

Before Modification

Unit ID	Unit Description	Maximum Throughput Rate		Annual Throughput Limit	Uncontrolled PM Emission Factor	Uncontrolled PM_{10} Emission Factor	Uncontrolled $PM_{2.5}$ Emission Factor	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		Control Measure	Control Efficiency	Controlled PM Emission Factor	Controlled PM_{10} Emission Factor	Controlled $PM_{2.5}$ Emission Factor	PTE of PM after Control and Limit		PTE of PM_{10} after Control and Limit		PTE of $PM_{2.5}$ after Control and Limit	
		ton/hr	*ton/yr*	*ton/yr*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*		*%*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P2	Truck and Railcar Receiving	540	4,730,400	1,020,000	0.035	0.0078	0.00013	18.90	82.78	4.21	18.45	0.07	0.31	NA	0%	NA	NA	NA	4.08	17.85	0.91	3.98	0.02	0.07
P2A	Annex Silo Storage	1,740	15,242,400	1,020,000	0.025	0.0063	0.0011	43.50	190.53	10.96	48.01	1.91	8.38	Mineral Oil	60%	NA	NA	NA	1.16	5.10	0.29	1.29	0.05	0.22
P2A	Annex Silo Loading	1,740	15,242,400	1,020,000	0.061	0.034	0.0058	106.14	464.89	59.16	259.12	10.09	44.20	Mineral Oil	60%	NA	NA	NA	2.84	12.44	1.58	6.94	0.27	1.18
P2B	Soybean Storage	600	5,256,000	1,020,000	0.025	0.0063	0.0011	15.00	65.70	3.78	16.56	0.66	2.89	Mineral Oil	60%	NA	NA	NA	1.16	5.10	0.29	1.29	0.05	0.22
P2B	Soybean Loading	600	5,256,000	1,020,000	0.061	0.034	0.0058	36.60	160.31	20.40	89.35	3.48	15.24	Mineral Oil	60%	NA	NA	NA	2.84	12.44	1.58	6.94	0.27	1.18
P21	Soybean Heater	125	1,095,000	940,240	0.001	0.001	0.001	0.13	0.55	0.13	0.55	0.13	0.55	NA	0%	NA	NA	NA	0.11	0.47	0.11	0.47	0.11	0.47
P27	North House Bin Loading	360	3,153,600	108,000	0.061	0.034	0.0058	21.96	96.18	12.24	53.61	2.09	9.15	Chamber Effect	70%	NA	NA	NA	0.23	0.99	0.13	0.55	0.02	0.09
Total									**1060.95**		**485.65**		**80.72**							**54.40**		**21.44**		**3.45**

After Modification

Unit ID	Unit Description	Maximum Throughput Rate		Annual Throughput Limit	Uncontrolled PM Emission Factor	Uncontrolled PM_{10} Emission Factor	Uncontrolled $PM_{2.5}$ Emission Factor	Limited PM Emission Factor	Limited PM_{10} Emission Factor	Limited $PM_{2.5}$ Emission Factor	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		Control Measure	Control Efficiency	Controlled PM PTE		Controlled PM_{10} PTE		Controlled $PM_{2.5}$ PTE		Limited PM PTE		Limited PM_{10} PTE		Limited $PM_{2.5}$ PTE	
		ton/hr	*ton/yr*	*ton/yr*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*		*%*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P2	Truck and Railcar Receiving	540	4,730,400	1,174,760	0.035	0.0078	0.00013	0.035	0.0078	0.0001	18.90	82.78	4.21	18.45	0.07	0.31	NA	0%	18.90	82.78	4.21	18.45	0.07	0.31	4.69	20.56	1.05	4.58	0.02	0.08
P2A	Annex Silo Storage	1,740	15,242,400	1,174,760	0.025	0.0063	0.0011	0.010	0.0025	0.0004	43.50	190.53	10.96	48.01	1.91	8.38	Mineral Oil	60%	17.40	76.21	4.38	19.21	0.77	3.35	1.34	5.87	0.34	1.48	0.06	0.26
P2A	Annex Silo Loading	1,740	15,242,400	1,174,760	0.061	0.034	0.0058	0.024	0.0136	0.0023	106.14	464.89	59.16	259.12	10.09	44.20	Mineral Oil	60%	42.46	185.96	23.66	103.65	4.04	17.68	3.27	14.33	1.82	7.99	0.31	1.36
P2B	Soybean Storage	600	5,256,000	1,174,760	0.025	0.0063	0.0011	0.010	0.0025	0.0004	15.00	65.70	3.78	16.56	0.66	2.89	Mineral Oil	60%	6.00	26.28	1.51	6.62	0.26	1.16	1.34	5.87	0.34	1.48	0.06	0.26
P2B	Soybean Loading	600	5,256,000	1,174,760	0.061	0.034	0.0058	0.024	0.0136	0.0023	36.60	160.31	20.40	89.35	3.48	15.24	Mineral Oil	60%	14.64	64.12	8.16	35.74	1.39	6.10	3.27	14.33	1.82	7.99	0.31	1.36
P21	Soybean Heater	125	1,095,000	1,095,000	0.001	0.001	0.001	0.001	0.0010	0.0010	0.13	0.55	0.13	0.55	0.13	0.55	NA	0%	0.13	0.55	0.13	0.55	0.13	0.55	0.13	0.55	0.13	0.55	0.13	0.55
P27	North House Bin Loading	360	3,153,600	108,000	0.061	0.034	0.0058	0.061	0.034	0.0058	21.96	96.18	12.24	53.61	2.09	9.15	NA	0%	21.96	96.18	12.24	53.61	2.09	9.15	0.75	3.29	0.42	1.84	0.07	0.31
Total												**1060.95**		**485.65**		**80.72**									**64.81**		**25.90**		**4.18**
Total Increase from modification:												**0.00**		**0.00**		**0.00**										**10.42**		**4.46**		**0.73**

Notes:
Emission factors are from AP-42, Chapter 9.9.1 - Grain Elevators, Table 9.9.1-1 (03/03).
Emission factors for P21 are based on stack testing.
*Controlled PTE for P1 and P2 is calculated without consideration of the Baghouse controlling the aspirated soybean receiving legs.

Methodology
Potential to Emit before Control (lb/hr) = Maximum Throughput Rate (ton/hr) x Uncontrolled Emission Factor (lb/ton)
Potential to Emit before Control (ton/yr) = Potential to Emit before Control (lb/hr) x 8760 hr/yr / 2000 lb/ton
Potential to Emit after Control and Limit (lb/hr) = Annual Throughput Limit (ton/yr) / 8760 hr/yr x Uncontrolled Emission Factor (lb/ton) x [1 - Control Efficiency (%)]
Potential to Emit after Control and Limit (ton/yr) = Annual Throughput Limit (ton/yr) x Uncontrolled Emission Factor (lb/ton) / 2000 lb/ton x [1 - Control Efficiency (%)]

VOC and HAP from the Soybean Oil Extraction System

Unit ID	Process	Maximum Throughput Rate		Annual Throughput Limit	Control Measure	Control Efficiency	VOC/Hexane Emission Factor (Unrestricted)	Hexane Density (VOC)	VOC/ Hexane Emissions (Unrestricted)	VOC/ Hexane Emission Factor (BACT)	VOC/ Hexane Emissions (BACT)	Plant-Wide Hexane Emissions: Hexane/ VOC Emissions (BACT + Production Limit)	Plant-Wide Hexane Emissions: Hexane Emission Factor (Unrestricted)	Plant-Wide Hexane Emissions: Plant-Wide Hexane Emission Factor (BACT)	Plant-Wide Hexane Emissions: Hexane Density	Plant-Wide Hexane Emissions: HAP Emissions (Unrestricted)	Plant-Wide Hexane Emissions: Plant-Wide HAP Emissions (BACT)	Plant Wide HAP Emissions (BACT + Production Limit)
		ton/hr	*ton/yr*	*ton/yr*		*%*	*gal/ton*	*lb/gal*	*ton/yr*	*lb/ton*	*ton/yr*	*ton/yr*	*gal/ton*	*gal/ton*	*lb/gal*	*ton/yr*	*ton/yr*	*ton/yr*
Before Modification																		
P13	Soybean Oil Extraction System	109.5	959,220	940,240	Mineral Oil Absorber	99.5%	0.89	--	1,267.8	0.084	40.29	39.49	0.89	0.225	2.97	1,267.8	320.50	314.16
After Modification																		
P13	Soybean Oil Extraction System	125.0	1,095,000	1,095,000	Mineral Oil Absorber	99.5%	0.89	5.6	2,728.7	0.048	NA	26.28	0.89	0.190	5.60	1,746.4	372.83	372.83
Total Increase from modification:									1,461.0			0				478.6	52.3	58.7

VOC Content: 100%
Solvent Used: Hexane (This is also a HAP)

Hexane Emission Rates: 4.9 lb/ton
0.89 gal/ton

*HAP Fraction (n-Hexane) = 64% wt. %

Notes:

*All the VOC emissions are from Hexane. For calculating HAPs, only the n-Hexane portion is considered a HAP. Therefore, an industry standard factor (from 40 CFR 63, Subpart GGGG) is used to determine a ratio of n-Hexane to Hexane.
Unrestricted VOC Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.3 (11/95). (All VOC is Hexane.)
Unrestricted Hexane Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.3 (11/95).
BACT Emission rates are from CP#129-7488-00035, issued on July 17, 1995, and SSM No. 129-27572-00035 (Revised BACT), issued on August 11, 2009.
The VOC/Hexane emissions estimates for the Soybean Oil Extraction System include tank emissions.

Methodology

Potential to Emit VOC (Unrestricted) = Maximum Throughput Rate (ton/hr) x Unrestricted VOC Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit VOC (BACT Limit) = Maximum Process Weight (ton/hr beans) x BACT VOC Emission Factor (lb/ton beans) x 8760 hr/yr / 2000 lb/ton
Potential to Emit VOC (BACT + Production Limit) = Annual Production Limit (ton/yr beans) x BACT VOC Emission Factor (lb/ton beans) / 2000 lb/ton
Potential to Emit Hexane (Unrestricted) = Maximum Throughput Rate (ton/hr) x Unrestricted Hexane Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit Hexane (BACT Limit) = Maximum Process Weight (ton/hr beans) x BACT Hexane Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit Hexane (BACT + Production Limit) = Annual Production Limit (ton/yr beans) x BACT Hexane Emission Factor (gal/ton beans) x Density (lb/gal) / 2000 lb/ton

Emissions from the Meal Dryers and Cooler

Before Modification

Unit ID	Process	Control Device	Control Device ID	Particulate Emision Factor	Outlet Grain Loading	Maximum Air Flow Rate	Control Efficiency	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		PTE of PM after Control		PTE of PM_{10} after Control		PTE of $PM_{2.5}$ after Control	
				lb/ton	*gr/dscf*	*scfm*	%	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P10	DTDC Meal Dryer Section 1	Cyclone	C10	0.18	0.07	8,979	99.0%	15.66	68.59	15.66	68.59	15.66	68.59	5.39	23.60	5.39	23.60	5.39	23.60
P11	DTDC Meal Dryer Section 2	Cyclone	C11	0.18	0.0017	8,788	99.0%	15.66	68.59	15.66	68.59	15.66	68.59	0.13	0.56	0.13	0.56	0.13	0.56
P12	DTDC Meal Dryer Section 3	Cyclone	C11A	0.18	0.0017	6,751	99.0%	15.66	68.59	15.66	68.59	15.66	68.59	0.10	0.43	0.10	0.43	0.10	0.43
P12A	DTDC Meal Cooling Operation	Cyclone	C12A	0.19	0.0011	23,000	99.0%	16.53	72.40	16.53	72.40	16.53	72.40	0.22	0.95	0.22	0.95	0.22	0.95
Total									278.17		278.17		278.17		**25.54**		**25.54**		**25.54**

After Modification

Unit ID	Process	Control Device	Control Device ID	Particulate Emision Factor	Outlet Grain Loading	Maximum Air Flow Rate	Control Efficiency	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		PTE of PM after Control		PTE of PM_{10} after Control		PTE of $PM_{2.5}$ after Control	
				lb/ton	*gr/dscf*	*scfm*	%	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P10	DTDC Meal Dryer Section 1	Cyclone	C10	0.18	0.07	8,979	99.0%	22.50	98.55	22.50	98.55	22.50	98.55	5.39	23.60	5.39	23.60	5.39	23.60
P11	DTDC Meal Dryer Section 2	Cyclone	C11	0.18	0.0017	8,788	99.0%	22.50	98.55	22.50	98.55	22.50	98.55	0.13	0.56	0.13	0.56	0.13	0.56
P12	DTDC Meal Dryer Section 3	Cyclone	C11A	0.18	0.0017	6,751	99.0%	22.50	98.55	22.50	98.55	22.50	98.55	0.10	0.43	0.10	0.43	0.10	0.43
P12A	DTDC Meal Cooling Operation	Cyclone	C12A	0.19	0.0011	23,000	99.0%	23.75	104.03	23.75	104.03	23.75	104.03	0.22	0.95	0.22	0.95	0.22	0.95
Total									399.68		399.68		399.68		**25.54**		**25.54**		**25.54**
Total Increase from modification:									121.50		121.50		121.50		0.00		0.00		0.00

Assumptions

All PM emissions equal PM_{10} and $PM_{2.5}$ emissions.
Unrestricted Particulate Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.3, Table 9.11.1-1 (11/95).

Methodology

Potential to Emit before Control (lb/hr) = Particulate Emission Factor (lb/ton) x Maximum Throughput (ton/hr)
Potential to Emit before Control (ton/yr) = Potential to Emit before Control (lb/hr) x 8760 hr/yr / 2000 lb/ton
Potential to Emit after Control (lb/hr) = Outlet Grain Loading (gr/dscf) x Air Flow (scfm) x 60 min/hr / 7000 gr/lb
Potential to Emit after Control (ton/yr) = Potential to Emit after Control (lb/hr) x 8760 hr/yr / 2000 lb/ton

VOC and HAP from the Meal Dryers and Cooler

Before Modification

Unit ID	Process	Maximum Throughput Rate		Annual Throughput Limit	VOC Emission Factor (Unrestricted)	VOC Emissions (Unrestricted)	VOC Emission Factor (BACT)	VOC Emissions (BACT)	VOC Emissions (BACT + Production Limit)	Hexane Emission Factor (Unrestricted)	Hexane Density	HAP Emissions (Unrestricted)	HAP Emissions (Production Limit)	HAPs Emissions (BACT + Throughput Limit)
		ton/hr	*ton/yr*	*ton/yr*	*gal/ton*	*ton/yr*	*lb/ton*	*ton/yr*	*ton/yr*	*gal/ton*	*lb/gal*	*ton/yr*	*ton/yr*	*ton/yr*
P10	DTDC Meal Dryer Section 1	87.0	762,120	940,240	0.89	1,007	0.16	60.97	75.22	0.89	2.97	1,007	1,243	75.22
P11	DTDC Meal Dryer Section 2	87.0	762,120	940,240	0.89	1,007				0.89	2.97	1,007		
P12	DTDC Meal Dryer Section 3	87.0	762,120	940,240	0.89	1,007				0.89	2.97	1,007		
P12A	DTDC Meal Cooling Operation	87.0	762,120	940,240	0.89	1,007	0.16	60.97	75.22	0.89	2.97	1,007	1,243	75.22
Total						**4,029**		**121.94**	**150.44**			**4,029**	**2,485**	**150.44**

After Modification

Unit ID	Process	Maximum Throughput Rate*		Annual Throughput Limit	VOC Emission Factor (Unrestricted)	Hexane Density	VOC Emissions (Unrestricted)	VOC Emission Factor (BACT)	VOC Emissions (BACT)	VOC Emissions (BACT + Production Limit)	Hexane Emission Factor (Unrestricted)	HAP Emissions (Unrestricted)	HAP Emissions (Production Limit)	HAPs Emissions (BACT + Throughput Limit)
		ton/hr	*ton/yr*	*ton/yr*	*gal/ton*	*lb/gal*	*ton/yr*	*lb/ton*	*ton/yr*	*ton/yr*	*gal/ton*	*ton/yr*	*ton/yr*	*ton/yr*
P10	DTDC Meal Dryer Section 1	125.0	1,095,000	1,095,000	0.89	5.6	2,728.7				0.89	1,746.4		
P11	DTDC Meal Dryer Section 2	125.0	1,095,000	1,095,000	0.89	5.6	2,728.7	0.152	83.22	83.22	0.89	1,746.4	1,746	53.26
P12	DTDC Meal Dryer Section 3	125.0	1,095,000	1,095,000	0.89	5.6	2,728.7				0.89	1,746.4		
P12A	DTDC Meal Cooling Operation	125.0	1,095,000	1,095,000	0.89	5.6	2,728.7	0.152	83.22	83.22	0.89	1,746.4	1,746	53.26
Total							**10,915.0**		**166.44**	**166.44**		**6,985.6**	**3,493**	**106.52**
Total Increase from modification:									**45**	**16**			**1,007**	

HAP Fraction (n-Hexane) = 64% wt. %

Notes

All the VOC emissions are from Hexane. For calculating HAPs, only the n-Hexane portion is considered a HAP. Therefore, an industry standard factor (from 40 CFR 63, Subpart GGGG) is used to determine a ratio of n-Hexane to Hexane.
Dryer Section P10, P11, and P12 are operated in series.
Unrestricted VOC Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.8 (11/95). (All VOC is Hexane.)
Unrestricted Hexane Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.8 (11/95).
BACT Emission rates are from CP#129-7488-00035, issued on July 17, 1995, and SSM No. 129-27572-00035 (Revised BACT), issued on August 11, 2009.
*Maximum throughput of these units is based on total soybean process rate instead of maximum rate input to dryers since the emission factor is based on weight of soybeans processed. By the time it gets to these emission units, hulls have been separated from the crushed bean and a portion of the oil has been removed.

Methodology

Potential to Emit VOC (Unrestricted) = Maximum Throughput Rate (ton/hr) x Unrestricted VOC Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit VOC (BACT Limit) = Maximum Process Weight (ton/hr beans) x BACT VOC Emission Factor (lb/ton beans) x 8760 hr/yr / 2000 lb/ton
Potential to Emit VOC (BACT + Production Limit) = Annual Production Limit (ton/yr beans) x BACT VOC Emission Factor (lb/ton beans) / 2000 lb/ton
Potential to Emit Hexane (Unrestricted) = Maximum Throughput Rate (ton/hr) x Unrestricted Hexane Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit Hexane (Production Limit) = Annual Production Limit (ton/yr beans) x Hexane Emission Factor (gal/ton beans) x Density (lb/gal) / 2000 lb/ton

Particulate Emission Limitations for Manufacturing Processes

326 IAC 6-3-2

		Process Weight, P		P<=60,000 lb/hr	P>60,000 lb/hr
		each unit	each unit	$E = 4.10\ P^{0.67}$	$E = 55\ P^{0.11} - 40$
PM Control Device	Process	P (lb/hr)	P (ton/hr)	E (lb/hr)	E (lb/hr)
Baghouse C3	Kaolin Handling P3	918	0.459	2.4	-
Cyclone C4A	Pods Aspirator	250,000	125.0	-	53.5
Cyclone C5A	Soybean Cracking/Dehulling P5	250,000	125.0	-	53.5
Baghouse C6	Hull Grinding P6	17,500	8.75	17.5	-
Baghouse C7	Hull Storage P7	30,000	15.0	25.2	-
Baghouse C7A	Hull Handling P7A	30,000	15.0	25.2	-
Cyclone C8	Hull Pellet Cooler P8	30,000	15.0	25.2	-
Baghouse C8A	Hull Pellet Storage P8A	30,000	15.0	25.2	-
Baghouse C9	Meal Handling P9	181,400	90.7	-	50.3
Baghouse C14	Truck Meal Loadout P14	766,600	383.3	-	65.8
Baghouse C15	Rail/Barge Meal Loadout P15	766,600	383.3	-	65.8
Baghouse C19A	Soybean Flaking P19	228,000	114.0	-	52.6
Baghouse C20	Meal Storage P20	600,000	300.0	-	63.0
NA	Soybean Heater P21	250,000	125.0	-	53.5
Cyclone C10	DTDC Meal Dryer Section 1 P10	181,400	90.7	-	50.3
Cyclone C11	DTDC Meal Dryer Section 2 P11	181,400	90.7	-	50.3
Cyclone C11A	DTDC Meal Dryer Section 3 P12	181,400	90.7	-	50.3
Cyclone C12A	DTDC Meal Cooling Operation P12A	181,400	90.7	-	50.3

(c) This rule shall not apply if a particulate matter limitation established in:
(1) 326 IAC 2-2-3, concerning prevention of significant deterioration (PSD) best available control technology (BACT) determinations contained in a permit;
(2) 326 IAC 2-3-3, concerning lowest achievable emission rate (LAER) determinations contained in a permit;
(3) 326 IAC 6.5 and 326 IAC 6.8, concerning particulate matter emissions;
(4) 326 IAC 11, concerning existing emission limitations for specific operations;
(5) 326 IAC 12, concerning new source performance standards; or
(6) 326 IAC 20, concerning national emission standards for hazardous air pollutants;

The north truck receiving area (P24), the north house bin loading area (P27), the truck soybean receiving area (P1), the truck and railcar soybean and hull receiving area (P2), the annex silo loading operation (P2A), the soybean storage system (P2B), and the soybean cleaning operation (P4) at this source are the requirements of 40 CFR 60, Subpart DD (NSPS for Grain Elevators). Therefore, these operations are exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(c)(5).

Diesel Fired Fire Pumps (Emergency)

Emission Unit	Rating		Heat Input Capacity		Installation Date	Operating Hours
emergency generator	305	hp	2.14	MMBtu/hr	2012	500 hr/yr
emergency generator	305	hp	2.14	MMBtu/hr	1997	500 hr/yr
Maximum Capacity:	610	hp	4.27	MMBtu/hr		

	Potential To Emit - Regulated Pollutants							PTE - GHGs			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Emission Factor (lb/MMBtu)	0.95	4.41	0.31	0.31	0.31	0.29	0.36	164	6.61E-03	1.32E-03	
Uncontrolled Potential To Emit (lb/hr)	4.06	18.83	1.32	1.32	1.32	1.24	1.54	700.28	2.82E-02	5.65E-03	702.62
Uncontrolled Potential To Emit (ton/yr)	1.01	4.71	0.33	0.33	0.33	0.31	0.38	175.07	7.06E-03	1.41E-03	175.66

	Potential To Emit - Hazardous Air Pollutants								
	Acetal-dehyde	**Acrolein**	**Benzene**	**1,3 Butadiene**	**Formal-dehyde**	**PAH**	**Toluene**	**Xylene**	**Total HAPs**
Emission Factor (lb/MMBtu)	*7.67E-04*	*9.25E-05*	*9.33E-04*	*3.91E-05*	*1.18E-03*	*1.68E-04*	*4.09E-04*	*2.85E-04*	
Uncontrolled Potential To Emit (lb/hr)	3.28E-03	3.95E-04	3.98E-03	1.67E-04	5.04E-03	7.17E-04	1.75E-03	1.22E-03	1.65E-02
Uncontrolled Potential To Emit (ton/yr)	8.19E-04	9.87E-05	9.96E-04	4.17E-05	1.26E-03	1.79E-04	4.37E-04	3.04E-04	4.14E-03

Methodology

7,000 Btu = 1 hp-hr

MMBtu = 1,000,000 Btu

Emission factors are from AP-42, Chapter 3.3, Table 3.3-1, SCC #2-02-001-02 and 2-03-001-01 (AP-42 Supplement B, 10/96).

CH_4 and N_2O emission factors are from 40 CFR 98, Table C-2.

Assume PM = PM_{10} = $PM_{2.5}$

Assume TOC (total organic compounds) emissions are equal to VOC emissions.

Potential to Emit (lb/hr) = Rating (hp) x Emission Factor (lb/hp-hr)

Potential to Emit (lb/hr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lbs/MMBtu)

Potential to Emit (tons/yr) = Potential to Emit (lb/hr) x 500 hr/yr /2000 lb/ton

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP

Natural Gas Fired Emergency Generator

2 stroke lean burn engine

Emission Unit	Rating	Heat Input Capacity	Installation Date
emergency generator	343 kW	1.17 MMBtu/hr	1997
Maximum Capacity:	343 kW	1.17 MMBtu/hr	

Operating Hours
500 hr/yr

	Potential To Emit - Regulated Pollutants							Potential To Emit - GHGs			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Emission Factor (lb/MMBtu)	*0.386*	*3.17*	*3.84E-02*	*0.0483*	*0.0483*	*5.88E-04*	*0.12*	*110*	*1.45*	*2.2E-04*	
Uncontrolled Potential To Emit (lb/hr)	0.45	3.71	4.49E-02	0.0565	0.0565	6.88E-04	0.140	128.70	1.70	2.58E-04	164.41
Uncontrolled Potential To Emit (ton/yr)	0.11	0.93	1.12E-02	0.0141	0.0141	1.72E-04	0.035	32.18	0.42	6.45E-05	41.10

PM emission factor is filterable PM only. PM_{10} emission factor is filterable and condensable PM_{10} combined. $PM_{2.5}$ emission factor is filterable and condensable $PM_{2.5}$ combined.

	Potential To Emit - Hazardous Air Pollutants										
	Acrolein	**Benzene**	**Ethyl-benzene**	**Formal-dehyde**	**Hexane**	**Methanol**	**Naptha-lene**	**Styrene**	**Toluene**	**Xylene**	**Total HAPs**
Emission Factor (lb/MMBtu)	*7.8E-03*	*1.9E-03*	*1.1E-04*	*5.5E-02*	*4.45E-04*	*2.5E-03*	*9.6E-05*	*5.5E-05*	*9.6E-04*	*2.7E-04*	
Uncontrolled Potential To Emit (lb/hr)	9.1E-03	2.3E-03	1.3E-04	6.5E-02	5.21E-04	2.9E-03	1.1E-04	6.4E-05	1.1E-03	3.1E-04	0.081
Uncontrolled Potential To Emit (ton/yr)	2.3E-03	5.7E-04	3.2E-05	1.6E-02	1.30E-04	7.3E-04	2.8E-05	1.6E-05	2.8E-04	7.8E-05	0.018

Methodology

MMBtu = 1,000,000 Btu

Emission factors are from AP-42, Chapter 3.2, Table 3.2-1: Uncontrolled Emission Factors for 2-Stroke Lean-Burn Engines (AP-42, 08/00).

N_2O emission factor is from 40 CFR 98, Table C-2.

Potential to Emit (lb/hr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lbs/MMBtu)

Potential to Emit (tons/yr) = Potential to Emit (lb/hr) x 500 hr/yr /2000 lb/ton

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP

Fugitive Emissions
Unpaved Roads

According to AP42, Chapter 13.2.2 - Unpaved Roads (11/06), the particulate emission factors for unpaved roads can be estimated from the following equation:

$$E = k \times (s/12)^a \times (w/3)^b$$

where:

E = emission factor (lb/vehicle mile traveled)

s = surface material silt content (%) = 6.4 % (AP-42, Table 13.2.2-1)

w = mean vehicle weight (tons) = 29.2 tons (see the calculations below)

k = empirical constant =	4.9	PM	1.5	PM_{10}	0.15	$PM_{2.5}$
a = empirical constant =	0.7	PM	0.9	PM_{10}	0.9	$PM_{2.5}$
b = empirical constant =	0.45					

Vehicle Type	Average Vehicle Weight *tons*	Total Trip Number* *trips/yr*	Round Trip Distance* *miles/trip*	Vehicle Mile Traveled (VMT) *miles/yr*	Traffic Component* *%*	Component Vehicle Weight *tons*	PM Emission Factor *lb/mile*	PM_{10} Emission Factor *lb/mile*	$PM_{2.5}$ Emission Factor *lb/mile*	PM Emissions *ton/yr*	PM_{10} Emissions *ton/yr*	$PM_{2.5}$ Emissions *ton/yr*
Wood Truck	28.0	2,313	0.06	139	90.1%	25.2	8.78	2.37	0.24	0.610	0.165	0.016
Tire Truck	40.0	254	0.06	15	9.89%	4.0	8.78	2.37	0.24	0.067	0.018	0.002
Total				**154**	**100%**	**29.2**				**0.677**	**0.183**	**0.018**

* This information is provided by the source.

Methodology

Component Vehicle Weight = Ave. Vehicle Weight (tons) x Traffic Component (%) (Note that the summation of the component vehicle weight equals the Mean Vehicle Weight.)
VMT (miles/yr) = Round Trip Distance (miles/trip) x Total Trip Numbers (trips/yr)
Potential to Emit (tons/yr) = VMT (miles/yr) x Emission Factors (lb/mile) / 2000 lb/ton

Fugitive Emissions
Paved Roads

According to AP42, Chapter 13.2.1 - Paved Roads (11/06), the particulate emission factors for paved roads can be estimated from the following equation:

$$EF = [k\ (sL)^{0.91}(W)^{1.02}](1-(P/4N))$$

where: EF = Emission Factor lbs/VMT
k = Particle Size Multiplier for Paved Road Equation

0.011 PM	0.0022 PM_{10}	0.00054 $PM_{2.5}$

sL = Road Surface Silt Loading (grams per square meter (g/m2))	2.9	(g/m^2) (AP-42, Table 13.2.1-3)
W = average weight (tons) of vehicles traveling the road.	37.0	
P = number of days with at least 0.01 in of precipitation during averaging period	120	
N = number of days in the averaging period (e.g. 365 for annual)	365	

Vehicle Type	**Average Vehicle Weight** *tons*	**Total Trip Number*** *trips/yr*	**Round Trip Distance*** *miles/trip*	**Vehicle Mile Traveled (VMT)** *miles/yr*	**Traffic Component*** *%*	**Component Vehicle Weight** *tons*	**PM Emission Factor (non-winter)** *lb/mile*	**PM_{10} Emission Factor (non-winter)** *lb/mile*	**$PM_{2.5}$ Emission Factor (non-winter)** *lb/mile*	**PM Emissions** *ton/yr*	**PM_{10} Emissions** *ton/yr*	**$PM_{2.5}$ Emissions** *ton/yr*
Grain Receiving	40.0	35,000	0.28	9,940	74.5%	29.8	1.06	0.21	0.05	5.254	1.051	0.258
Wood Truck	28.0	2,313	0.74	1,712	24.9%	7.0	1.06	0.21	0.05	0.905	0.181	0.044
Tire Truck	40.0	23	0.74	17	0.2%	0.1	1.06	0.21	0.05	0.009	0.002	0.000
Ash Truck	28.0	46	0.50	23	0.33%	0.1	1.06	0.21	0.05	0.012	0.002	0.001
Total				**11,691**	**100%**	**37.0**				**6.180**	**1.236**	**0.303**

* This information is provided by the source.

Methodology

Component Vehicle Weight = Ave. Vehicle Weight (tons) x Traffic Component (%)
(Note that the summation of the component vehicle weight equals the Mean Vehicle Weight.)
VMT (miles/yr) = Round Trip Distance (miles/trip) x Total Trip Numbers (trips/yr)
Potential to Emit (tons/yr) = VMT (miles/yr) x Emission Factors (lb/mile) / 2000 lb/ton

Fugitive Emissions
Grain Storage Piles

Ef =	1.7 x (s/1.5) x (365-p)/235 x (f/15)		
=	1.89	lb/acre/day	
where s =	1.6	% silt content of material	
p =	120	days of rain greater than or equal to 0.01 inches	
f =	15	% of wind greater than or equal to 12 mph	
Ep (storage) =	Ef x sc x (40 cuft/ton) / (2000 lb/ton) / (43560 sqft/acre) / (25 ft) x (365 day/yr)		
=	0.53	tons/yr	
where sc =	42	,000 tons storage capacity	

This calculation is from AP-42, Chapter 11.2.3, Fourth edition (5/83).
The calculations were not included in subsequent editions of AP-42.

Degreasing Operations

VOC/HAP Emissions:

Solvents	Density (lb/gal)	Maximum Usage (gals/yr)	VOC Info: Weight % VOC	VOC Info: VOC Emissions (tons/yr)
mineral spirits (petroleum naptha)	8.2	145	100%	0.59

Notes:

Maximum Usage is based upon the maximum allowable solvent usage for degreasing operations that are considered "insignificant" under 326 IAC 2-7-1(21)(K)(vi)(CC). Acetone is considered an exempt VOC product.

Methodology

VOC/HAP Emissions (tons/yr) = Density (lbs/gal) x Maximum Usage (gals/yr) x Weight % VOC or HAP x 1 ton/2,000 lbs

Hexane Storage Tanks

Number of storage tanks:	1		
volume:	8,000	gal	
Tanks VOC/HAP Emissions:	1.25	ton/yr	

Number of storage tanks:	1		
volume:	28,000	gal	
Tanks VOC/HAP Emissions:	4.38	ton/yr	

Page &[Page] of &[Pages]	2		
SSM 129-34318-00035 volume:	14,000	gal	
SPM 129-34338-00035			
Tanks VOC/HAP Emissions:	2.19	ton/yr	each
(TANKS)	4.38	ton/yr	total

Total VOC/HAP Emissions:	10.00	ton/yr

However…

The Hexane Emissions from the storage tanks are routed to the stack for the Soybean Oil Extraction System (P13), and the emission factors for this system account for the emissions from these tanks.

Natural Gas Fired Heaters

Boilers <10 MMBtu/hr

Emission Unit	Heat Input Capacity		Potential Throughput		Installation Date
Welfare Building Heater 1	0.22	MMBtu/hr	1.89	MMCF/yr	
Welfare Building Heater 2	0.22	MMBtu/hr	1.89	MMCF/yr	
Maximum Capacity:	0.44	MMBtu/hr	3.78	MMCF/yr	

	Potential To Emit - Regulated Pollutants							Potential To Emit - Greenhouse Gases			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Emission Factor (lb/MMCF)	*84*	*100*	*1.9*	*7.6*	*7.6*	*0.6*	*5.5*	*120,000*	*2.3*	*2.2*	
Uncontrolled Potential To Emit (lb/hr)	0.036	0.043	8.2E-04	3.3E-03	3.3E-03	2.6E-04	2.4E-03	51.76	9.9E-04	9.5E-04	52.08
Uncontrolled Potential To Emit (ton/yr)	0.16	0.19	3.6E-03	1.4E-02	1.4E-02	1.1E-03	1.0E-02	226.73	4.3E-03	4.2E-03	228.11

	Potential To Emit - Hazardous Air Pollutants										
	HAPs - Organics					HAPs - Metals					
	Benzene	**Dichloro-benzene**	**Formal-dehyde**	**Hexane**	**Toluene**	**Cadmium**	**Chromium**	**Lead**	**Manganese**	**Nickel**	**Total HAPs**
Emission Factor (lb/MMCF)	*2.1E-03*	*1.2E-03*	*7.5E-02*	*1.8*	*3.4E-03*	*1.1E-03*	*1.4E-03*	*5.0E-04*	*3.8E-04*	*2.1E-03*	
Uncontrolled Potential To Emit (lb/hr)	9.1E-07	5.2E-07	3.2E-05	7.8E-04	1.5E-06	4.7E-07	6.0E-07	2.2E-07	1.6E-07	9.1E-07	8.1E-04
Uncontrolled Potential To Emit (ton/yr)	4.0E-06	2.3E-06	1.4E-04	3.4E-03	6.4E-06	2.1E-06	2.6E-06	9.4E-07	7.2E-07	4.0E-06	3.6E-03

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
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 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
The N_2O Emission Factor for uncontrolled is 2.2. The N_2O Emission Factor for low Nox burner is 0.64.
CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source Modification and Significant Permit Modification

Source Description and Location

Source Name:	Consolidated Grain and Barge Co.
Source Location:	2781 Bluff Road, Mt. Vernon, Indiana 47620
County:	Posey
SIC Code:	2075 (Soybean Oil Mills)
Operation Permit Renewal No.:	T 129-31079-00035
Operation Permit Renewal Issuance Date:	January 25, 2013
Significant Source Modification No.:	129-34318-00035
Significant Permit Modification No.:	129-34338-00035
Permit Reviewer:	Heath Hartley

Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. T129-31079-00035 on January, 25, 2013. The source has since received the following approvals:

(a) Significant Source Modification No. 129-33092-00035, issued on August 28, 2013;
(b) Significant Permit Modification No. 129-33315-00035, issued on October 9, 2013;
(c) Administrative Amendment No. 129-34009-00035, issued on January 2, 2014; and
(d) Administrative Amendment No. 129-33867-00035, issued on January 17, 2014.

County Attainment Status

The source is located in Posey County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard.[1]
$PM_{2.5}$	Unclassifiable or attainment effective April 5, 2005, for the annual $PM_{2.5}$ standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM2.5 standard.
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

(a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Posey County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Posey County has been classified as attainment for $PM_{2.5}$. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Posey County has been classified as attainment or unclassifiable in Indiana for all other criteria regulated pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The source includes a grain elevator which supports the soybean oil extraction plant.

(1) Since this source is classified as a soybean oil extraction plant, it is not considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2 or 326 IAC 2-7. Therefore, fugitive emissions from the soybean oil extraction plant are not counted toward the determination of PSD and Part 70 Permit applicability.

(2) The grain elevator has an applicable New Source Performance Standard that was in effect on August 7, 1980. However, soybean meal and hull do not meet the definition of "grain" as defined in 40 CFR 60.301(a). Therefore, the fugitive emissions from only the grain receiving and handling operations of the grain elevator are counted toward the determination of PSD and Part 70 Permit applicability.

Source Status - Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	**Emissions** (ton/yr)
PM	211.7
PM_{10}	209.8
$PM_{2.5}$	195.0
SO_2	48.3
NO_X	231.8
VOC	199.8
CO	120.8
GHGs as CO_2e	83,225
Single HAP (Hexane)	2,800
Combined HAPs	2,825

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant, excluding GHGs, is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) The source wide GHG emissions are less than one hundred thousand (<100,000) tons of CO_2 equivalent (CO_2e) emissions per year. GHG emissions do not affect the source PSD status.

(c) These emissions are based upon the Technical Support Documents for Part 70 Operating Permit Renewal T129-31079-00035, Significant Permit Modification 129-33315-00035, and Administrative Amendment 129-33867-00035.

(d) This existing source is a major source of HAPs, as defined in 40 CFR 63.2, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Consolidated Grain and Barge Co. on March 18, 2014, relating to the addition of two (2) new pods aspirators in the soybean cleaning process and the addition of a second hull screener and aspirator to the soybean cracking and dehulling operation. The addition of these new units will debottleneck the process and allow for increased throughput at many existing units. The following is a list of the proposed emission units and pollution control devices:

New Units:

(a) Two (2) pods aspirators, approved in 2014 for construction, identified as P4A, with a maximum capacity of 125 tons per hour, controlled by baghouse C4A and exhausting through stack 4A.

(b) One (1) hull screener and aspirator, with a nominal throughput of 0.35 tons per hour, controlled by cyclone C5E and exhausting through stack 5.

Note: The hull screener and aspirator are part of existing unit P5, soybean cracking and dehulling operation.

Units with increased capacity:

(j) One (1) flow coating material kaolin handling operation, identified as P3, approved in 1996 for construction, controlled by baghouse C3, and exhausting to Stack 3. This operation consists of the following:

(1) One (1) flow coating material kaolin receiving bin.

(2) One (1) flow coating material enclosed conveyor system that transfers kaolin to the enclosed mixing screw conveyor, with a nominal throughput rate of 0.435 tons per hour.

(k) One (1) soybean cleaning process, identified as P4, approved in 1996 for construction, with a nominal throughput rate of 120 tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

(l) One (1) soybean heater with one (1) L-Path totally enclosed drag conveyor, identified as P21, approved in 1996 for construction and approved in 2008 for replacement, with a nominal capacity of 120 tons per hour, and exhausting to Stack 21. Under NESHAP, Subpart GGGG, the soybean heater is considered vegetable oil production processes.

(m) One (1) soybean cracking and dehulling operation, identified as P5, approved in 1996 for construction, with a nominal throughput rate of 120 tons per hour, and consisting of the following:
.....

(6) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system, with a nominal throughput rate of 8.40 tons per hour.

(7) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G,

C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator, with a nominal throughput rate of 8.40 tons per hour.

(8) One (1) hull screener and aspirator, with a nominal throughput rate of 8.40 tons per hour, controlled by cyclone C5E, and exhausting to Stack 5.

(n) One (1) hull grinding operation, identified as P6, approved in 1996 for construction, with a nominal throughput rate of 8.40 tons per hour, controlled by baghouse C6, and exhausting to Stack 6. This operation is consisting of the following:

.....

(s) One (1) soybean flaking operation, identified as P19, approved in 1996 for construction and approved in 2009 and in 2010 for modification, with a nominal throughput rate of 109.5 tons per hour, and consisting of the following:

.....

(t) One (1) soybean oil extraction system, identified as P13, approved in 1996 for construction, controlled by mineral oil absorber system C13, and exhausting to Stack 13. This system consists of the following:

(1) One (1) soybean oil extractor, with a nominal capacity of 109.5 tons of soybean flakes and collets per hour and 109.5 tons of hexane per hour.

(2) One (1) desolventizer unit, with a nominal capacity of 90.6 tons of spent soybean flakes and collets per hour.

(3) A set of evaporators, with a nominal capacity of 21.6 tons of soybean oil per hour.

(4) A set of condensers and water separator to separate hexane and water, with a nominal capacity of 21.6 tons of soybean oil per hour.

(5) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a nominal rate of 90.6 tons per hour and 36.0 tons per hour, respectively.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(u) One (1) DTDC meal dryer section 1, identified as P10, approved in 1996 for construction, with a nominal drying capacity of 87.0 tons of meal per hour, controlled by cyclone C10, and exhausting to Stack 10. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(v) One (1) DTDC meal dryer section 2, identified as P11, approved in 1996 for construction, with a nominal drying capacity of 87.0 tons of meal per hour, controlled by cyclone C11, and exhausting to Stack 11. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(w) One (1) DTDC meal dryer section 3, identified as P12, approved in 2009 for modification, with a nominal capacity of 87.0 tons of meal per hour, controlled by cyclone C12, and exhausting to Stack 12.

.....

(y) One (1) meal cooling operation, identified as P12A, approved in 2009 for construction, with a nominal capacity of 87.0 tons of meal per hour, controlled by cyclone C12A, and exhausting to Stack 12A. This operation consists of the following:

.....

(z) One (1) meal handling process, identified as P9, approved in 1996 for construction, with a nominal capacity of 87.0 tons of meal per hour, controlled by baghouse C9, and exhausting to Stack 9. This process consists of the following:

.....

Removed Units:

(a) One (1) magnet, using both an oil application and baghouse C4 to control PM emissions.

Enforcement Issues

There are no pending enforcement actions related to this modification.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70 Modification to an Existing Source

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

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit. If the control equipment has been determined to be integral, the table reflects the PTE after consideration of the integral control device.

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

Total PTE Increase due to the Modification			
Pollutant	**PTE New Emission Units** (ton/yr)	**Net Increase to PTE of Modified Emission Units** (ton/yr)	**Total PTE for New and Modified Units** (ton/yr)
PM	300.3	121.5	421.8
PM_{10}	300.3	121.5	421.8
$PM_{2.5}$	300.3	121.5	421.8
SO_2	0	0	0
NO_X	0	0	0
VOC	0	>25	>25
CO	0	0	0
n-Hexane	0	>10	>10
Total HAPs	0	>25	>25

Note: For the modified units, there may be additional increases in PTE that are not reflected in this table. This is due to the method of calculation for some of these units. When using the outlet grain loading and air flow to determine PTE, even though there is an addition to maximum throughput, the PTE calculation for these units will not change.

This source modification is subject to 326 IAC 2-7-10.5(g)(4) (Significant Source Modification) because the potential to emit PM, PM_{10}, $PM_{2.5}$ and VOC is greater than 25 tons per year.

This source modification is subject to 326 IAC 2-7-10.5(g)(2) (Significant Source Modification) because it is subject to 326 IAC 8-1-6.

Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d)(1), because it involves a case-by-case determination of an emission limitation.

Permit Level Determination – PSD

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source/permit modification, 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 of the Entire Source After Issuance (tons/year)									
		CO	NO_X	PM	PM_{10}*	$PM_{2.5}$**	SO_2	VOC	GHGs as CO_2e	Total HAPs	Single HAP
Natural Gas Fired Boilers	P17, P18, & P18A	36.47	43.41	0.82	3.30	3.30	0.26	2.39	++	0.82	0.78 (hex.)
Wood/Tires Boilers	P17B & P17C	83.00	182.60	10.38	17.43	14.53	47.73	7.06	82,780	24.21	7.90 (PAH)
North Truck Receiving	P24	--	--	1.88	1.88	1.88	--	--	--	--	--
Kaolin Handling	P3	--	--	0.45	0.45	0.45	--	--	--	--	--
Soybean Cleaning	P4	--	--	3.57	3.57	3.57	--	--	--	--	--
Pods Aspirator	P4A	--	--	3.0	3.0	3.0	--	--	--	--	--
Soybean Cracking/Dehulling	P5	--	--	96.11	96.11	96.11	--	--	--	--	--
Hull Grinding	P6	--	--	1.31	1.31	1.31	--	--	--	--	--
Hull Storage	P7	--	--	0.75	0.75	0.75	--	--	--	--	--
Hull Handling	P7A & P7B	--	--	0.75	0.75	0.75	--	--	--	--	--
Hull Pellet Cooler	P8	--	--	22.53	22.53	22.53	--	--	--	--	--
Hull Pellet Storage	P8A or P8B	--	--	0.75	0.75	0.75	--	--	--	--	--
Soybean Flaking	P19	--	--	1.71	1.71	1.71	--	--	--	--	--
Meal Handling	P9	--	--	1.13	1.13	1.13	--	--	--	--	--
Meal Storage	P20	--	--	1.13	1.13	1.13	--	--	--	--	--
Truck Meal Loadout	P14	--	--	3.00	3.00	3.00	--	--	--	--	--
Rail/Barge Meal Loadout	P15	--	--	3.00	3.00	3.00	--	--	--	--	--
Soybean Oil Extraction System	P13	--	--	--	--	--	--	26.28	--	276.68	276.68 (n-hexane)
DTDC Meal Dryer Section 1	P10	--	--	23.60	23.60	23.60	--	83.22	--		
DTDC Meal Dryer Section 2	P11	--	--	0.56	0.56	0.56	--		--		
DTDC Meal Dryer Section 3	P12	--	--	0.43	0.43	0.43	--		--		
DTDC Meal Cooling Operation	P12A	--	--	0.95	0.95	0.95	--	83.22	--		
Diesel Fired Fire Pump (Emergency)	NA	1.01	4.71	0.33	0.33	0.33	0.31	0.38	175.66	4.1e-3	1.3e-3 (form.)

Process/ Emission Unit		Potential To Emit of the Entire Source After Issuance (tons/year)									
		CO	NO_X	PM	PM_{10}*	$PM_{2.5}$**	SO_2	VOC	GHGs as CO_2e	Total HAPs	Single HAP
Natural Gas Fired Emergency Generator	NA	0.11	0.93	1.1E-2	1.4E-2	1.4E-2	1.7E-4	3.5E-2	41.10	1.8e-2	1.6e-2 (form.)
Natural Gas Fired Heaters	NA	0.16	0.19	3.6e-3	1.4e-2	1.4e-2	1.1e-3	1.0e-2	228.11	3.6e-3	3.4e-3 (hex.)
Truck Receiving	P1	--	--	2.44	2.44	2.44	--	--	--	--	--
Truck and Railcar Receiving	P2	--	--	8.22	1.83	0.03	--	--	--	--	--
Annex Silo Storage+++	P2A			5.87	1.48	0.26					
Annex Silo Loading	P2A	--	--	14.33	7.99	1.36	--	--	--	--	--
Soybean Storage+++	P2B			5.87	1.48	0.26					
Soybean Loading	P2B	--	--	14.33	7.99	1.36	--	--	--	--	--
Soybean Heater+++	P21	--	--	0.55	0.55	0.55	--	--	--	--	--
North House Bin Loading	P27	--	--	3.29	1.84	0.31	--	--	--	--	--
Degreasing Operations+++	NA	--	--	--	--	--	--	0.59	--	--	--
Total PTE* **		120.75	231.84	231.89	213.13	192.28	48.30	202.59	83,225	301.73	4.66 (benz.) 277.46 (n-hexane) 7.90 (PAH)
Title V Major Source Thresholds		100	100	100	100	100	100	100	100,000 CO_2e	25	10
PSD Major Source Thresholds		250	250	250	250	250	250	250	--	NA	NA

*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), not particulate matter (PM), is considered as a "regulated air pollutant".
**$PM_{2.5}$ listed is direct $PM_{2.5}$.
***The total PTE is limited to less than 250 tons per year. The table above only lists the fugitive emissions that must be included for Part 70 and PSD Applicability. There are additional sources of fugitive particulate matter that are not counted toward Part 70 and PSD Applicability.
+The emissions from P1 and P2 are limited to a total combined throughput of 1,020,000 tons per 12 months.
++The CO_2e emissions from the boilers are limited by a total equivalent dry wood input limit of 51,875 tons per 12 months.
+++Existing units that were not previously included in calculations for PSD applicability.

This modification to an existing minor PSD stationary source is not major because:

(a) The emissions increase of each PSD regulated pollutant, excluding GHGs, are less than the PSD major source thresholds; and

(b) The emissions increase of GHGs from this modification to an existing minor PSD source are less than one hundred thousand (100,000) tons of CO_2 equivalent (CO_2e) emissions per year

Therefore, pursuant to 326 IAC 2-2, the GHG emissions are not subject to regulation and the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)	PM_{10} Emission Limit (lbs/hr)	$PM_{2.5}$ Emission Limit (lbs/hr)
P4A	Soybean Cleaning	Baghouse C4A	3.00	3.00	3.00

Compliance with these limits, combined with the potential to emit PM, PM_{10} and $PM_{2.5}$ from all other emission units at this source, shall limit the source-wide total potential to emit of PM, PM_{10} and $PM_{2.5}$ each to less than 250 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this modification:

New Source Performance Standards (NSPS):

(a) **Standards of Performance for Grain Elevators [40 CFR 60, Subpart DD]**
This grain elevator is subject to the Standards of Performance for Grain Elevators (40 CFR 60, Subpart DD), which is incorporated by reference as 326 IAC 12, because it is a plant or installation at which grain is unloaded, handled, cleaned, dried, stored, or loaded, that was constructed after August 3, 1978, and has a grain storage elevator with a permanent storage capacity greater than 1 million bushels. 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. The new Pod Aspirator (Unit P4A) is considered an affected facility under this rule because it is a grain cleaning operation.

Unit P4A is subject to the following portions of 40 CFR 60, Subpart DD:

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

(b) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

National Emission Standards for Hazardous Air Pollutants (NESHAP):

(c) The addition of a second hull screener and aspirator are part of existing soybean cracking and dehulling unit P5. P5 is already subject to the requirements of National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production, 40 CFR 63, Subpart GGGG (326 IAC 20-60). Therefore the second hull screener and aspirator are also subject to 40 CFR 63, Subpart GGGG.

Unit P5 is subject to the following portions of 40 CFR 63, Subpart GGGG:

(a) 40 CFR 63.2830;
(b) 40 CFR 63.2831;
(c) 40 CFR 63.2832(a);
(d) 40 CFR 63.2833;
(e) 40 CFR 63.2834(a);
(f) 40 CFR 63.2840 all except (e);
(g) 40 CFR 63.2850(a), (b), (d), (e)(1)(i), (e)(1)(iii), (e)(2);
(h) 40 CFR 63.2851;
(i) 40 CFR 63.2852;
(j) 40 CFR 63.2853;
(k) 40 CFR 63.2854;
(l) 40 CFR 63.2855;
(m) 40 CFR 63.2860;
(n) 40 CFR 63.2861;
(o) 40 CFR 63.2862;
(p) 40 CFR 63.2863;
(q) 40 CFR 63.2870;

(r) 40 CFR 63.2871; and
(s) 40 CFR 63.2872.

(d) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed modification.

Compliance Assurance Monitoring (CAM)

(e) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

CAM Applicability Analysis							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
Pods Aspirator (P4A) - $PM/PM_{10}/PM_{2.5}$	Baghouse BH4	Y	300.3	3.0	100	Y	N
Dryers (P10, P11, P12) - $PM/PM_{10}/PM_{2.5}$	Cyclones C10, C11, & C11A	Y	< 100 (each)	< 100 (each)	100	N	N
Cooler (P12A) - $PM/PM_{10}/PM_{2.5}$	Cyclone C12A	Y	104.0	1.0	100	Y	N

Note: The new hull screeners and aspirators are part of existing unit P5, soybean cracking and dehulling operation. P5 is already subject to the requirements of CAM.
Note: The Soybean Oil Extraction System (P13) is already subject to CAM for VOC and HAPs.
Note: For all other modified units, there may be additional increases in PTE that are not reflected in this table. This is due to the method of calculation for some of these units. When using the outlet grain loading and air flow to determine PTE, even though there is an addition to maximum throughput, the PTE calculation for these units will not change. Therefore, the CAM status of these units does not change.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the Pods Aspirator (P4A) and Cooler (P12A) for $PM/PM_{10}/PM_{2.5}$ upon issuance of the Title V Renewal. A CAM plan must be submitted as part of the Renewal application.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 (PSD)

PSD applicability is discussed under the Permit Level Determination – PSD section.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of each of the the new emission units will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)
Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3, an emission statement must be submitted triennially. The next report is due no later than July 1, 2015, and subsequent reports are due every three (3) years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 6.5 PM Limitations Except Lake County
This source is not subject to 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

326 IAC 6.8 PM Limitations for Lake County
This source is not subject to 326 IAC 6.8 because it is not located in Lake County.

326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Pods Aspirator (P4A)

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
(a) The Pods Aspirator (P4A) is subject to the requirements of 40 CFR 60, Subpart DD (NSPS for Grain Elevators). Therefore, these operations are exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(c)(5).

(b) The addition of the new units as part of this modification will debottleneck the process and allow for increased throughput at many existing units. Therefore, the existing 326 IAC 6-3-2 are revised as follows:

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

Unit ID	Unit Description	Control Device	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
P21	Soybean Heater	none	~~120.0~~**125.0**	~~53.1~~**53.5**
P5	Soybean Cracking/Dehulling	Cyclones C5A-H	~~120.0~~**125.0**	~~53.1~~**53.5**
P19	Soybean Flaking	Baghouse C19D	~~109.5~~**114.0**	~~52.2~~**52.6**
P10	DTDC Meal Dryer #1	Cyclone C10	~~87.0~~**90.7**	~~49.9~~**50.3**
P11	DTDC Meal Dryer #2	Cyclone C11	~~87.0~~**90.7**	~~49.9~~**50.3**
P12	DTDC Meal Dryer #3	Cyclone C12	~~87.0~~**90.7**	~~49.9~~**50.3**
P12A	DTDC Meal Cooler	Cyclone 12A	~~87.0~~**90.7**	~~49.9~~**50.3**
P3	Kaolin Handling	Baghouse C3	~~0.435~~**0.459**	~~2.3~~**2.4**
P6	Hull Grinding	Baghouse C6	~~8.40~~**8.75**	~~17.1~~**17.5**
P7	Hull Storage	Baghouse C7	15	25.2
P7A or P7B	Hull Handling	Baghouse C7A	15	25.2
P8	Hull Pellet Cooler	Baghouse C8	15	25.2
P8A or P8B	Hull Pellet Storage	Baghouses C8A-C	15	25.2

Unit ID	Unit Description	Control Device	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
P9	Meal Handling	Baghouse C9	~~87.0~~**90.7**	~~49.9~~**50.3**
P20	Meal Storage Bins	Baghouse C20	300	63.0
P14	Truck Meal Loadout	Baghouse C14	383.3	65.8
P15	Barge/Railcar Meal Loadout	Baghouses C15, C21A-C	383.3	65.8
P15A	Rail & Barge Bulk Weigh System	383.3	65.8	P15A

The pounds per hour limitations were calculated using one of the following equations:

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

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

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

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

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.

The use of the control devices for their respective emission units is necessary to ensure compliance with the emission limits above.

Dryers (P10, P11, P12) and Cooler (P13)

326 IAC 8-1-6 (New facilities; general reduction requirements)
As part of this modification, the source has requested the throughput limit in D.3.1(b) be increased from 940,240 tons per twelve consecutive month period to 1,095,000 tons per twelve consecutive month period. This throughput limit is used for the soybean extraction system (P13), the DTDC meal dryers (P10, P11 and P12) and cooling operation (P12A). Therefore, a re-evaluation of 326 IAC 8-1-6 BACT has been performed and is included as Appendix B to this TSD.

Pursuant to SSM No. 129-34318-00035 and 326 IAC 8-1-6, the Best Available Control Technology (BACT) for VOC for the extraction system, DTDC dryers and cooler shall be as follows:

(a) The overall solvent loss ratio shall not exceed 0.19 gallons per ton of soybean processed from the whole plant per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The Permittee shall comply with the following for the soybean oil extraction system (P13):

(1) The extraction and distillation process shall be controlled by a mineral oil absorber system.

(2) The VOC emissions from the soybean oil extraction system (P13) shall not exceed 0.048 pounds per ton of soybean processed.

(c) The VOC emissions from the DTDC dryers (P10, P11 and P12) shall not exceed 0.152 pounds per ton of soybean processed total.

(d) The VOC emissions from the DTDC cooler (P12A) shall not exceed 0.152 pounds per ton of soybean processed.

(e) The maximum annual throughput of soybeans processed shall not exceed 1,095,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Existing Building Heaters

Note: The following existing units were not previously included in the permit:

Two (2) natural gas-fired heaters, identified as Welfare Building Heaters 1 and 2, Welfare Building Heater 2 was constructed in 2008 and Welfare Building Heater 1 was constructed in 2011, each with a heat input capacity of 0.22 MMBtu/hr.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-4, particulate emissions from the Welfare Building Heater 1 and Welfare Building Heater 2 shall be limited to 0.269 pounds per MMBtu heat input, each.

This emission limit for Welfare Building Heater 2 was calculated using the following equation:

$$Pt = 1.09 / Q^{0.26}$$

where: Pt = pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input
Q = Total source maximum operating capacity rating in MMBtu/hr heat input. (33.7 MMBtu/hr x 3 boilers + 57.3 x 2 boilers + 0.22 = 215.92)

This emission limit for Welfare Building Heater 1 was calculated using the following equation:

$$Pt = 1.09 / Q^{0.26}$$

where: Pt = pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input
Q = Total source maximum operating capacity rating in MMBtu/hr heat input. (33.7 MMBtu/hr x 3 boilers + 57.3 x 2 boilers + 0.22 + 0.22 = 216.14)

Based on the AP-42, Chapter 1.4, uncontrolled natural gas combustion particulate emission factor of 1.9 pounds per million cubic foot (MMCF) of natural gas, the natural gas fired wastewater evaporator has particulate emissions as follows:

(1.9 pound PM/MMCF) * (1 MMCF / 1020 MMBtu) = 0.0019 pound PM per MMBtu

Therefore, Welfare Building Heater 1 and Welfare Building Heater 2 can comply with this limit without the use of a control device.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

The Compliance Determination Requirements applicable to this modification are as follows:

Summary of Testing Requirements					
Emission Unit	**Control Device**	**Timeframe for Testing**	**Pollutant**	**Frequency of Testing**	**Limit or Requirement**
P4A	Baghouse C4A	Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup	$PM/PM_{10}/PM_{2.5}$	Every five (5) years from last valid compliance demonstration	0.01 gr/dscf (40 CFR 60.303) and 3.00 lb/hr (PSD minor limit)

The Compliance Monitoring Requirements applicable to this modification are as follows:

Emission Unit/Control	Operating Parameters	Frequency	Range	Excursions and Exceedances
Pods Aspirator (P4A) / Baghouse C4A	Visible Emissions	Once per day	Normal-Abnormal	Response Steps

These monitoring conditions are necessary because the baghouse for P4A must operate properly to ensure compliance with 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70)).

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. T129-31079-00035. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Change 1: New unit P4A Pods Aspirator is added to the permit:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

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

.....

(k) One (1) soybean cleaning process, identified as P4, approved in 1996 for construction, with a nominal throughput rate of 120 tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

.....

(**43**) One (1) cleaning system, consisting of the following:

.....

(F) Two (2) pods aspirators, approved in 2014 for construction, identified as P4A, with a maximum capacity of 125 tons per hour, controlled by baghouse C4A and exhausting through stack 4A.

.....

SECTION D.2 FACILITY OPERATION CONDITIONS - Grain Receiving and Handling

Facility Description [326 IAC 2-7-5(14)]:

.....

(k) One (1) soybean cleaning system, identified as P4, approved in 1996 for construction, with a nominal throughput rate of 125 tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

(1) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner, using an oil application to control PM emissions.

(2) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the magnet.

(**43**) One (1) cleaning system, consisting of the following:

.....

(F) Two (2) pods aspirators, approved in 2014 for construction, identified as P4A, with a maximum capacity of 125 tons per hour, controlled by baghouse C4A and exhausting through stack 4A.

.....

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

.....

D.2.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

(a) The PM, PM_{10}, and $PM_{2.5}$ emissions from the following emission units shall be limited as follows:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)	PM_{10} Emission Limit (lbs/hr)	$PM_{2.5}$ Emission Limit (lbs/hr)
P24	North Truck Receiving	Baghouse C24	0.43	0.43	0.43
P4	Soybean Cleaning	Baghouse C4	0.81	0.81	0.81
P1	Truck Soybean Receiving	Baghouse C1	0.56	0.56	0.56
P4A	**Pods Aspirators**	**Baghouse C4A**	**3.00**	**3.00**	**3.00**

.....

D.2.3 Particulate Control

(a) In order to ensure compliance with Condition D.2.1, each of the following emission units shall be controlled by the associated baghouse, as listed in the table below, when these units are in operation:

Unit ID	Unit Description	Baghouse ID
P24	North Truck Receiving	C24
P4	Soybean Cleaning	C4
P1	Truck Soybean Receiving	C1
P4A	**Pods Aspirators**	**C4A**

.....

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

In order to demonstrate the compliance status with Conditions D.2.1(a), the Permittee shall perform PM, PM_{10}, and $PM_{2.5}$ testing for baghouse C4A, controlling pods aspirators P4A, no later than one hundred eighty (180) days after the issuance of permit 129-34338-00035, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM_{10} and $PM_{2.5}$ include filterable and condensable particulate matter.

D.2.4**5** Visible Emissions Notations [40 CFR 64]

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the exhausts from the baghouse stacks (Stacks 24 and 4) shall be performed daily during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the exhausts from the baghouse C4A stack (Stack 4A) shall be performed daily during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

.....

Change 2: Due to the addition of new units, the limits of existing units has been revised. Also, the emission limits contained in D.2.1(d) have been corrected to reflect the after control limited values.

D.2.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

.....

(b) The total grain received at P1 and P2 combined shall not exceed ~~1,020,000~~**1,174,760** tons per twelve (12) consecutive month period with compliance determined at the end of each month.

.....

(d) The PM, PM_{10}, and $PM_{2.5}$ emissions from the following emission units shall be limited as follows:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/ton)	PM_{10} Emission Limit (lbs/ton)	$PM_{2.5}$ Emission Limit (lbs/ton)
P27	North House Bin Loading	None	0.061	0.034	0.0058
P2	Truck and Railcar Receiving	restricting vehicles unloading grain to hopper-bottom rail cars, **oil application system**	~~0.035~~**0.014**	~~0.0078~~**.0031**	~~0.00013~~**0.0001**
P2A	Annex Silo Storage	oil application system	~~0.025~~**0.010**	~~0.0063~~**0.0025**	~~0.0011~~**0.0004**
P2A	Annex Silo Loading	oil application system	~~0.061~~**0.024**	~~0.034~~**0.0136**	~~0.0058~~**0.0023**
P2B	Soybean Storage	oil application system	~~0.025~~**0.010**	~~0.0063~~**0.0025**	~~0.0011~~**0.0004**
P2B	Soybean Loading	oil application system	~~0.061~~**0.024**	~~0.034~~**0.0136**	~~0.0058~~**0.0023**

.....

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Consolidated Grain and Barge Co.
Source Address: 2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.: T129-31079-00035
Facility: Grain Receiving Facilities
Parameter: Total Grain Received (P1 and P2 Combined)
Limit: Less than ~~1,020,000~~**1,174,760** tons per twelve (12) consecutive month period with compliance determined at the end of each month

.....

Change 3: The source has requested to increase the PSD minor throughput limit in D.3.1(b). Since this throughput is used for the 326 IAC 8-1-6 BACT condition in D.3.3, this BACT has been re-evaluated in order to reflect an increase in throughput for the soybean extraction system (P13), DTDC dryers (P10, P11 & P12) and DTDC cooler (P12A). The throughput limit was inadvertently removed from the previous permit renewal (T129-31079-00035), and is therefore being reincorporated into Condition D.3.3.

D.3.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

.....

(b) The total grain processed at this source shall not exceed ~~940,240~~**1,095,000** tons per twelve (12) consecutive month period with compliance determined at the end of each month.

.....

D.3.3 VOC Emissions [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (BACT), CP#129-7488-00035 (original BACT), issued on July 17, 1995, and SSM No. 129-27572-00035 (Revised BACT), issued on August 11, 2009, **and SSM No. 129-34318-00035** the Permittee shall control the VOC emissions from the soybean oil extraction system (P13), the DTDC dryers (P10, P11 and P12), and the DTDC cooler (P12A) with a Best Available Control Technology (BACT), which have been determined to be the following:

~~(a) The Permittee shall comply with the following for the soybean oil extraction system (P13):~~

~~(1) The hexane usage shall be limited to 0.225 gallons per ton of soybean crushed.~~

~~(2) The extraction and distillation process shall be controlled by a mineral oil absorber system.~~

~~(3) The VOC emissions from the soybean oil extraction system (P13) shall not exceed 0.084 pounds per ton of soybean processed.~~

~~(b) The VOC emissions from the DTDC dryers (P10, P11 and P12) shall not exceed 0.16 pounds per ton of soybean processed total.~~

~~(c) The VOC emissions from the DTDC cooler (P12A) shall not exceed 0.16 pounds per ton of soybean processed.~~

(a) The overall source wide solvent loss ratio shall not exceed 0.19 gallons per ton of soybean ~~crushed~~processed from the whole plant per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The Permittee shall comply with the following for the soybean oil extraction system (P13):

(1) The extraction and distillation process shall be controlled by a mineral oil absorber system.

(2) The VOC emissions from the soybean oil extraction system (P13) shall not exceed 0.048 pounds per ton of soybean processed.

(c) The total VOC emissions from the DTDC dryers (P10, P11 and P12) shall not exceed 0.152 pounds per ton of soybean processed total.

(d) The VOC emissions from the DTDC cooler (P12A) shall not exceed 0.152 pounds per ton of soybean processed.

(e) The maximum annual throughput of soybeans processed shall not exceed 1,095,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

.....

D.3.13 Record Keeping Requirements

.....

(b) To document the compliance status with Condition D.3.3(a), the Permittee shall maintain monthly records of the source wide solvent loss ratio (SLR).:

~~(b)~~**(c)**
.....
~~(c)~~**(d)**
.....
~~(d)~~**(e)**
.....

~~(e)~~**(f)**

.....

D.3.14 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.3.1(b) and D.3.3(a)~~(2)~~ shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

.....

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name:	Consolidated Grain and Barge Co.
Source Address:	2781 Bluff Road, Mt. Vernon, Indiana 47620
Part 70 Permit No.:	T129-31079-00035
Facility:	Grain Processing Facilities
Parameter:	Total Grain Processed
Limit:	Less than ~~940,240~~**1,095,000** tons per twelve (12) consecutive month period with compliance determined at the end of each month

.....

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: **Consolidated Grain and Barge Co.**
Source Address: **2781 Bluff Road, Mt. Vernon, Indiana 47620**
Part 70 Permit No.: **T129-31079-00035**
Facility: **Overall source**
Parameter: **Solvent Loss Ratio**
Limit: **The overall solvent loss ratio shall not exceed 0.19 gallons per ton of soybean processed from the whole plant per twelve (12) consecutive month period, with compliance determined at the end of each month**

QUARTER: _____ **YEAR:** _____

Month	Hexane Usage This Month (gal)	Total Grain Processed This Month (tons)	Solvent Loss Ratio (gal/ton)

Solvent Loss Ratio (gal/ton) = Hexane Usage for This Month (gal) / Total Grain Processed for This Month (tons)

☐ **No deviation occurred in this quarter.**

☐ **Deviations occurred in this quarter.**
Deviation has been reported on: _____

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

.....

Change 4: Due to the addition of new units, some maximum capacities for existing units have increased. Also, an existing pods aspirator was inadvertently omitted from the previously issued permit section A.2; therefore it has been added to A.2(k)(3)(G):

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

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

.....

(j) One (1) flow coating material kaolin handling operation, identified as P3, approved in 1996 for construction, controlled by baghouse C3, and exhausting to Stack 3. This operation consists of the following:

(1) One (1) flow coating material kaolin receiving bin.

(2) One (1) flow coating material enclosed conveyor system that transfers kaolin to the enclosed mixing screw conveyor, with a nominal throughput rate of ~~0.435~~**0.459** tons per hour.

(k) One (1) soybean cleaning process, identified as P4, approved in 1996 for construction, with a nominal throughput rate of ~~120~~**125** tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

(1) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner, using an oil application to control PM emissions.

(2) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the magnet.

~~(3) One (1) magnet, using both an oil application and baghouse C4 to control PM emissions.~~

(~~4~~**3**) One (1) cleaning system, consisting of the following:

(A) Two (2) cleaners, controlled by an oil application system and baghouse C4.

(B) Two (2) **whole bean** aspirators, controlled by an oil application system and baghouse C4.

(C) One (1) conveyor transferring beans from the aspirator to the hopper, controlled by an oil application system and baghouse C4.

(D) One (1) hopper, controlled by an oil application system and baghouse C4.

(E) One (1) scale, controlled by an oil application system and baghouse C4.

(F) Two (2) pods aspirators, approved in 2014 for construction, identified as P4A, with a maximum capacity of 125 tons per hour, controlled by baghouse C4A and exhausting through stack 4A.

(G) One (1) pods aspirator, controlled by cyclone C5E, exhausting to stack 5.

(~~F~~**H**) One (1) **pods** breaker, controlled by cyclone C5E, and exhausting to stack 5.

Under NSPS, Subpart DD, this cleaning system is considered a grain handling operation.

(l) One (1) soybean heater with one (1) L-Path totally enclosed drag conveyor, identified as P21, approved in 1996 for construction and approved in 2008 for replacement, with a

nominal capacity of ~~120~~**125** tons per hour, and exhausting to Stack 21. Under NESHAP, Subpart GGGG, the soybean heater is considered vegetable oil production processes.

(m) One (1) soybean cracking and dehulling operation, identified as P5, approved in 1996 for construction, with a nominal throughput rate of ~~120~~**125** tons per hour, and consisting of the following:
.....

(6) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system, with a nominal throughput rate of ~~8.40~~**8.75** tons per hour.

(7) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G, C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator, with a nominal throughput rate of ~~8.40~~**8.75** tons per hour.

(8) ~~One (1)~~**Two (2)** hull screener**s** and aspirator**s**, with a **total** nominal throughput rate of ~~8.40~~**8.75** tons per hour, controlled by cyclone C5E, and exhausting to Stack 5.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(n) One (1) hull grinding operation, identified as P6, approved in 1996 for construction, with a nominal throughput rate of ~~8.40~~**8.75** tons per hour, controlled by baghouse C6, and exhausting to Stack 6. This operation is consisting of the following:
.....

(s) One (1) soybean flaking operation, identified as P19, approved in 1996 for construction and approved in 2009 and in 2010 for modification, with a nominal throughput rate of ~~109.5~~**114.0** tons per hour, and consisting of the following:
.....

(t) One (1) soybean oil extraction system, identified as P13, approved in 1996 for construction, controlled by mineral oil absorber system C13, and exhausting to Stack 13. This system consists of the following:

(1) One (1) soybean oil extractor, with a nominal capacity of ~~109.5~~**114.0** tons of soybean flakes and collets per hour and ~~109.5~~**114.0** tons of hexane per hour.

(2) One (1) desolventizer unit, with a nominal capacity of ~~90.6~~**94.4** tons of spent soybean flakes and collets per hour.

(3) A set of evaporators, with a nominal capacity of ~~21.6~~**24.0** tons of soybean oil per hour.

(4) A set of condensers and water separator to separate hexane and water, with a nominal capacity of ~~21.6~~**24.0** tons of soybean oil per hour.

(5) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a nominal rate of ~~90.6~~**94.4** tons per hour and ~~36.0~~**37.5** tons per hour, respectively.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(u) One (1) DTDC meal dryer section 1, identified as P10, approved in 1996 for construction,

with a nominal drying capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C10, and exhausting to Stack 10. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(v) One (1) DTDC meal dryer section 2, identified as P11, approved in 1996 for construction, with a nominal drying capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C11, and exhausting to Stack 11. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(w) One (1) DTDC meal dryer section 3, identified as P12, approved in 2009 for modification, with a nominal capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C12, and exhausting to Stack 12.

.....

(y) One (1) meal cooling operation, identified as P12A, approved in 2009 for construction, with a nominal capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C12A, and exhausting to Stack 12A. This operation consists of the following:

.....

(z) One (1) meal handling process, identified as P9, approved in 1996 for construction, with a nominal capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by baghouse C9, and exhausting to Stack 9. This process consists of the following:

.....

SECTION D.2 FACILITY OPERATION CONDITIONS - Grain Receiving and Handling

Facility Description [326 IAC 2-7-5(14)]:

.....

(k) One (1) soybean cleaning process, identified as P4, approved in 1996 for construction, with a nominal throughput rate of ~~120~~**125** tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

(1) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner, using an oil application to control PM emissions.

(2) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the magnet.

~~(3) One (1) magnet, using both an oil application and baghouse C4 to control PM emissions.~~

(~~4~~**3**) One (1) cleaning system, consisting of the following:

(A) Two (2) cleaners, controlled by an oil application system and baghouse C4.

(B) Two (2) **whole bean** aspirators, controlled by an oil application system and baghouse C4.

(C) One (1) conveyor transferring beans from the aspirator to the hopper, controlled by an oil application system and baghouse C4.

(D) One (1) hopper, controlled by an oil application system and baghouse C4.

(E) One (1) scale, controlled by an oil application system and baghouse C4.

(F) Two (2) pods aspirators, approved in 2014 for construction, identified as P4A, with a maximum capacity of 125 tons per hour, controlled by baghouse C4A and exhausting through stack 4A.

(~~F~~**G**) One (1) **pods** aspirator, controlled by cyclone C5E, exhausting to stack 5.

(~~G~~**H**) One (1) **pods** breaker, controlled by cyclone C5E, and exhausting to stack 5.

Under NSPS, Subpart DD, this cleaning system is considered a grain handling operation.

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

.....

SECTION D.3 FACILITY OPERATION CONDITIONS - Oil Extraction Processes

Facility Description [326 IAC 2-7-5(14)]:

.....

(l) One (1) soybean heater with one (1) L-Path totally enclosed drag conveyor, identified as P21, approved in 1996 for construction and approved in 2008 for replacement, with a nominal capacity of ~~120~~**125** tons per hour, and exhausting to Stack 21. Under NESHAP, Subpart GGGG, the soybean heater is considered vegetable oil production processes.

(m) One (1) soybean cracking and dehulling operation, identified as P5, approved in 1996 for construction, with a nominal throughput rate of ~~120~~**125** tons per hour, and consisting of the following:

.....

(6) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system, with a nominal throughput rate of ~~8.40~~**8.75** tons per hour.

(7) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G, C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator, with a nominal throughput rate of ~~8.40~~**8.75** tons per hour.

(8) ~~One (1)~~**Two (2)** hull screener**s** and aspirator**s**, with a **total** nominal throughput rate of ~~8.40~~**8.75** tons per hour, controlled by cyclone C5E, and exhausting to Stack 5.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(s) One (1) soybean flaking operation, identified as P19, approved in 1996 for construction and approved in 2009 and in 2010 for modification, with a nominal throughput rate of ~~109.5~~**114.0** tons per hour, and consisting of the following:

.....

(t) One (1) soybean oil extraction system, identified as P13, approved in 1996 for construction, controlled by mineral oil absorber system C13, and exhausting to Stack 13. This system consists of the following:

(1) One (1) soybean oil extractor, with a nominal capacity of ~~109.5~~**114.0** tons of soybean flakes and collets per hour and ~~109.5~~**114.0** tons of hexane per hour.

(2) One (1) desolventizer unit, with a nominal capacity of ~~90.6~~**94.4** tons of spent soybean flakes and collets per hour.

(3) A set of evaporators, with a nominal capacity of ~~21.6~~**24.0** tons of soybean oil per hour.

(4) A set of condensers and water separator to separate hexane and water, with a nominal capacity of ~~21.6~~**24.0** tons of soybean oil per hour.

(5) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a nominal rate of ~~90.6~~**94.4** tons per hour and ~~36.0~~**37.5** tons per hour, respectively.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(u) One (1) DTDC meal dryer section 1, identified as P10, approved in 1996 for construction, with a nominal drying capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C10, and exhausting to Stack 10. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(v) One (1) DTDC meal dryer section 2, identified as P11, approved in 1996 for construction, with a nominal drying capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C11, and exhausting to Stack 11. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(w) One (1) DTDC meal dryer section 3, identified as P12, approved in 2009 for modification, with a nominal capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C12, and exhausting to Stack 12.

.....

(y) One (1) meal cooling operation, identified as P12A, approved in 2009 for construction, with a nominal capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C12A, and exhausting to Stack 12A. This operation consists of the following:

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

.....

D.3.2 Particulate Emission Limitations [326 IAC 6-3-2]

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

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
P21	Soybean Heater	~~120.0~~**125.0**	~~53.1~~**53.5**
P5	Soybean Cracking/Dehulling	~~120.0~~**125.0**	~~53.1~~**53.5**
P19	Soybean Flaking	~~109.5~~**114.0**	~~52.2~~**52.6**
P10	DTDC Meal Dryer #1	~~87.0~~**90.7**	~~49.9~~**50.3**
P11	DTDC Meal Dryer #2	~~87.0~~**90.7**	~~49.9~~**50.3**
P12	DTDC Meal Dryer #3	~~87.0~~**90.7**	~~49.9~~**50.3**
P12A	DTDC Meal Cooler	~~87.0~~**90.7**	~~49.9~~**50.3**

.....

SECTION D.4 FACILITY OPERATION CONDITIONS - Kaolin, Hull, and Meal Handling Operations

Facility Description [326 IAC 2-7-5(14)]:

(j) One (1) flow coating material kaolin handling operation, identified as P3, approved in 1996 for construction, controlled by baghouse C3, and exhausting to Stack 3. This operation consists of the following:

(1) One (1) flow coating material kaolin receiving bin.

(2) One (1) flow coating material enclosed conveyor system that transfers kaolin to the enclosed mixing screw conveyor, with a nominal throughput rate of ~~0.435~~**0.459** tons per hour.

(n) One (1) hull grinding operation, identified as P6, approved in 1996 for construction, with a nominal throughput rate of ~~8.40~~**8.75** tons per hour, controlled by baghouse C6, and exhausting to Stack 6. This operation is consisting of the following:

.....

(z) One (1) meal handling process, identified as P9, approved in 1996 for construction, with a nominal capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by baghouse C9, and exhausting to Stack 9. This process consists of the following:

.....

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

.....

D.4.3 Particulate Emission Limitations [326 IAC 6-3-2]

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

Unit ID	Unit Description	Process Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
P3	Kaolin Handling	~~0.435~~**0.459**	~~2.3~~**2.4**
P6	Hull Grinding	~~8.40~~**8.75**	~~17.1~~**17.5**
P7	Hull Storage	15	25.2
P7A or P7B	Hull Handling	15	25.2
P8	Hull Pellet Cooler	15	25.2
P8A or P8B	Hull Pellet Storage	15	25.2
P9	Meal Handling	~~87.0~~**90.7**	~~49.9~~**50.3**
P20	Meal Storage Bins	300	63.0
P14	Truck Meal Loadout	383.3	65.8
P15	Barge/Railcar Meal Loadout	383.3	65.8
P15A	Rail & Barge Bulk Weigh System	383.3	65.8

.....

SECTION E.2 Standards of Performance for Grain Elevators [40 CFR 60, Subpart DD] [326 IAC 12]

Facility Description [326 IAC 2-7-5(14)]

.....

(k) One (1) soybean cleaning system, identified as P4, approved in 1996 for construction, with a nominal throughput rate of ~~120~~**125** tons per hour, controlled by baghouse C4, and exhausting to stack C4. This system consists of the following:

(1) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner, using an oil application to control PM emissions.

(2) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the magnet.

~~(3) One (1) magnet, using both an oil application and baghouse C4 to control PM emissions.~~

(4**3**) One (1) cleaning system, consisting of the following:

(A) Two (2) cleaners, controlled by an oil application system and baghouse C4.

(B) Two (2) **whole bean** aspirators, controlled by an oil application system and baghouse C4.

(C) One (1) conveyor transferring beans from the aspirator to the hopper, controlled by an oil application system and baghouse C4.

(D) One (1) hopper, controlled by an oil application system and baghouse C4.

(E) One (1) scale, controlled by an oil application system and baghouse C4.

(F) Two (2) pods aspirators, approved in 2014 for construction, identified as P4A, with a maximum capacity of 125 tons per hour, controlled by baghouse C4A and exhausting through stack 4A.

(~~F~~**G**) One (1) **pods** aspirator, controlled by cyclone C5E, and exhausting to stack 5.

(~~G~~**H**) One (1) **pods** breaker, controlled by cyclone C5E, and exhausting to stack 5.

Under NSPS, Subpart DD, this cleaning system is considered a grain handling operation.

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

.....

SECTION E.3 National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production [40 CFR Part 63, Subpart GGGG] [326 IAC 20-60]

Facility Description [326 IAC 2-7-5(14)]

.....

(l) One (1) soybean heater with one (1) L-Path totally enclosed drag conveyor, identified as P21, approved in 1996 for construction and approved in 2008 for replacement, with a nominal capacity of ~~120~~**125** tons per hour, and exhausting to Stack 21. Under NESHAP, Subpart GGGG, the soybean heater is considered vegetable oil production processes.

(m) One (1) soybean cracking and dehulling operation, identified as P5, approved in 1996 for construction, with a nominal throughput rate of ~~120~~**125** tons per hour, and consisting of the following:

.....

(6) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system, with a nominal

throughput rate of ~~8.40~~**8.75** tons per hour.

(7) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G, C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator, with a nominal throughput rate of ~~8.40~~**8.75** tons per hour.

(8) ~~One~~**Two** (~~1~~**2**) hull screener**s** and aspirator**s**, with a **total** nominal throughput rate of ~~8.40~~**8.75** tons per hour, controlled by cyclone C5E, and exhausting to Stack 5.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(s) One (1) soybean flaking operation, identified as P19, approved in 1996 for construction and approved in 2009 and in 2010 for modification, with a nominal throughput rate of ~~109.5~~**114.0** tons per hour, and consisting of the following:

.....

(t) One (1) soybean oil extraction system, identified as P13, approved in 1996 for construction, controlled by mineral oil absorber system C13, and exhausting to Stack 13. This system consists of the following:

(1) One (1) soybean oil extractor, with a nominal capacity of ~~109.5~~**114.0** tons of soybean flakes and collets per hour and ~~109.5~~**114.0** tons of hexane per hour.

(2) One (1) desolventizer unit, with a nominal capacity of ~~90.6~~**94.4** tons of spent soybean flakes and collets per hour.

(3) A set of evaporators, with a nominal capacity of ~~21.6~~**24.0** tons of soybean oil per hour.

(4) A set of condensers and water separator to separate hexane and water, with a nominal capacity of ~~21.6~~**24.0** tons of soybean oil per hour.

(5) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a nominal rate of ~~90.6~~**94.4** tons per hour and ~~36.0~~**37.5** tons per hour, respectively.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(u) One (1) DTDC meal dryer section 1, identified as P10, approved in 1996 for construction, with a nominal drying capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C10, and exhausting to Stack 10. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(v) One (1) DTDC meal dryer section 2, identified as P11, approved in 1996 for construction, with a nominal drying capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C11, and exhausting to Stack 11. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(w) One (1) DTDC meal dryer section 3, identified as P12, approved in 2009 for modification, with a nominal capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C12, and exhausting to Stack 12. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

.....

(y) One (1) meal cooling operation, identified as P12A, approved in 2009 for construction, with a nominal capacity of ~~87.0~~**90.7** tons of meal per hour, controlled by cyclone C12A, and

exhausting to Stack 12A. This operation consists of the following:

.....

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

.....

Change 5: In the calculations, previously a Hexane density of 2.97 lb/gal was used for Hexane. The density of Hexane is 5.6 lb/gal. The density of the HAP portion of Hexane for n-Hexane is 2.97 lb/gal.

Change 6: The existing units Welfare Building Heater 1 and 2 have been added to the permit. These are both indirect fired units with heat input capacity of 0.22 MMBtu/hr.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]

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

(e) Two (2) natural gas-fired heaters, identified as Welfare Building Heaters 1 and 2, Welfare Building Heater 2 was constructed in 2008 and Welfare Building Heater 1 was constructed in 2011, each with a heat input capacity of 0.22 MMBtu/hr.

.....

SECTION D.5 FACILITY OPERATION CONDITIONS ~~- Degreasing Operations~~

Facility Description [326 IAC 2-7-5(14)] - Insignificant Activities

(a) Degreasing operations that do not exceed 145 gallons per twelve (12) months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-8]

(e) Two (2) natural gas-fired heaters, identified as Welfare Building Heaters 1 and 2, Welfare Building Heater 2 was constructed in 2008 and Welfare Building Heater 1 was constructed in 2011, each with a heat input capacity of 0.22 MMBtu/hr.

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

.....

D.5.3 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, particulate emissions from Welfare Building Heater 1 and Welfare Building Heater 2 shall be limited to 0.269 pounds per MMBtu heat input, each.

.....

D.5.~~3~~**4** Record Keeping Requirements

To document the compliance status with Condition ~~D.1.3~~**D.5.2**, on and after January 1, 2015, the Permittee shall maintain the following records for each purchase of solvent used in the cold cleaner degreasing operations. These records shall be retained on-site or accessible electronically for the most recent three (3) year period and shall be reasonably accessible for an additional two (2) year period.

....

Other Changes

The changes listed below have been made to Part 70 Operating Permit No. T129-31079-00035. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

- IDEM is changing the Section C Compliance Monitoring condition to clearly describe when new monitoring for new and existing units must begin.

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)] [40 CFR 64] [326 IAC 3-8]

(a) **For new units:**

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance ~~or of initial start-up, whichever is later~~, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance ~~or the date of initial startup, whichever is later~~, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

in writing, prior to 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 a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

(~~b~~**c**) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(~~c~~**d**) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

.....

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 129-34318-00035 and Significant Permit Modification No. 129-34338-00035. The staff recommends to the Commissioner that this Part 70 Significant Source and Significant Permit Modification be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Heath Hartley at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 232-8217 or toll free at 1-800-451-6027 extension 2-8217.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: http://www.in.gov/idem/5881.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

Summary of Unrestricted Potential To Emit of Modification

		Regulated Pollutants									
Emission Unit/Process	**Unit IDs**	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC***	**GHGs as CO_2e**	**n-Hexane***	**Total HAP***
Pods Aspirator - *New*	P4A	--	--	300.34	300.34	300.34	--	--	--		--
Grain Handling Units without Device - *Modified*	Multiple	--	--	0	0	0	--	338.3	--	216.60	216.60
Dryers - *Modified*	Multiple	--	--	121.50	121.50	121.50	--	3,318.0	--	2123.60	2123.60
Total PTE Increase of Modification		--	--	421.8	421.8	421.8	--	3,656.3	--	2,340.2	2,340.2

*Note: The hexane density has been corrected; therefore the increase in PTE for VOC and HAPs has been calculated by taking the difference of the unit after the modification and before the modification using the updated density for both.

Summary of Unrestricted Potential To Emit

		Regulated Pollutants								HAPs - Organics									HAPs - Metals			
Emission Unit/Process	**Unit IDs**	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**GHGs as CO_2e**	**Acrolein**	**Benzene**	**1,3 Butadiene**	**Ethyl-benzene**	**Formal-dehyde**	**n-Hexane**	**HCl**	**PAH**	**Styrene**	**Cadmium**	**Lead**	**Mercury**	**Total HAP**
Point Sources																						
Natural Gas Fired Boilers	P17, P18, & P18A	36.47	43.41	0.82	3.30	3.30	0.26	2.39	52,413	--	9.1E-04	--	--	3.3E-02	0.78	--	--	--	4.8E-04	2.2E-04	--	0.82
Wood/Tires Boilers	P17B & P17C	100.39	220.86	151	253	211	57.72	8.53	100,124	1.33	4.66	0.24	0.72	1.46	--	6.31	7.90	1.59	7.7E-03	7.4E-04	1.1E-04	24.21
North Truck Receiving	P24	--	--	187.71	187.71	187.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kaolin Handling	P3	--	--	45.05	45.05	45.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Cleaning	P4	--	--	356.66	356.66	356.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pods Aspirator	P4A	--	--	300.34	300.34	300.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Cracking/Dehulling	P5	--	--	9,611	9,611	9,611	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Grinding	P6	--	--	131.40	131.40	131.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Storage	P7	--	--	75.09	75.09	75.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Handling	P7A	--	--	75.09	75.09	75.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Pellet Cooler	P8	--	--	2,253	2,253	2,253	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Pellet Storage	P8A	--	--	75.09	75.09	75.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Flaking	P19	--	--	170.82	170.82	170.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Meal Handling	P9	--	--	113.16	113.16	113.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Meal Storage	P20	--	--	112.63	112.63	112.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Truck Meal Loadout	P14	--	--	300.34	300.34	300.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rail/Barge Meal Loadout	P15	--	--	300.34	300.34	300.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rail/Barge Bulk Weigh	P15A	--	--	112.63	112.63	112.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Oil Extraction System	P13	--	--	--	--	--	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
DTDC Meal Dryer Section 1	P10	--	--	68.59	68.59	68.59	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
DTDC Meal Dryer Section 2	P11	--	--	68.59	68.59	68.59	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
DTDC Meal Dryer Section 3	P12	--	--	68.59	68.59	68.59	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
DTDC Meal Cooling Operation	P12A	--	--	72.40	72.40	72.40	--	2,729	--	--	--	--	--	--	1,746	--	--	--	--	--	--	1,746
Diesel Fired Fire Pumps (Emerge	NA	1.01	4.71	0.33	0.33	0.33	0.31	0.38	175.66	9.87E-05	9.96E-04	4.17E-05	--	1.3E-03	--	--	1.8E-04	--	--	--	--	4.1E-03
Natural Gas Fired Emergency Ge	NA	0.11	0.93	1.12E-02	1.41E-02	1.41E-02	1.72E-04	3.51E-02	41.10	2.28E-03	5.67E-04	--	--	1.6E-02	1.3E-04	--	--	1.6E-05	--	--	--	1.8E-02
Natural Gas Fired Heaters	NA	0.16	0.19	0.00	0.01	0.01	0.00	0.01	228	--	4.0E-06	--		1.4E-04	0.00	--	--	--	2.1E-06	9.4E-07	--	0.00
Subtotal (Point Source Emissions)		138.14	270.09	14,650	14,755	14,713	58.30	13,655	152,982	1.33	4.66	0.24	0.72	1.51	8,733	6.31	7.90	1.59	8.2E-03	9.6E-04	1.1E-04	8,757
Truck Receiving	P1	--	--	244.03	244.03	244.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Truck and Railcar Receiving	P2	--	--	82.78	18.45	0.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Annex Silo Storage	P2A	--	--	190.53	48.01	8.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Annex Silo Loading	P2A	--	--	464.89	259.12	44.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Storage	P2B	--	--	65.70	16.56	2.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Loading	P2B	--	--	160.31	89.35	15.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Heater	P21	--	--	0.55	0.55	0.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
North House Bin Loading	P27	--	--	96.18	53.61	9.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Degreasing Operations	NA	--	--	--	--	--	--	0.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Subtotal (Counted Emissions)		0	0	1,304.97	729.68	324.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Fugitive Emissions																						
Unpaved Roads	NA	--	--	0.677	0.183	0.018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paved Roads	NA	--	--	6.180	1.236	0.303	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grain Storage Piles	NA	--	--	0.532	0.532	0.532	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Subtotal (Other Fugitive Emissions)		--	--	7.39	1.95	0.85	--	0.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Source Total (All Units)		*138.14*	*270.09*	*15,954.85*	*15,484.48*	*15,037.37*	*58.30*	*13,655.64*	*152,982.22*	*1.33*	*4.66*	*0.24*	*0.72*	*1.51*	*8,732.75*	*6.31*	*7.90*	*1.59*	*0.01*	*0.00*	*0.00*	*8,757.03*
Source Total ("Counted" Units)		**138**	**270**	**15,955**	**15,484**	**15,037**	**58.3**	**13,655**	**152,982**	**1.33**	**4.66**	**0.24**	**0.72**	**1.51**	**8,732.75**	**6.31**	**7.90**	**1.59**	**0.01**	**0.00**	**0.00**	**8,757.03**

Potential to Emit (Limited PTE) (tpy)
Potential to Emit after Issuance of Permit (Limited PTE) (tpy)

		Regulated Pollutants								HAPs - Organics									HAPs - Metals		
Emission Unit/Process	**Unit IDs**	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**GHGs as CO_2e**	**Acrolein**	**Benzene**	**1,3 Butadiene**	**Ethyl Benzene**	**Formal-dehyde**	**n-Hexane***	**HCl**	**PAH**	**Styrene**	**Lead**	**Mercury**	**Total HAP**
Point Sources																					
Natural Gas Fired Boilers	P17, P18, & P18A	36.47	43.41	0.82	3.30	3.30	0.26	2.39	++	--	9.1E-04	--	--	3.3E-02	0.78	--	--	--	2.2E-04		0.82
Wood/Tires Boilers	P17B & P17C	83.00	182.60	10.38	17.43	14.53	47.73	7.06	82,780	1.33	4.66	0.24	0.72	1.46	--	6.31	7.90	1.59	7.4E-04	1.1E-04	24.21
North Truck Receiving	P24	--	--	1.88	1.88	1.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kaolin Handling	P3	--	--	0.45	0.45	0.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Cleaning	P4	--	--	3.57	3.57	3.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pods Aspirator	P4A	--	--	3.00	3.00	3.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Cracking/Dehulling	P5	--	--	96.11	96.11	96.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Grinding	P6	--	--	1.31	1.31	1.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Storage	P7	--	--	0.75	0.75	0.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Handling	P7A	--	--	0.75	0.75	0.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Pellet Cooler	P8	--	--	22.53	22.53	22.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hull Pellet Storage	P8A	--	--	0.75	0.75	0.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Flaking	P19	--	--	1.71	1.71	1.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Meal Handling	P9	--	--	1.13	1.13	1.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Meal Storage	P20	--	--	1.13	1.13	1.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Truck Meal Loadout	P14	--	--	3.00	3.00	3.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rail/Barge Meal Loadout	P15	--	--	3.00	3.00	3.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rail/Barge Bulk Weigh	P15A	--	--	1.13	1.13	1.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Oil Extraction System	P13	--	--	--	--	--	--	26.28	--	--	--	--	--	--		--	--	--			
DTDC Meal Dryer Section 1	P10	--	--	23.60	23.60	23.60	--		--	--	--	--	--	--		--	--	--			
DTDC Meal Dryer Section 2	P11	--	--	0.56	0.56	0.56	--	83.22	--	--	--	--	--	--	372.83	--	--	--			372.83
DTDC Meal Dryer Section 3	P12	--	--	0.43	0.43	0.43	--		--	--	--	--	--	--		--	--	--			
DTDC Meal Cooling Operation	P12A	--	--	0.95	0.95	0.95	--	83.22	--	--	--	--	--	--		--	--	--			
Diesel Fired Fire Pumps (Emergency)	NA	1.01	4.71	0.33	0.33	0.33	0.31	0.38	175.66	9.87E-05	9.96E-04	4.17E-05	--	1.26E-03	--	--	1.79E-04	--			4.14E-03
Natural Gas Fired Emergency Generator	NA	0.11	0.93	1.12E-02	1.41E-02	1.41E-02	1.72E-04	3.51E-02	41.10	2.28E-03	5.67E-04	--	--	1.61E-02	1.30E-04	--	--	1.60E-05			1.79E-02
Natural Gas Fired Heaters	NA	0.16	0.19	3.59E-03	1.44E-02	1.44E-02	1.13E-03	1.04E-02	228.11	--	4.0E-06	--	--	1.4E-04	3.40E-03	--	--	--	9.4E-07		3.57E-03
Subtotal (Point Source Emissions)		120.75	231.84	179.28	188.83	185.92	48.30	202.59	83,225	1.33	4.66	0.24	0.72	1.51	373.61	6.31	7.90	1.59	9.61E-04	1.09E-04	397.88
Truck Receiving	P1	--	--	2.44	2.44	2.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Truck and Railcar Receiving	P2	--	--	8.22	1.83	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Annex Silo Storage	P2A	--	--	5.87	1.48	0.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Annex Silo Loading	P2A	--	--	14.33	7.99	1.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Storage	P2B	--	--	5.87	1.48	0.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Loading	P2B	--	--	14.33	7.99	1.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
North House Bin Loading	P27	--	--	0.99	0.55	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soybean Heater	P21	--	--	0.55	0.55	0.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Degreasing Operations	NA	--	--	--	--	--	--	0.59	--	--	--	--	--	--	--	--	--	--	--	--	--
Subtotal (Counted Emissions)		--	--	52.61	24.31	6.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other Fugitive Emissions																					
Unpaved Roads	NA	--	--	0.677	0.183	0.018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paved Roads	NA	--	--	6.180	1.236	0.303	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grain Storage Piles	NA	--	--	0.532	0.532	0.532	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Subtotal (Other Fugitive Emissions)		--	--	7.39	1.95	0.85	--	0.59	--	--	--	--	--	--	--	--	--	--	--	--	--
Source Total (All Units)		*120.75*	*231.84*	*333.29*	*258.88*	*202.82*	*48.30*	*203.18*	*83,225*	*1.33*	*4.66*	*0.24*	*0.72*	*1.51*	*374*	*6.31*	*7.90*	*1.59*	*9.61E-04*	*1.09E-04*	*398*
Source Total ("Counted" Units)		**120.75**	**231.84**	**231.89**	**213.13**	**192.28**	**48.30**	**202.59**	**83,225**	**1.33**	**4.66**	**0.24**	**0.72**	**1.51**	**373.61**	**6.31**	**7.90**	**1.59**	**9.6E-04**	**1.1E-04**	**397.88**
Part 70 Major Source Thresholds		100	100	100	100	100	100	100	100,000	10	10	10	10	10	10	10	10	10	10	10	25
PSD Major Source Thresholds		250	250	250	250	250	250	250	100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.6	0.1	NA

++The CO_2e emissions from the boilers are limited by a total equivalent dry wood input limit of 51,875 tons per 12 months.

*HAPs are limited by the BACT limit for Hexane. For calculating HAPs, only the n-Hexane portion is considered a HAP. Therefore, an industry standard factor (from 40 CFR 63, Subpart GGGG) is used to determine a ratio of n-Hexane to Hexane.

Natural Gas Fired Boilers

P17, P18, & P18A

Boilers <100 MMBtu/hr

Emission Unit	Heat Input Capacity		Potential Throughput		Installation Date
NG Boiler P17	33.70	MMBtu/hr	289.42	MMCF/yr	1996
NG Boiler P18	33.70	MMBtu/hr	289.42	MMCF/yr	1996
NG Boiler P18A	33.70	MMBtu/hr	289.42	MMCF/yr	1996
Maximum Capacity:	101.10	MMBtu/hr	868	MMCF/yr	

	Potential To Emit - Regulated Pollutants							Potential To Emit - Greenhouse Gases			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Emission Factor (lb/MMCF)	*84*	*100*	*1.9*	*7.6*	*7.6*	*0.6*	*5.5*	*120,000*	*2.3*	*2.2*	*120,730*
Uncontrolled Potential To Emit (lb/hr)	8.33	9.91	0.19	0.75	0.75	0.06	0.55	11,894	0.23	0.22	11,967
Uncontrolled Potential To Emit (ton/yr)	36.47	43.41	0.82	3.30	3.30	0.26	2.39	52,096	1.00	0.96	52,413

PM emission factor is filterable PM only. PM_{10} emission factor is filterable and condensable PM_{10} combined. $PM_{2.5}$ emission factor is filterable and condensable $PM_{2.5}$ combined.

Emission Factors for NO_X: Uncontrolled = 100, Low NO_X Burner = 50, Low NO_X Burners/Flue gas recirculation = 32

	Potential To Emit - Hazardous Air Pollutants										
	HAPs - Organics					HAPs - Metals					
	Benzene	**Dichloro-benzene**	**Formal-dehyde**	**Hexane**	**Toluene**	**Cadmium**	**Chromium**	**Lead**	**Manganese**	**Nickel**	**Total HAPs**
Emission Factor (lb/MMCF)	*2.1E-03*	*1.2E-03*	*7.5E-02*	*1.8*	*3.4E-03*	*1.1E-03*	*1.4E-03*	*5.0E-04*	*3.8E-04*	*2.1E-03*	
Uncontrolled Potential To Emit (lb/hr)	2.1E-04	1.2E-04	7.4E-03	0.18	3.4E-04	1.1E-04	1.4E-04	5.0E-05	3.8E-05	2.1E-04	0.19
Uncontrolled Potential To Emit (ton/yr)	9.1E-04	5.2E-04	3.3E-02	0.78	1.5E-03	4.8E-04	6.1E-04	2.2E-04	1.6E-04	9.1E-04	0.82

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
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 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
The N_2O Emission Factor for uncontrolled is 2.2. The N_2O Emission Factor for low Nox burner is 0.64.
CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

Wood/Tires Boilers

Combustion of 80% Dry Wood and 20% Shredded Tires

P17B & P17C

Boilers <100 MMBtu/hr

Emission Unit	Heat Input Capacity		Installation Date	
wood/shredded tire Boiler P17B	57.30	MMBtu/hr	2006	
wood/shredded tire Boiler P17C	57.30	MMBtu/hr	2006	
Maximum Capacity:	114.6	MMBtu/hr	1,003,896	MMBtu/yr

Fuel Equivalency Evaluation *Source: SSM: 129-22782-00035, issued 10/20/2006*

	Usage Limits		Heating Value
wood	51,875	tons dry wood/yr @ 0% Moisture	16 MMBtu/ton wood
tires	7,410	tons tires/yr	32 MMBtu/ton tires

2.0 tons dry wood / ton tires = 32 MMBtu/ton tires / 16 MMBtu/ton wood

	Potential To Emit - Regulated Pollutants							Potential To Emit - Greenhouse Gases			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Current Permitted Emission Rate (lb/MMBtu)	0.2	0.44	0.025	0.042	0.035	0.115	0.017	195	0.021	0.013	*199.47*
1.) Current Permitted Potential To Emit (ton/yr)	83.00	182.60	10.38	17.43	14.53	47.73	7.06	80,925	8.72	5.40	**82,780**
AP-42 Emission Rate (lb/MMBtu)	*0.6*	*0.49*	*0.054*	*0.04*	*0.035*	*0.025*	*0.017*	*195*	*0.021*	*0.013*	*199.47*
Tested Emission Rate (lb/MMBtu) [80% Wood & 20% Tires]	0.054	0.302	0.013	0.015		0.111	0.014				
Tested Emission Rate (lb/MMBtu) [100% Wood]	0.069	0.350	0.006	0.008		0.013	0.016				
Control Efficiency (%)			91.67%	91.67%	91.67%						
New Permitted Emission Rate (lb/MMBtu)	**0.20**	**0.44**	**0.025**	**0.042**	**0.035**	**0.115**	**0.017**	**195**	**0.021**	**0.013**	***199.47***
Controlled Potential To Emit (lb/hr)	22.92	50.42	2.87	4.81	4.01	13.18	1.95	22,347	2.41	1.49	22,859
Controlled Potential To Emit (ton/yr)	100.39	220.86	12.55	21.08	17.57	57.72	8.53	97,880	10.54	6.53	100,124
Uncontrolled Potential To Emit (lb/hr)	22.92	50.42	34.39	57.78	48.15	13.18	1.95	22,347	2.41	1.49	22,859
Uncontrolled Potential To Emit (ton/yr)	100.39	220.86	150.64	253.08	210.90	57.72	8.53	97,880	10.54	6.53	100,124
2.) Controlled & Limited Potential To Emit (ton/yr)	83.00	182.60	10.38	17.43	14.53	47.73	7.06	80,925	8.72	5.40	82,780

Notes:

PM emission factor is filterable PM only. PM_{10} emission factor is filterable and condensable PM_{10} combined. $PM_{2.5}$ emission factor is filterable and condensable $PM_{2.5}$ combined.
The emission factors for SO_2 and NOx were provided by the source which were estimated using the stack test results from similar sources. Using 20% tire is the worst case scenario for SO_2 emissions. Using 100% wood is the worst case scenario for NOx emissions. The Permittee is required to perform stack tests to demonstrate compliance with these emission factors.
The emission factors for condensible PM_{10}, CO, and VOC are from AP-42, Tables 1.6-2 and 1.6-3 (09/03) for dry wood combustion (09/03).
All emission factors are based on normal firing. MMBtu = 1,000,000 Btu MMCF = 1,000,000 Cubic Feet of Gas

Methodology

Potential Throughput (pallets/yr) = Heat Input Capacity (MMBtu/yr) / [0.0052 MMBtu/lb pallets x 65 lb/pallet]
1.) Current Permitted Potential to Emit (ton/yr) = Current Permitted Emission Rate (lb/MMBtu) x Dry Wood Equivalent Limit (51,875 tons/yr) x Wood Heating Value (16 MMBtu/ton) / 2000 lb/ton
2.) Controlled & Limited Potential to Emit (ton/yr) = New Permitted Emission Rate (lb/MMBtu) x Dry Wood Equivalent Limit (51,875 tons/yr) x Wood Heating Value (16 MMBtu/ton) / 2000 lb/ton
Emission (lb/hr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu)
Emission (tons/yr) = Emission (lb/hr) x 8760 hr/yr /2000 lb/ton
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
The N_2O Emission Factor for uncontrolled is 2.2. The N_2O Emission Factor for low Nox burner is 0.64.
CO_2e Emission Factor (lb/MMBtu) = CO_2 Emission Factor (lb/MMBtu) x CO_2 GWP + CH4 Emission Factor (lb/MMBtu) x CH_4 GWP + N_2O Emission Factor (lb/MMBtu) x N_2O GWP
CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP

Fuel Equivalency Revision

Previous Limit was 8.75 tons dry wood per MMCF natural gas in order for CO to be limited to less than 250 tons per year. After testing, the new emission rate revealed that the equivalency is not needed to limit CO emissions; however, a new equivalency is needed in order to limit CO_2e to less than 100,000 tons per year. This calculations is as follows:

$$37.8 \frac{\text{tons wood}}{\text{MMCF nat. gas}} = \frac{120{,}730 \frac{\text{lb } CO_2e}{\text{MMCF nat. gas}}}{16 \frac{\text{MMBtu}}{\text{ton wood}} \times 199.47 \frac{\text{lb } CO_2e}{\text{MMBtu}}}$$

	Potential To Emit - Hazardous Air Pollutants																Total HAPs
	HAPs - Organics								HAPs - Metals								
	Acrolein	Benzene	1,3-butadiene	Ethyl Benzene	Formal-dehyde	HCl	Styrene	PAH	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	
Emission Factor (lb/MMBtu dry wood)	4.0E-03	4.2E-03			4.4E-03	1.9E-02	1.9E-03		1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	3.3E-07	1.8E-06	1.8E-06	
Emission Factor (lb/ton tires)		4.41	0.32	0.97			1.29	10.67			9.6E-03		2.0E-04				
Control Efficiency (%)									91.67%	91.67%	91.67%	91.67%	91.67%	91.67%	91.67%	91.67%	
Controlled Potential To Emit (lb/hr)	0.30	1.06	0.05	0.16	0.33	1.44	0.36	1.80	1.1E-05	1.1E-05	1.5E-04	1.1E-05	1.4E-05	2.1E-06	1.1E-05	1.1E-05	5.53
Controlled Potential To Emit (ton/yr)	1.33	1.72	0.02	0.07	1.46	6.31	0.73	0.79	5.0E-05	5.0E-05	1.1E-04	5.0E-05	5.1E-05	9.1E-06	5.0E-05	5.0E-05	12.43
Uncontrolled Potential To Emit (lb/hr)	0.30	1.06	0.05	0.16	0.33	1.44	0.36	1.80	1.4E-04	1.4E-04	1.8E-03	1.4E-04	1.7E-04	2.5E-05	1.4E-04	1.4E-04	5.53
Uncontrolled Potential To Emit (ton/yr)	1.33	4.66	0.24	0.72	1.46	6.31	1.59	7.90	6.0E-04	6.0E-04	7.7E-03	6.0E-04	7.4E-04	1.1E-04	6.0E-04	6.0E-04	24.21
2.) Controlled & Limited Potential To Emit (ton/yr)	1.33	4.66	0.24	0.72	1.46	6.31	1.59	7.90	6.0E-04	6.0E-04	7.7E-03	6.0E-04	7.4E-04	1.1E-04	6.0E-04	6.0E-04	24.21

Notes:

HAP Emission factors for dry wood combustion are from AP-42, Table 1.6-3 for Wood Residue Combustion (09/03). HAP emissions for combustion of painted pallets is derived from testing that was conducted by the source (see below). The HAP emission factors for tire combustion are unknown.

Methodology

Controlled Potential Emissions (lb/hr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 8760 hr/yr }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 8760 hr/yr }] x (1 - CE (%))
Controlled Potential Emissions (ton/yr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 2000 lb/ton }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 2000 lb/ton }] x (1 - CE (%))
Uncontrolled Potential Emissions (lb/hr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 8760 hr/yr }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 8760 hr/yr }]
Uncontrolled Potential Emissions (ton/yr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 2000 lb/ton }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 2000 lb/ton }]
Limited Potential Emissions (ton/yr) = [{ (0.8 x Wood Emission Factor (lb/MMBtu) x Wood Heat Input Capacity (MMBtu/ton) x Limited Dry Wood Equivalent Usage (ton/yr)) / 2000 lb/ton }] + { (0.2 x Tires Emission Factor (lb/ton) x Limited Tire Usage (ton/yr)) / 2000 lb/ton }]

Painted Pallet Combustion Source: Administrative Amendment No. 129-26154-00038

The following emission calculations assume the worst case that the pallets are entirely and freshly covered by paint. A representative wet sample of the paint used on the pallets was sent by the source for Laboratory testing for metal HAPs. Given that the paint may have been on the pallets for years, there should be no VOC and given the boiler temperatures any VOC would be burned up if there were any trace amounts.

Limited Capacity (Painted Pallets) =	51,875	tons pallets/yr	103,750,000	lb pallets/yr	1,596,154 pallets/yr
Weight of each painted pallet =	65	lb/pallet			
					1,660 MMBtu/yr
Maximum amount of paint on each pallet =	5	oz paint/pallet			
	0.3125	lb paint/pallet			
Maximum amount of paint Combusted =	249.40	tons paint/yr			

Metals	Detection Level	Detection Level	Potential to Emit		Emission Factor
	mg/kg	fraction of metal in the paint	lb/yr	lb/hr	lb/MMBtu
Arsenic	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Barium	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Cadmium	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Chromium	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Lead	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Selenium	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Silver	1.8	1.80E-06	0.9	1.03E-04	1.79E-06
Mercury	0.33	3.31E-07	0.2	1.88E-05	3.29E-07

Methodology

Maximum amount of paint Combusted = Amount of Paint on pallet (lb paint/pallet) x Pallet Burning Capacity (pallets/yr) / 2000 lb/ton
Detection Level (fraction) = Detection Level(mg/kg) / 64.8 mg/grain / 7000 grains/lb / 2.2 lb/kg
Potential to Emit (lb/yr) = Maximum Amount of Paint Combusted (tons paint/yr) x Detection Level (fraction) x 2000 lbs/ton

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

Emission Unit	Installation Date	Heat Input Capacity *MMBtu/hr*	Q *MMBtu/hr*	Pt *lb/MMBtu*
NG Boiler P17	1996	33.70	101.10	0.328
NG Boiler P18	1996	33.70	101.10	0.328
NG Boiler P18A	1996	33.70	101.10	0.328
wood/shredded tire Boiler P17B	2006	57.30	215.70	0.270
wood/shredded tire Boiler P17C	2006	57.30	215.70	0.270

[326 IAC 6-2-4] $Pt = \frac{1.09}{Q^{0.26}}$

Where:
Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr).

(e) If any limitation established by this rule is inconsistent with applicable limitations contained in 326 IAC 6.5 and 326 IAC 6.8, then the limitations contained in 326 IAC 6.5 and 326 IAC 6.8 prevail.

(f) If any limitation established by this rule is inconsistent with applicable limitations contained in 326 IAC 12 concerning new source performance standards, then the limitations contained in 326 IAC 12 prevail.

(g) If any limitation established by this rule is inconsistent with a limitation contained in a facility's construction or operation permit as issued pursuant to 326 IAC 2 concerning permit review regulations, then the limitations contained in the source's current permits prevail.

(h) If any limitation established by this rule is inconsistent with a limitation required by 326 IAC 2 concerning permit review regulations, to prevent a violation of the ambient air quality standards set forth in 326 IAC 1-4, then the limitations required by 326 IAC 2 prevail.

Particulate (PM, PM_{10}, & $PM_{2.5}$) from the Receiving, Handling, and Loadout Operations for Grain, Hull, and Meal

Unit ID	Process	Emission Unit	Control Device	Control Device ID	Stack ID	Outlet Grain Loading	Maximum Air Flow Rate	Control Efficiency	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		PTE of PM after Control		PTE of PM_{10} after Control		PTE of $PM_{2.5}$ after Control	
						gr/dscf	*scfm*	*%*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P1	Truck Receiving		Baghouse	C1		0.005	13,000	99.0%	55.71	244.03	55.71	244.03	55.71	244.03	0.56	2.44	0.56	2.44	0.56	2.44
P3	Kaolin Handling		Baghouse	C3		0.005	2,400	99.0%	10.29	45.05	10.29	45.05	10.29	45.05	0.10	0.45	0.10	0.45	0.10	0.45
P4	Soybean Cleaning		Baghouse	C4		0.005	19,000	99.0%	81.43	356.66	81.43	356.66	81.43	356.66	0.81	3.57	0.81	3.57	0.81	3.57
P4A		Pods Aspirators	Baghouse	C4A	4A	0.01	8,000	99.0%	68.57	300.34	68.57	300.34	68.57	300.34	0.69	3.00	0.69	3.00	0.69	3.00
P5	Soybean Cracking/Dehulling	Jet Dryer 1	Cyclone	C5A	5	0.04	64,000	99.0%	2194.29	9610.97	2194.29	9610.97	2194.29	9610.97	21.94	96.11	21.94	96.11	21.94	96.11
		Jet Dryer 2	Cyclone	C5B																
		CCD Dryer 1	Cyclone	C5C																
		CCD Dryer 2																		
		cracking/dehulling roll 1																		
		CCC Cooler 1	Cyclone	C5D																
		CCC Cooler 2																		
		cracking/dehulling roll 2																		
		Two hull screener & aspirators (P5) and pods breaker and pods aspirator (P4)	Cyclone	C5E																
		Jet Dryer 3	Cyclone	C5F																
		CCD Dryer 3	Cyclone	C5G																
		cracking/dehulling roll 3																		
		cracking/dehulling roll 4																		
		CCC Cooler 3	Cyclone	C5H																
		cracking/dehulling roll 5																		
		cracking/dehulling roll 6																		
P6	Hull Grinding		Baghouse	C6		0.005	7,000	99.0%	30.00	131.40	30.00	131.40	30.00	131.40	0.30	1.31	0.30	1.31	0.30	1.31
P7	Hull Storage		Baghouse	C7		0.005	4,000	99.0%	17.14	75.09	17.14	75.09	17.14	75.09	0.17	0.75	0.17	0.75	0.17	0.75
P7A	Hull Handling		Baghouse	C7A		0.005	4,000	99.0%	17.14	75.09	17.14	75.09	17.14	75.09	0.17	0.75	0.17	0.75	0.17	0.75
P7B																				
P8	Hull Pellet Cooler		Cyclone	C8		0.05	12,000	99.0%	514.29	2,253	514.3	2,253	514.3	2,253	5.14	22.53	5.14	22.53	5.14	22.53
P8A	Hull Pellet Storage		Baghouse	C8A		0.005	4,000	99.0%	17.14	75.09	17.14	75.09	17.14	75.09	0.17	0.75	0.17	0.75	0.17	0.75
P8B			Baghouse	C8B																
P9	Meal Handling		Baghouse	C9		0.0065	4,637	99.0%	25.83	113.16	25.83	113.16	25.83	113.16	0.26	1.13	0.26	1.13	0.26	1.13
P14	Truck Meal Loadout		Baghouse	C14		0.005	16,000	99.0%	68.57	300.34	68.57	300.34	68.57	300.34	0.69	3.00	0.69	3.00	0.69	3.00
P15	Rail/Barge Meal Loadout		Baghouse	C15		0.005	16,000	99.0%	68.57	300.34	68.57	300.34	68.57	300.34	0.69	3.00	0.69	3.00	0.69	3.00
P15A	Rail/Barge Bulk Weigh		Baghouse	C15A	P15A	0.005	6,000	99.0%	25.71	112.63	25.71	112.63	25.71	112.63	0.26	1.13	0.26	1.13	0.26	1.13
P19	Soybean Flaking	Flakers 1-10	Baghouse	C19A	P19	0.002	26,000	99.0%	39.00	170.82	39.00	170.82	39.00	170.82	0.39	1.71	0.39	1.71	0.39	1.71
			Baghouse	C19B																
			Baghouse	C19C																
		Flakers 1-10	Baghouse	C19D	P19D	0.00325	26,000	99.0%	72.43	317.24	72.43	317.24	72.43	317.24	0.72	3.17	0.72	3.17	0.72	3.17
P20	Meal Storage		Baghouse	C20		0.005	6,000	99.0%	25.71	112.63	25.71	112.63	25.71	112.63	0.26	1.13	0.26	1.13	0.26	1.13
P24	North Truck Receiving		Baghouse	C24		0.005	10,000	99.0%	42.86	187.71	42.86	187.71	42.86	187.71	0.43	1.88	0.43	1.88	0.43	1.88
Total										14,781		14,781		14,781		**147.81**		**147.81**		**147.81**

Assumptions

All PM emissions equal PM_{10} and $PM_{2.5}$ emissions.

Methodology

Potential to Emit after Control (lb/hr) = Outlet Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr
Potential to Emit after Control (ton/yr) = Potential to Emit after Control (lb/hr) x 8760 hr/yr / 2000 lb/ton
Potential to Emit before Control (lb/hr) = Potential to Emit after Control (lb/hr) / [1 - Control Efficiency (%)]
Potential to Emit before Control (ton/yr) = Potential to Emit before Control (lb/hr) x 8760 hr/yr / 2000 lb/ton

Particulate (PM, PM_{10}, & $PM_{2.5}$) from the Receiving, Handling, and Loadout Operations for Grain, Hull, and Meal

Before Modification

Unit ID	Unit Description	Maximum Throughput Rate		Annual Throughput Limit	Uncontrolled PM Emission Factor	Uncontrolled PM_{10} Emission Factor	Uncontrolled $PM_{2.5}$ Emission Factor	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		Control Measure	Control Efficiency	Controlled PM Emission Factor	Controlled PM_{10} Emission Factor	Controlled $PM_{2.5}$ Emission Factor	PTE of PM after Control and Limit		PTE of PM_{10} after Control and Limit		PTE of $PM_{2.5}$ after Control and Limit	
		ton/hr	*ton/yr*	*ton/yr*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*		%	*lb/ton*	*lb/ton*	*lb/ton*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P2	Truck and Railcar Receiving	540	4,730,400	1,020,000	0.035	0.0078	0.00013	18.90	82.78	4.21	18.45	0.07	0.31	Enclosure /Mineral Oil	60%	NA	NA	NA	1.63	7.14	0.36	1.59	0.01	0.03
P2A	Annex Silo Storage	1,740	15,242,400	1,020,000	0.025	0.0063	0.0011	43.50	190.53	10.96	48.01	1.91	8.38	Mineral Oil	60%	NA	NA	NA	1.16	5.10	0.29	1.29	0.05	0.22
P2A	Annex Silo Loading	1,740	15,242,400	1,020,000	0.061	0.034	0.0058	106.14	464.89	59.16	259.12	10.09	44.20	Mineral Oil	60%	NA	NA	NA	2.84	12.44	1.58	6.94	0.27	1.18
P2B	Soybean Storage	600	5,256,000	1,020,000	0.025	0.0063	0.0011	15.00	65.70	3.78	16.56	0.66	2.89	Mineral Oil	60%	NA	NA	NA	1.16	5.10	0.29	1.29	0.05	0.22
P2B	Soybean Loading	600	5,256,000	1,020,000	0.061	0.034	0.0058	36.60	160.31	20.40	89.35	3.48	15.24	Mineral Oil	60%	NA	NA	NA	2.84	12.44	1.58	6.94	0.27	1.18
P21	Soybean Heater	125	1,095,000	940,240	0.001	0.001	0.001	0.13	0.55	0.13	0.55	0.13	0.55	NA	0%	NA	NA	NA	0.11	0.47	0.11	0.47	0.11	0.47
P27	North House Bin Loading	360	3,153,600	108,000	0.061	0.034	0.0058	21.96	96.18	12.24	53.61	2.09	9.15	Chamber Effect	70%	NA	NA	NA	0.23	0.99	0.13	0.55	0.02	0.09
Total									**1060.95**		**485.65**		**80.72**							**43.69**		**19.05**		**3.41**

After Modification

Unit ID	Unit Description	Maximum Throughput Rate		Annual Throughput Limit	Uncontrolled PM Emission Factor	Uncontrolled PM_{10} Emission Factor	Uncontrolled $PM_{2.5}$ Emission Factor	Limited PM Emission Factor	Limited PM_{10} Emission Factor	Limited $PM_{2.5}$ Emission Factor	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		Control Measure	Control Efficiency	Controlled PM PTE		Controlled PM_{10} PTE		Controlled $PM_{2.5}$ PTE		Limited PM PTE		Limited PM_{10} PTE		Limited $PM_{2.5}$ PTE	
		ton/hr	*ton/yr*	*ton/yr*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/ton*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*		%	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P2	Truck and Railcar Receiving	540	4,730,400	1,174,760	0.035	0.0078	0.00013	0.014	0.0031	0.0001	18.90	82.78	4.21	18.45	0.07	0.31	Enclosure/ Mineral Oil	60%	7.56	33.11	1.68	7.38	0.03	0.12	1.88	8.22	0.42	1.83	0.01	0.03
P2A	Annex Silo Storage	1,740	15,242,400	1,174,760	0.025	0.0063	0.0011	0.010	0.0025	0.0004	43.50	190.53	10.96	48.01	1.91	8.38	Mineral Oil	60%	17.40	76.21	4.38	19.21	0.77	3.35	1.34	5.87	0.34	1.48	0.06	0.26
P2A	Annex Silo Loading	1,740	15,242,400	1,174,760	0.061	0.034	0.0058	0.024	0.0136	0.0023	106.14	464.89	59.16	259.12	10.09	44.20	Mineral Oil	60%	42.46	185.96	23.66	103.65	4.04	17.68	3.27	14.33	1.82	7.99	0.31	1.36
P2B	Soybean Storage	600	5,256,000	1,174,760	0.025	0.0063	0.0011	0.010	0.0025	0.0004	15.00	65.70	3.78	16.56	0.66	2.89	Mineral Oil	60%	6.00	26.28	1.51	6.62	0.26	1.16	1.34	5.87	0.34	1.48	0.06	0.26
P2B	Soybean Loading	600	5,256,000	1,174,760	0.061	0.034	0.0058	0.024	0.0136	0.0023	36.60	160.31	20.40	89.35	3.48	15.24	Mineral Oil	60%	14.64	64.12	8.16	35.74	1.39	6.10	3.27	14.33	1.82	7.99	0.31	1.36
P21	Soybean Heater	125	1,095,000	1,095,000	0.001	0.001	0.001	0.001	0.0010	0.0010	0.13	0.55	0.13	0.55	0.13	0.55	NA	0%	0.13	0.55	0.13	0.55	0.13	0.55	0.13	0.55	0.13	0.55	0.13	0.55
P27	North House Bin Loading	360	3,153,600	108,000	0.061	0.034	0.0058	0.061	0.034	0.0058	21.96	96.18	12.24	53.61	2.09	9.15	NA	0%	21.96	96.18	12.24	53.61	2.09	9.15	0.75	3.29	0.42	1.84	0.07	0.31
Total												**1060.95**		**485.65**		**80.72**									**52.48**		**23.15**		**4.13**
Total Increase from modification:												**0.00**		**0.00**		**0.00**										**8.79**		**4.10**		**0.73**

Notes:
Emission factors are from AP-42, Chapter 9.9.1 - Grain Elevators, Table 9.9.1-1 (03/03).
Emission factors for P21 are based on stack testing.
*Controlled PTE for P1 and P2 is calculated without consideration of the Baghouse controlling the aspirated soybean receiving legs.

Methodology
Potential to Emit before Control (lb/hr) = Maximum Throughput Rate (ton/hr) x Uncontrolled Emission Factor (lb/ton)
Potential to Emit before Control (ton/yr) = Potential to Emit before Control (lb/hr) x 8760 hr/yr / 2000 lb/ton
Potential to Emit after Control and Limit (lb/hr) = Annual Throughput Limit (ton/yr) / 8760 hr/yr x Uncontrolled Emission Factor (lb/ton) x [1 - Control Efficiency (%)]
Potential to Emit after Control and Limit (ton/yr) = Annual Throughput Limit (ton/yr) x Uncontrolled Emission Factor (lb/ton) / 2000 lb/ton x [1 - Control Efficiency (%)]

VOC and HAP from the Soybean Oil Extraction System

													Plant-Wide Hexane Emissions					
Unit ID	**Process**	**Maximum Throughput Rate**		**Annual Throughput Limit**	**Control Measure**	**Control Efficiency**	**VOC/Hexane Emission Factor** (Unrestricted)	**Hexane Density (VOC)**	**VOC/ Hexane Emissions** (Unrestricted)	**VOC/ Hexane Emission Factor** (BACT)	**VOC/ Hexane Emissions** (BACT)	**Hexane/ VOC Emissions** (BACT + Production Limit)	**Hexane Emission Factor** (Unrestricted)	**Plant-Wide Hexane Emission Factor** (BACT)	**Hexane Density**	**HAP Emissions** (Unrestricted)	**Plant-Wide HAP Emissions** (BACT)	**Plant Wide HAP Emissions** (BACT + Production Limit)
		ton/hr	*ton/yr*	*ton/yr*		%	*gal/ton*	*lb/gal*	*ton/yr*	*lb/ton*	*ton/yr*	*ton/yr*	*gal/ton*	*gal/ton*	*lb/gal*	*ton/yr*	*ton/yr*	*ton/yr*
Before Modification																		
P13	Soybean Oil Extraction System	109.5	959,220	940,240	Mineral Oil Absorber	99.5%	0.89	--	1,267.8	0.084	40.29	39.49	0.89	0.225	2.97	1,267.8	320.50	314.16
After Modification																		
P13	Soybean Oil Extraction System	125.0	1,095,000	1,095,000	Mineral Oil Absorber	99.5%	0.89	5.6	2,728.7	0.048	NA	26.28	0.89	0.190	5.60	1,746.4	372.83	372.83
Total Increase from modification:									1,461.0			0				478.6	52.3	58.7

VOC Content: 100%
Solvent Used: Hexane (This is also a HAP)
Hexane Emission Rates: 4.9 lb/ton
0.89 gal/ton
*HAP Fraction (n-Hexane) = 64% wt. %

Notes:
*All the VOC emissions are from Hexane. For calculating HAPs, only the n-Hexane portion is considered a HAP. Therefore, an industry standard factor (from 40 CFR 63, Subpart GGGG) is used to determine a ratio of n-Hexane to Hexane.
Unrestricted VOC Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.3 (11/95). (All VOC is Hexane.)
Unrestricted Hexane Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.3 (11/95).
BACT Emission rates are from CP#129-7488-00035, issued on July 17, 1995, and SSM No. 129-27572-00035 (Revised BACT), issued on August 11, 2009.
The VOC/Hexane emissions estimates for the Soybean Oil Extraction System include tank emissions.

Methodology
Potential to Emit VOC (Unrestricted) = Maximum Throughput Rate (ton/hr) x Unrestricted VOC Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit VOC (BACT Limit) = Maximum Process Weight (ton/hr beans) x BACT VOC Emission Factor (lb/ton beans) x 8760 hr/yr / 2000 lb/ton
Potential to Emit VOC (BACT + Production Limit) = Annual Production Limit (ton/yr beans) x BACT VOC Emission Factor (lb/ton beans) / 2000 lb/ton
Potential to Emit Hexane (Unrestricted) = Maximum Throughput Rate (ton/hr) x Unrestricted Hexane Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit Hexane (BACT Limit) = Maximum Process Weight (ton/hr beans) x BACT Hexane Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit Hexane (BACT + Production Limit) = Annual Production Limit (ton/yr beans) x BACT Hexane Emission Factor (gal/ton beans) x Density (lb/gal) / 2000 lb/ton

Emissions from the Meal Dryers and Cooler

Before Modification

Unit ID	Process	Control Device	Control Device ID	Particulate Emision Factor	Outlet Grain Loading	Maximum Air Flow Rate	Control Efficiency	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		PTE of PM after Control		PTE of PM_{10} after Control		PTE of $PM_{2.5}$ after Control	
				lb/ton	*gr/dscf*	*scfm*	%	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P10	DTDC Meal Dryer Section 1	Cyclone	C10	0.18	0.07	8,979	99.0%	15.66	68.59	15.66	68.59	15.66	68.59	5.39	23.60	5.39	23.60	5.39	23.60
P11	DTDC Meal Dryer Section 2	Cyclone	C11	0.18	0.0017	8,788	99.0%	15.66	68.59	15.66	68.59	15.66	68.59	0.13	0.56	0.13	0.56	0.13	0.56
P12	DTDC Meal Dryer Section 3	Cyclone	C11A	0.18	0.0017	6,751	99.0%	15.66	68.59	15.66	68.59	15.66	68.59	0.10	0.43	0.10	0.43	0.10	0.43
P12A	DTDC Meal Cooling Operation	Cyclone	C12A	0.19	0.0011	23,000	99.0%	16.53	72.40	16.53	72.40	16.53	72.40	0.22	0.95	0.22	0.95	0.22	0.95
Total									278.17		278.17		278.17		**25.54**		**25.54**		**25.54**

After Modification

Unit ID	Process	Control Device	Control Device ID	Particulate Emision Factor	Outlet Grain Loading	Maximum Air Flow Rate	Control Efficiency	PTE of PM before Control		PTE of PM_{10} before Control		PTE of $PM_{2.5}$ before Control		PTE of PM after Control		PTE of PM_{10} after Control		PTE of $PM_{2.5}$ after Control	
				lb/ton	*gr/dscf*	*scfm*	%	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*	*lb/hr*	*ton/yr*
P10	DTDC Meal Dryer Section 1	Cyclone	C10	0.18	0.07	8,979	99.0%	22.50	98.55	22.50	98.55	22.50	98.55	5.39	23.60	5.39	23.60	5.39	23.60
P11	DTDC Meal Dryer Section 2	Cyclone	C11	0.18	0.0017	8,788	99.0%	22.50	98.55	22.50	98.55	22.50	98.55	0.13	0.56	0.13	0.56	0.13	0.56
P12	DTDC Meal Dryer Section 3	Cyclone	C11A	0.18	0.0017	6,751	99.0%	22.50	98.55	22.50	98.55	22.50	98.55	0.10	0.43	0.10	0.43	0.10	0.43
P12A	DTDC Meal Cooling Operation	Cyclone	C12A	0.19	0.0011	23,000	99.0%	23.75	104.03	23.75	104.03	23.75	104.03	0.22	0.95	0.22	0.95	0.22	0.95
Total									399.68		399.68		399.68		**25.54**		**25.54**		**25.54**
Total Increase from modification:									121.50		121.50		121.50		0.00		0.00		0.00

Assumptions

All PM emissions equal PM_{10} and $PM_{2.5}$ emissions.
Unrestricted Particulate Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.3, Table 9.11.1-1 (11/95).

Methodology

Potential to Emit before Control (lb/hr) = Particulate Emission Factor (lb/ton) x Maximum Throughput (ton/hr)
Potential to Emit before Control (ton/yr) = Potential to Emit before Control (lb/hr) x 8760 hr/yr / 2000 lb/ton
Potential to Emit after Control (lb/hr) = Outlet Grain Loading (gr/dscf) x Air Flow (scfm) x 60 min/hr / 7000 gr/lb
Potential to Emit after Control (ton/yr) = Potential to Emit after Control (lb/hr) x 8760 hr/yr / 2000 lb/ton

VOC and HAP from the Meal Dryers and Cooler

Before Modification

Unit ID	Process	Maximum Throughput Rate		Annual Throughput Limit	VOC Emission Factor (Unrestricted)	VOC Emissions (Unrestricted)	VOC Emission Factor (BACT)	VOC Emissions (BACT)	VOC Emissions (BACT + Production Limit)	Hexane Emission Factor (Unrestricted)	Hexane Density	HAP Emissions (Unrestricted)	HAP Emissions (Production Limit)	HAPs Emissions (BACT + Throughput Limit)
		ton/hr	*ton/yr*	*ton/yr*	*gal/ton*	*ton/yr*	*lb/ton*	*ton/yr*	*ton/yr*	*gal/ton*	*lb/gal*	*ton/yr*	*ton/yr*	*ton/yr*
P10	DTDC Meal Dryer Section 1	87.0	762,120	940,240	0.89	1,007	0.16	60.97	75.22	0.89	2.97	1,007	1,243	75.22
P11	DTDC Meal Dryer Section 2	87.0	762,120	940,240	0.89	1,007				0.89	2.97	1,007		
P12	DTDC Meal Dryer Section 3	87.0	762,120	940,240	0.89	1,007				0.89	2.97	1,007		
P12A	DTDC Meal Cooling Operation	87.0	762,120	940,240	0.89	1,007	0.16	60.97	75.22	0.89	2.97	1,007	1,243	75.22
Total						**4,029**		**121.94**	**150.44**			**4,029**	**2,485**	**150.44**

After Modification

Unit ID	Process	Maximum Throughput Rate*		Annual Throughput Limit	VOC Emission Factor (Unrestricted)	Hexane Density	VOC Emissions (Unrestricted)	VOC Emission Factor (BACT)	VOC Emissions (BACT)	VOC Emissions (BACT + Production Limit)	Hexane Emission Factor (Unrestricted)	HAP Emissions (Unrestricted)	HAP Emissions (Production Limit)	HAPs Emissions (BACT + Throughput Limit)
		ton/hr	*ton/yr*	*ton/yr*	*gal/ton*	*lb/gal*	*ton/yr*	*lb/ton*	*ton/yr*	*ton/yr*	*gal/ton*	*ton/yr*	*ton/yr*	*ton/yr*
P10	DTDC Meal Dryer Section 1	125.0	1,095,000	1,095,000	0.89	5.6	2,728.7	0.152	83.22	83.22	0.89	1,746.4	1,746	53.26
P11	DTDC Meal Dryer Section 2	125.0	1,095,000	1,095,000	0.89	5.6	2,728.7				0.89	1,746.4		
P12	DTDC Meal Dryer Section 3	125.0	1,095,000	1,095,000	0.89	5.6	2,728.7				0.89	1,746.4		
P12A	DTDC Meal Cooling Operation	125.0	1,095,000	1,095,000	0.89	5.6	2,728.7	0.152	83.22	83.22	0.89	1,746.4	1,746	53.26
Total							**10,915.0**		**166.44**	**166.44**		**6,985.6**	**3,493**	**106.52**
Total Increase from modification:									**45**	**16**			**1,007**	

HAP Fraction (n-Hexane) = 64% wt. %

Notes

All the VOC emissions are from Hexane. For calculating HAPs, only the n-Hexane portion is considered a HAP. Therefore, an industry standard factor (from 40 CFR 63, Subpart GGGG) is used to determine a ratio of n-Hexane to Hexane.
Dryer Section P10, P11, and P12 are operated in series.
Unrestricted VOC Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.8 (11/95). (All VOC is Hexane.)
Unrestricted Hexane Emission factor is from AP-42, Chapter 9.11 - Vegetable Oil Processing, Section 9.11.1.8 (11/95).
BACT Emission rates are from CP#129-7488-00035, issued on July 17, 1995, and SSM No. 129-27572-00035 (Revised BACT), issued on August 11, 2009.
*Maximum throughput of these units is based on total soybean process rate instead of maximum rate input to dryers since the emission factor is based on weight of soybeans processed. By the time it gets to these emission units, hulls have been separated from the crushed bean and a portion of the oil has been removed.

Methodology

Potential to Emit VOC (Unrestricted) = Maximum Throughput Rate (ton/hr) x Unrestricted VOC Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit VOC (BACT Limit) = Maximum Process Weight (ton/hr beans) x BACT VOC Emission Factor (lb/ton beans) x 8760 hr/yr / 2000 lb/ton
Potential to Emit VOC (BACT + Production Limit) = Annual Production Limit (ton/yr beans) x BACT VOC Emission Factor (lb/ton beans) / 2000 lb/ton
Potential to Emit Hexane (Unrestricted) = Maximum Throughput Rate (ton/hr) x Unrestricted Hexane Emission Factor (gal/ton beans) x Density (lb/gal) x 8760 hr/yr / 2000 lb/ton
Potential to Emit Hexane (Production Limit) = Annual Production Limit (ton/yr beans) x Hexane Emission Factor (gal/ton beans) x Density (lb/gal) / 2000 lb/ton

Particulate Emission Limitations for Manufacturing Processes

326 IAC 6-3-2

		Process Weight, P		P<=60,000 lb/hr	P>60,000 lb/hr
		each unit	each unit	$E = 4.10\ P^{0.67}$	$E = 55\ P^{0.11} - 40$
PM Control Device	Process	P (lb/hr)	P (ton/hr)	E (lb/hr)	E (lb/hr)
Baghouse C3	Kaolin Handling P3	918	0.459	2.4	-
Cyclone C4A	Pods Aspirator	250,000	125.0	-	53.5
Cyclone C5A	Soybean Cracking/Dehulling P5	250,000	125.0	-	53.5
Baghouse C6	Hull Grinding P6	17,500	8.75	17.5	-
Baghouse C7	Hull Storage P7	30,000	15.0	25.2	-
Baghouse C7A	Hull Handling P7A	30,000	15.0	25.2	-
Cyclone C8	Hull Pellet Cooler P8	30,000	15.0	25.2	-
Baghouse C8A	Hull Pellet Storage P8A	30,000	15.0	25.2	-
Baghouse C9	Meal Handling P9	181,400	90.7	-	50.3
Baghouse C14	Truck Meal Loadout P14	766,600	383.3	-	65.8
Baghouse C15	Rail/Barge Meal Loadout P15	766,600	383.3	-	65.8
Baghouse C19A	Soybean Flaking P19	228,000	114.0	-	52.6
Baghouse C20	Meal Storage P20	600,000	300.0	-	63.0
NA	Soybean Heater P21	250,000	125.0	-	53.5
Cyclone C10	DTDC Meal Dryer Section 1 P10	181,400	90.7	-	50.3
Cyclone C11	DTDC Meal Dryer Section 2 P11	181,400	90.7	-	50.3
Cyclone C11A	DTDC Meal Dryer Section 3 P12	181,400	90.7	-	50.3
Cyclone C12A	DTDC Meal Cooling Operation P12A	181,400	90.7	-	50.3

(c) This rule shall not apply if a particulate matter limitation established in:
(1) 326 IAC 2-2-3, concerning prevention of significant deterioration (PSD) best available control technology (BACT) determinations contained in a permit;
(2) 326 IAC 2-3-3, concerning lowest achievable emission rate (LAER) determinations contained in a permit;
(3) 326 IAC 6.5 and 326 IAC 6.8, concerning particulate matter emissions;
(4) 326 IAC 11, concerning existing emission limitations for specific operations;
(5) 326 IAC 12, concerning new source performance standards; or
(6) 326 IAC 20, concerning national emission standards for hazardous air pollutants;

The north truck receiving area (P24), the north house bin loading area (P27), the truck soybean receiving area (P1), the truck and railcar soybean and hull receiving area (P2), the annex silo loading operation (P2A), the soybean storage system (P2B), and the soybean cleaning operation (P4) at this source are the requirements of 40 CFR 60, Subpart DD (NSPS for Grain Elevators). Therefore, these operations are exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(c)(5).

Diesel Fired Fire Pumps (Emergency)

Emission Unit	Rating		Heat Input Capacity		Installation Date	Operating Hours
emergency generator	305	hp	2.14	MMBtu/hr	2012	500 hr/yr
emergency generator	305	hp	2.14	MMBtu/hr	1997	500 hr/yr
Maximum Capacity:	610	hp	4.27	MMBtu/hr		

	Potential To Emit - Regulated Pollutants							PTE - GHGs			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Emission Factor (lb/MMBtu)	0.95	4.41	0.31	0.31	0.31	0.29	0.36	164	6.61E-03	1.32E-03	
Uncontrolled Potential To Emit (lb/hr)	4.06	18.83	1.32	1.32	1.32	1.24	1.54	700.28	2.82E-02	5.65E-03	702.62
Uncontrolled Potential To Emit (ton/yr)	1.01	4.71	0.33	0.33	0.33	0.31	0.38	175.07	7.06E-03	1.41E-03	175.66

	Potential To Emit - Hazardous Air Pollutants								
	Acetal-dehyde	**Acrolein**	**Benzene**	**1,3 Butadiene**	**Formal-dehyde**	**PAH**	**Toluene**	**Xylene**	**Total HAPs**
Emission Factor (lb/MMBtu)	*7.67E-04*	*9.25E-05*	*9.33E-04*	*3.91E-05*	*1.18E-03*	*1.68E-04*	*4.09E-04*	*2.85E-04*	
Uncontrolled Potential To Emit (lb/hr)	3.28E-03	3.95E-04	3.98E-03	1.67E-04	5.04E-03	7.17E-04	1.75E-03	1.22E-03	1.65E-02
Uncontrolled Potential To Emit (ton/yr)	8.19E-04	9.87E-05	9.96E-04	4.17E-05	1.26E-03	1.79E-04	4.37E-04	3.04E-04	4.14E-03

Methodology

7,000 Btu = 1 hp-hr

MMBtu = 1,000,000 Btu

Emission factors are from AP-42, Chapter 3.3, Table 3.3-1, SCC #2-02-001-02 and 2-03-001-01 (AP-42 Supplement B, 10/96).

CH_4 and N_2O emission factors are from 40 CFR 98, Table C-2.

Assume PM = PM_{10} = $PM_{2.5}$

Assume TOC (total organic compounds) emissions are equal to VOC emissions.

Potential to Emit (lb/hr) = Rating (hp) x Emission Factor (lb/hp-hr)

Potential to Emit (lb/hr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lbs/MMBtu)

Potential to Emit (tons/yr) = Potential to Emit (lb/hr) x 500 hr/yr /2000 lb/ton

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP

Natural Gas Fired Emergency Generator

2 stroke lean burn engine

Emission Unit	Rating		Heat Input Capacity		Installation Date
emergency generator	343	kW	1.17	MMBtu/hr	1997
Maximum Capacity:	343	kW	1.17	MMBtu/hr	

Operating Hours
500 hr/yr

	Potential To Emit - Regulated Pollutants							Potential To Emit - GHGs			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Emission Factor (lb/MMBtu)	*0.386*	*3.17*	*3.84E-02*	*0.0483*	*0.0483*	*5.88E-04*	*0.12*	*110*	*1.45*	*2.2E-04*	
Uncontrolled Potential To Emit (lb/hr)	0.45	3.71	4.49E-02	0.0565	0.0565	6.88E-04	0.140	128.70	1.70	2.58E-04	164.41
Uncontrolled Potential To Emit (ton/yr)	0.11	0.93	1.12E-02	0.0141	0.0141	1.72E-04	0.035	32.18	0.42	6.45E-05	41.10

PM emission factor is filterable PM only. PM_{10} emission factor is filterable and condensable PM_{10} combined. $PM_{2.5}$ emission factor is filterable and condensable $PM_{2.5}$ combined.

	Potential To Emit - Hazardous Air Pollutants										
	Acrolein	**Benzene**	**Ethyl-benzene**	**Formal-dehyde**	**Hexane**	**Methanol**	**Naptha-lene**	**Styrene**	**Toluene**	**Xylene**	**Total HAPs**
Emission Factor (lb/MMBtu)	*7.8E-03*	*1.9E-03*	*1.1E-04*	*5.5E-02*	*4.45E-04*	*2.5E-03*	*9.6E-05*	*5.5E-05*	*9.6E-04*	*2.7E-04*	
Uncontrolled Potential To Emit (lb/hr)	9.1E-03	2.3E-03	1.3E-04	6.5E-02	5.21E-04	2.9E-03	1.1E-04	6.4E-05	1.1E-03	3.1E-04	0.081
Uncontrolled Potential To Emit (ton/yr)	2.3E-03	5.7E-04	3.2E-05	1.6E-02	1.30E-04	7.3E-04	2.8E-05	1.6E-05	2.8E-04	7.8E-05	0.018

Methodology

MMBtu = 1,000,000 Btu

Emission factors are from AP-42, Chapter 3.2, Table 3.2-1: Uncontrolled Emission Factors for 2-Stroke Lean-Burn Engines (AP-42, 08/00).

N_2O emission factor is from 40 CFR 98, Table C-2.

Potential to Emit (lb/hr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lbs/MMBtu)

Potential to Emit (tons/yr) = Potential to Emit (lb/hr) x 500 hr/yr /2000 lb/ton

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP

Fugitive Emissions
Unpaved Roads

According to AP42, Chapter 13.2.2 - Unpaved Roads (11/06), the particulate emission factors for unpaved roads can be estimated from the following equation:

$E = k \times (s/12)^a \times (w/3)^b$

where:

E = emission factor (lb/vehicle mile traveled)

s = surface material silt content (%) = 6.4 % (AP-42, Table 13.2.2-1)

w = mean vehicle weight (tons) = 29.2 tons (see the calculations below)

k = empirical constant =	4.9	PM	1.5	PM_{10}	0.15	$PM_{2.5}$
a = empirical constant =	0.7	PM	0.9	PM_{10}	0.9	$PM_{2.5}$
b = empirical constant =	0.45					

Vehicle Type	Average Vehicle Weight *tons*	Total Trip Number* *trips/yr*	Round Trip Distance* *miles/trip*	Vehicle Mile Traveled (VMT) *miles/yr*	Traffic Component* *%*	Component Vehicle Weight *tons*	PM Emission Factor *lb/mile*	PM_{10} Emission Factor *lb/mile*	$PM_{2.5}$ Emission Factor *lb/mile*	PM Emissions *ton/yr*	PM_{10} Emissions *ton/yr*	$PM_{2.5}$ Emissions *ton/yr*
Wood Truck	28.0	2,313	0.06	139	90.1%	25.2	8.78	2.37	0.24	0.610	0.165	0.016
Tire Truck	40.0	254	0.06	15	9.89%	4.0	8.78	2.37	0.24	0.067	0.018	0.002
Total				**154**	**100%**	**29.2**				**0.677**	**0.183**	**0.018**

* This information is provided by the source.

Methodology

Component Vehicle Weight = Ave. Vehicle Weight (tons) x Traffic Component (%) (Note that the summation of the component vehicle weight equals the Mean Vehicle Weight.)
VMT (miles/yr) = Round Trip Distance (miles/trip) x Total Trip Numbers (trips/yr)
Potential to Emit (tons/yr) = VMT (miles/yr) x Emission Factors (lb/mile) / 2000 lb/ton

Fugitive Emissions
Paved Roads

According to AP42, Chapter 13.2.1 - Paved Roads (11/06), the particulate emission factors for paved roads can be estimated from the following equation:

$$EF = [k\ (sL)^{0.91}(W)^{1.02}](1-(P/4N))$$

where: EF = Emission Factor lbs/VMT
k = Particle Size Multiplier for Paved Road Equation
0.011 PM 0.0022 PM_{10} 0.00054 $PM_{2.5}$

sL = Road Surface Silt Loading (grams per square meter (g/m2))	2.9	(g/m^2) (AP-42, Table 13.2.1-3)
W = average weight (tons) of vehicles traveling the road.	37.0	
P = number of days with at least 0.01 in of precipitation during averaging period	120	
N = number of days in the averaging period (e.g. 365 for annual)	365	

Vehicle Type	**Average Vehicle Weight** *tons*	**Total Trip Number*** *trips/yr*	**Round Trip Distance*** *miles/trip*	**Vehicle Mile Traveled (VMT)** *miles/yr*	**Traffic Component*** *%*	**Component Vehicle Weight** *tons*	**PM Emission Factor (non-winter)** *lb/mile*	**PM_{10} Emission Factor (non-winter)** *lb/mile*	**$PM_{2.5}$ Emission Factor (non-winter)** *lb/mile*	**PM Emissions** *ton/yr*	**PM_{10} Emissions** *ton/yr*	**$PM_{2.5}$ Emissions** *ton/yr*
Grain Receiving	40.0	35,000	0.28	9,940	74.5%	29.8	1.06	0.21	0.05	5.254	1.051	0.258
Wood Truck	28.0	2,313	0.74	1,712	24.9%	7.0	1.06	0.21	0.05	0.905	0.181	0.044
Tire Truck	40.0	23	0.74	17	0.2%	0.1	1.06	0.21	0.05	0.009	0.002	0.000
Ash Truck	28.0	46	0.50	23	0.33%	0.1	1.06	0.21	0.05	0.012	0.002	0.001
Total				**11,691**	**100%**	**37.0**				**6.180**	**1.236**	**0.303**

* This information is provided by the source.

Methodology
Component Vehicle Weight = Ave. Vehicle Weight (tons) x Traffic Component (%)
(Note that the summation of the component vehicle weight equals the Mean Vehicle Weight.)
VMT (miles/yr) = Round Trip Distance (miles/trip) x Total Trip Numbers (trips/yr)
Potential to Emit (tons/yr) = VMT (miles/yr) x Emission Factors (lb/mile) / 2000 lb/ton

Fugitive Emissions
Grain Storage Piles

Ef =	1.7 x (s/1.5) x (365-p)/235 x (f/15)		
=	1.89	lb/acre/day	
where s =	1.6	% silt content of material	
p =	120	days of rain greater than or equal to 0.01 inches	
f =	15	% of wind greater than or equal to 12 mph	
Ep (storage) =	Ef x sc x (40 cuft/ton) / (2000 lb/ton) / (43560 sqft/acre) / (25 ft) x (365 day/yr)		
=	0.53	tons/yr	
where sc =	42	,000 tons storage capacity	

This calculation is from AP-42, Chapter 11.2.3, Fourth edition (5/83).
The calculations were not included in subsequent editions of AP-42.

Degreasing Operations

VOC/HAP Emissions:

Solvents	Density (lb/gal)	Maximum Usage (gals/yr)	VOC Info	
			Weight % VOC	**VOC Emissions** (tons/yr)
mineral spirits (petroleum naptha)	8.2	145	100%	0.59

Notes:
Maximum Usage is based upon the maximum allowable solvent usage for degreasing operations that are considered "insignificant" under 326 IAC 2-7-1(21)(K)(vi)(CC). Acetone is considered an exempt VOC product.

Methodology
VOC/HAP Emissions (tons/yr) = Density (lbs/gal) x Maximum Usage (gals/yr) x Weight % VOC or HAP x 1 ton/2,000 lbs

Hexane Storage Tanks

Number of storage tanks:	1		
volume:	8,000	gal	
Tanks VOC/HAP Emissions:	1.25	ton/yr	

Number of storage tanks:	1		
volume:	28,000	gal	
Tanks VOC/HAP Emissions:	4.38	ton/yr	

Page &[Page] of &[Pages]	2		
SSM 129-34318-00035 volume:	14,000	gal	
SPM 129-34338-00035			
Tanks VOC/HAP Emissions:	2.19	ton/yr	each
(TANKS)	4.38	ton/yr	total

Total VOC/HAP Emissions:	10.00	ton/yr

However…

The Hexane Emissions from the storage tanks are routed to the stack for the Soybean Oil Extraction System (P13), and the emission factors for this system account for the emissions from these tanks.

Natural Gas Fired Heaters

Boilers <10 MMBtu/hr

Emission Unit	Heat Input Capacity		Potential Throughput		Installation Date
Welfare Building Heater 1	0.22	MMBtu/hr	1.89	MMCF/yr	
Welfare Building Heater 2	0.22	MMBtu/hr	1.89	MMCF/yr	
Maximum Capacity:	0.44	MMBtu/hr	3.78	MMCF/yr	

	Potential To Emit - Regulated Pollutants							Potential To Emit - Greenhouse Gases			
								1	*21*	*310*	***GWP***
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Emission Factor (lb/MMCF)	*84*	*100*	*1.9*	*7.6*	*7.6*	*0.6*	*5.5*	*120,000*	*2.3*	*2.2*	
Uncontrolled Potential To Emit (lb/hr)	0.036	0.043	8.2E-04	3.3E-03	3.3E-03	2.6E-04	2.4E-03	51.76	9.9E-04	9.5E-04	52.08
Uncontrolled Potential To Emit (ton/yr)	0.16	0.19	3.6E-03	1.4E-02	1.4E-02	1.1E-03	1.0E-02	226.73	4.3E-03	4.2E-03	228.11

	Potential To Emit - Hazardous Air Pollutants										
	HAPs - Organics					HAPs - Metals					
	Benzene	**Dichloro-benzene**	**Formal-dehyde**	**Hexane**	**Toluene**	**Cadmium**	**Chromium**	**Lead**	**Manganese**	**Nickel**	**Total HAPs**
Emission Factor (lb/MMCF)	*2.1E-03*	*1.2E-03*	*7.5E-02*	*1.8*	*3.4E-03*	*1.1E-03*	*1.4E-03*	*5.0E-04*	*3.8E-04*	*2.1E-03*	
Uncontrolled Potential To Emit (lb/hr)	9.1E-07	5.2E-07	3.2E-05	7.8E-04	1.5E-06	4.7E-07	6.0E-07	2.2E-07	1.6E-07	9.1E-07	8.1E-04
Uncontrolled Potential To Emit (ton/yr)	4.0E-06	2.3E-06	1.4E-04	3.4E-03	6.4E-06	2.1E-06	2.6E-06	9.4E-07	7.2E-07	4.0E-06	3.6E-03

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
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 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
The N_2O Emission Factor for uncontrolled is 2.2. The N_2O Emission Factor for low Nox burner is 0.64.
CO_2e (ton/yr) = CO_2 Potential Emission (ton/yr) x CO_2 GWP + CH4 Potential Emission (ton/yr) x CH_4 GWP + N_2O Potential Emission (ton/yr) x N_2O GWP
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

Indiana Department of Environmental Management
Office of Air Quality

Appendix B – BACT Analysis
Technical Support Document (TSD)
For a Part 70 Significant Source Modification
and Significant Permit Modification

Source Description and Location

Source Name:	Consolidated Grain and Barge Co.
Source Location:	2781 Bluff Road, Mt. Vernon, Indiana 47620
County:	Posey
SIC Code:	2075 (Soybean Oil Mills)
Operation Permit Renewal No.:	T 129-31079-00035
Operation Permit Renewal Issuance Date:	January 25, 2013
Significant Source Modification No.:	129-34318-00035
Significant Permit Modification No.:	129-34338-00035
Permit Reviewer:	Heath Hartley

Background Information

On March 18, 2014, the OAQ received an application from Consolidated Grain and Barge Co. for the addition of two (2) new pods aspirators in the soybean cleaning process and the addition of a new hull screener and aspirator to the soybean cracking and dehulling operation. The addition of these new units will debottleneck the process and allow for increased throughput at many existing units. The source has requested the total grain processed throughput limit be increased from 940,240 tons per twelve (12) consecutive month period to 1,095,000 tons per twelve (12) consecutive month period.

The DTDC dryers P10, P11 and DTDC cooler P12 were originally subject to the requirements of 326 IAC 8-1-6 BACT in permit CP 129-7488-00035, issued July 17, 1995 and revised by source modification 129-12235-00035, issued October 20, 2000. In 2009, CGB requested a change to install a new cooler (P12A) and convert existing cooler P12 into a dryer. This modification was issued pursuant to 326 IAC 8-1-6 BACT and permit SSM 129-27572-00035 issued August 11, 2009.

The 940,240 tons per twelve (12) consecutive month period throughput limit was included in the 326 IAC 8-1-6 BACT determination specified in Significant Source Modification No. 129-27572-00035, issued August 11, 2009 for units DTDC dryers (P10, P11 and P12), DTDC cooler (P12A) and soybean oil extraction system (P13). Therefore, in order to revise this limit, a re-evaluation of the VOC BACT determination for these units is required.

Unit History and Requirement for Best Available Control Technology (BACT)

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), Best Available Control Technology (BACT) is required for all facilities constructed after January 1, 1980 that have potential VOC emissions of equal to or greater than twenty-five (25) tons per year and are not regulated by other rules in 326 IAC 8.

The following existing emission units each have the potential to emit VOC greater than 25 tons per year and are not regulated by other rules in 326 IAC 8; therefore, a Best Available Control Technology analysis for VOC was performed for the following units:

(a) One (1) soybean oil extraction system, identified as P13, approved in 1996 for construction, controlled by mineral oil absorber system C13, and exhausting to Stack 13. This system consists of the following:

(1) One (1) soybean oil extractor, with a nominal capacity of 109.5 tons of soybean flakes and collets per hour and 109.5 tons of hexane per hour.

(2) One (1) desolventizer unit, with a nominal capacity of 90.6 tons of spent soybean flakes and collets per hour.

(3) A set of evaporators, with a nominal capacity of 21.6 tons of soybean oil per hour.

(4) A set of condensers and water separator to separate hexane and water, with a nominal capacity of 21.6 tons of soybean oil per hour.

(5) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a nominal rate of 90.6 tons per hour and 36.0 tons per hour, respectively.

Under NESHAP, Subpart GGGG, these units are considered vegetable oil production processes.

(b) One (1) DTDC meal dryer section 1, identified as P10, approved in 1996 for construction, with a nominal drying capacity of 87.0 tons of meal per hour, controlled by cyclone C10, and exhausting to Stack 10. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(c) One (1) DTDC meal dryer section 2, identified as P11, approved in 1996 for construction, with a nominal drying capacity of 87.0 tons of meal per hour, controlled by cyclone C11, and exhausting to Stack 11. Under NESHAP, Subpart GGGG, this unit is considered a vegetable oil production process.

(d) One (1) DTDC meal dryer section 3, identified as P12, approved in 2009 for modification, with a nominal capacity of 87.0 tons of meal per hour, controlled by cyclone C12, and exhausting to Stack 12.

(e) One (1) meal cooling operation, identified as P12A, approved in 2009 for construction, with a nominal capacity of 87.0 tons of meal per hour, controlled by cyclone C12A, and exhausting to Stack 12A. This operation consists of the following:

(1) Two (2) meal cooler sections, exhausting to the common cyclone C12A and Stack 12A.

(2) One (1) Meal Cooler enclosed drag conveyor (or equivalent) that transfers meal from the Meal Cooler and the C12A Cyclone to the one (1) DTDC enclosed drag conveyor.

(3) One (1) DTDC enclosed drag conveyor (or equivalent) that transfers meal from the Meal Cooler/DTDC and four (4) DTDC cyclones (C10, C11, C12, C12A) to the meal surge bin conveyor.

Summary of the Best Available Control Technology (BACT) Process

IDEM, OAQ conducts BACT analyses in accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft U.S. EPA *New Source Review Workshop Manual*, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below.

(1) Identify all potentially available control options;

(2) Eliminate technically infeasible control options;

(3) Rank remaining control technologies;

(4) Evaluate the most effective controls and document the results; and

(5) Select BACT.

Also in accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft U.S. EPA *New Source Review Workshop Manual*, BACT analyses take into account the energy, environmental, and economic impacts of the control options. Emission reductions may be determined through the application of available control techniques, process design, and/or operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause adverse environmental effects to public health and the environment.
The Office of Air Quality (OAQ) makes BACT determinations by following the five steps identified above.

This BACT determination is based on the following information:

(1) The EPA RACT/BACT/LAER (RBLC) Clearinghouse;

(2) EPA and State air quality permits;

(3) Communications with control device equipment manufacturers;

(4) Technical books and articles; and

(5) Guidance documents from state and federal agencies.

VOC BACT Analysis

Step 1: Identify Potential Control Technologies

There are two general categories of control methods for volatile organic compounds (VOCs): destruction methods and reclamation methods. Destruction control methods reduce the VOC concentration by high temperature oxidation into carbon dioxide and water vapor. Reclamation control methods consist of capturing VOCs for reuse or disposal. These are discussed in more detail below.

Destruction Control Methods
The destruction of organic compounds usually requires temperatures ranging from 1200°F to 2200°F for direct thermal oxidizers or 600°F to 1200°F for catalytic systems. Combustion temperature depends on the chemical composition and the desired destruction efficiency. Carbon dioxide and water vapor are the typical products of complete combustion. Turbulent mixing and combustion chamber retention times of 0.5 to 1.0 seconds are needed to obtain high destruction efficiencies.

Fume oxidizers typically need supplemental fuel. Concentrated VOC streams with high heat contents obviously require less supplementary fuel than more dilute streams. VOC streams sometimes have a heat content high enough to be self-sustaining, but a supplemental fuel-firing rate equal to about 5% of the total oxidizer heat input is usually needed to stabilize the burner flame. Natural gas is the most common fuel for VOC oxidizers, but fuel oil is an option in some circumstances.

Destruction control methods include:

(a) Thermal Oxidizer:

Thermal oxidation is the process of oxidizing VOC in a waste gas stream by raising the temperature above the VOC's auto-ignition point in the presence of oxygen for sufficient time to completely oxidize the organic contaminants to carbon dioxide and water. The residence time, temperature, flow velocity and mixing, and the oxygen concentration in the combustion chamber affect the oxidation rate and destruction efficiency. Thermal oxidizers operating costs are relatively high, since they typically require combustion of an auxiliary fuel (e.g., natural gas) to maintain combustion chamber temperature high enough to completely oxidize the contaminant gases. In general, thermal oxidizers are less efficient at treating waste gas streams with highly variable flowrates, since the variable flowrate results in varying residence times, combustion chamber temperature, and poor mixing. In addition, thermal oxidizers are also not generally cost-effective for low-concentration, high-flow organic vapor streams.

Thermal oxidizers can achieve 95-99.99+% VOC control efficiency and can be used over a wide range of organic vapor concentrations, but perform best at inlet concentrations of around 1,500-3,000 ppmv. Thermal oxidizers are typically designed to have a residence time of 0.3 to 1.0 second and combustion chamber temperatures between 1,200 and 2,000°F. In order to meet 98% or greater control or a 20 parts per million by volume (ppmv) compound exit concentration of non-halogenated organics, thermal oxidizers should typically be operated at a residence time of at least 0.75 seconds, a combustion chamber temperature of at least 1600°F, and with proper mixing. While thermal oxidation provides efficient VOC control, other pollutants such as nitrogen oxides and carbon monoxide are formed from the combustion process.

Thermal oxidizers are not generally recommended for controlling gases containing halogen- or sulfur-containing compounds, because of the formation of hydrogen chloride, hydrogen fluoride gas, sulfur dioxide, and other highly corrosive acid gases. It may be necessary to install a post-oxidation acid gas treatment system in such cases, depending on the outlet concentration. This would likely make incineration an uneconomical option. For halogenated VOC streams, a combustion temperature of 2000°F, a residence time of 1.0 second, and use of an acid gas scrubber on the outlet is recommended.

The three types of thermal oxidation systems include direct flame, recuperative, and regenerative thermal oxidizers, which are differentiated by the type of heat recovery equipment used.

(1) Direct Flame Thermal Oxidizer

A direct flame thermal oxidizer is comprised of a combustion chamber and does not include any heat recovery of exhaust air by a heat exchanger.

(2) Recuperative Thermal Oxidizer

A recuperative thermal oxidizer is comprised of the combustion chamber, a heat exchanger for preheating the untreated VOC gas stream, and, if cost-effective, a secondary energy recovery heat exchanger. In a recuperative thermal oxidizer, the untreated VOC gas stream entering the oxidizer is preheated using the heat content of the treated gas stream exiting the oxidizer using a heat exchanger, resulting in improved

oxidizer efficiency and reduced auxiliary fuel usage. Recuperative thermal oxidizers usually are more economical than direct flame thermal oxidizers because they typically recover 40 to 70% of the waste heat from the exhaust gases.

(3) Regenerative Thermal Oxidizer

A regenerative thermal oxidizer typically consists of a set of 2 or 3 packed ceramic beds that are used to recover heat from hot combustion gases that are generated during combustion of the VOC gas stream and auxiliary fuel, resulting in improved oxidizer efficiency and reduced auxiliary fuel usage. An "inlet" bed is used to pre-heat the untreated VOC gas stream, an "outlet" bed is used to recover heat from the treated gas stream, and one bed is in a purge cycle. The purge cycle is needed to prevent emission spikes each time the gas flow is redirected. The oxidizer is operated on a rotating schedule, where the gas flow through the ceramic beds is redirected periodically using a set of gas flow dampers. Once the heat energy of the "inlet" ceramic bed has been depleted, the flow through the system is redirected so that the untreated VOC gas stream entering the oxidizer is directed through the previously heated "outlet" ceramic bed. Regenerative thermal oxidizers have much higher heat recovery efficiencies than recuperative thermal oxidizers, recovering 85 to 95% of the heat from the treated gas stream, and therefore have lower auxiliary fuel requirements. However, compared to direct flame and recuperative thermal oxidizers, regenerative thermal oxidizers typically have higher capital (equipment and installation) costs, are larger and heavier, and have higher maintenance costs.

(b) Catalytic Oxidizer:

Catalytic oxidation is the process of oxidizing organic contaminants in a waste gas stream within a heated chamber containing a catalyst bed in the presence of oxygen for sufficient time to completely oxidize the organic contaminants to carbon dioxide and water. The catalyst is used to lower the activation energy of the oxidation reaction, enabling the oxidation to occur at lower reaction temperatures compared to thermal oxidizers. The residence time, temperature, flow velocity and mixing, the oxygen concentration, and type of catalyst used in the combustion chamber affect the oxidation rate and destruction efficiency. Catalytic oxidizers typically require combustion of an auxiliary fuel (e.g., natural gas) to maintain combustion chamber temperature high enough to completely oxidize the contaminant gases. Catalytic oxidizers operate at lower temperatures and require less fuel than thermal oxidizers, they have a smaller footprint, and they need little or no insulation. The catalyst bed is usually composed of the following: (1) the substrate, typically ceramic or metal honeycombs, grids, mesh pads, or beads; (2) the carrier, a high surface area inorganic material such as alumina that is bonded to the substrate that contains a complex pore structure; and (3) the catalyst, a thin layer of material deposited onto the carrier. The most widely used catalysts for VOC oxidation are noble metals, such as platinum, palladium and rhodium or mixtures thereof. Base metal catalysts, such as oxides of chromium, cobalt, copper, manganese, titanium, and vanadium may also be used for VOC oxidation. Similar to thermal oxidizers, catalytic oxidizers may use regenerative or recuperative heat recovery to reduce auxiliary fuel requirements, where the untreated VOC gas stream entering the catalytic oxidizer is preheated using the heat content of the treated gas stream exiting the catalytic oxidizer.

Catalytic oxidizers can achieve 90-99% VOC control efficiency, depending on the oxidizer design and waste stream characteristics. Catalytic oxidizers are typically designed to have a residence time of 0.5 seconds or less and combustion chamber temperatures between 600 and 1,200°F. Catalytic oxidation is most suited to waste gas streams with little variation in the flow rate and type and concentration of VOC to be treated. In addition, catalytic oxidizers should not be used for waste gas streams that have a high concentration of particles, silicone, sulfur, halogen compounds, and/or heavy hydrocarbons that can cause fouling or masking of the catalyst, and for

waste gas streams that contain metals such as mercury, phosphorus, arsenic, antimony, bismuth, lead, zinc, and/or tin that can cause catalyst poisoning.

(c) Flare:

Flaring is the process of oxidizing VOC in a waste gas stream by piping the waste gas to a remote, usually elevated location and burning it in a flame using a specially designed burner tip, auxiliary fuel, and steam or air to promote mixing. Flares are generally categorized in two ways: (1) by the height of the flare tip (i.e., ground or elevated), and (2) by the method of enhancing mixing at the flare tip (i.e., steam-assisted, air-assisted, pressure-assisted, or non-assisted). Flares can be used to control almost any VOC stream, and can typically handle large fluctuations in VOC concentration, flow rate, heating value, and inert species content. Flaring is appropriate for continuous, batch, and variable flow vent stream applications, but the primary use is that of a safety device used to control a large volume of pollutant resulting from upset conditions. Flares have primarily been used in petroleum production, petroleum refineries, and chemical plants to control waste gas streams containing low molecular weight VOC with high heating values.

A properly operated flare can achieve 98+% VOC control efficiency when controlling emission streams with heat contents greater than 300 British thermal units per standard cubic foot (Btu/scf). If the waste gas stream has a heat content less than 300 Btu/scf, auxiliary fuel must be introduced in sufficient quantity to make up the difference. The VOC destruction efficiency of a flare depends upon the waste gas characteristics (density, flammability, heating value, and VOC component autoignition temperatures) and the combustion zone conditions (temperature, residence time, mixing, and available oxygen). While flares can provide efficient VOC control, other pollutants such as nitrogen oxides (NOx) and carbon monoxide (CO) are formed from the combustion process. Flares are not generally recommended for controlling gases containing halogen- or sulfur-containing compounds, because of the formation of hydrogen chloride, hydrogen fluoride gas, sulfur dioxide, and other highly corrosive acid gases.

Reclamation Control Methods

Organic compounds may be reclaimed by one of three possible methods: adsorption, absorption (scrubbing), or condensation. In general, the organic compounds are separated from the emission stream and reclaimed for reuse or disposal. Depending on the nature of the contaminant and the inlet concentration of the emission stream, recovery technologies can reach efficiencies of 98%.

Reclamation control methods include:

(a) Carbon Adsorption Unit:

Carbon adsorption is a process where VOCs are removed from a waste gas stream when it is passed through a bed containing activated carbon particles, which have a highly porous structure with a large surface-to-volume ratio. Carbon adsorption systems usually operate in two phases: adsorption and desorption. During adsorption, the majority of the VOC molecules migrate from the gas stream to the surface of the activated carbon (through the activated carbon pores) where it is lightly held to the surface by weak intermolecular forces known as van der Waals' forces. As the activated carbon bed approaches saturation with VOC, its control efficiency drops, and the bed must be taken offline to be replaced or regenerated. Typically, two activated carbon beds are utilized on a rotating schedule, where a second bed (containing fresh or previously regenerated activated carbon) is brought online to continue controlling the VOC gas stream while the first bed is being replaced or regenerated. In regenerative systems, most VOC gases can be desorbed and removed from the activated carbon bed by heating the bed to a sufficiently high temperature, usually via steam or hot air, or by reducing the pressure within the bed to a sufficiently low value (vacuum desorption). The regenerated activated carbon can be reused and the VOCs that are removed from the bed can be reclaimed or destroyed.

Carbon adsorber size and purchase cost depend primarily on the gas stream volumetric flow rate, temperature, pressure, VOC composition, VOC mass loading, and moisture and particulate contents. The adsorptive capacity of an activated carbon bed for a VOC gas tends to increase with the VOC gas phase concentration, molecular weight, diffusivity, polarity, and boiling point. Carbon adsorption systems can be used for VOC gas concentrations from less than 10 ppm to approximately 10,000 ppm. Carbon adsorption systems (in general) are usually limited to waste gas streams with VOC compounds having a molecular weight of more than 50 and less than approximately 200 lb/lb-mole, since low molecular weight organics usually do not adsorb sufficiently and high molecular weight compounds are difficult to desorb and remove during the desorption cycle. Industrial applications of adsorption systems include control for dry cleaning, degreasing, paint spraying, solvent extraction, metal foil coating, paper coating, plastic film coating, printing, pharmaceuticals, rubber, linoleum, and transparent wrapping.

Carbon adsorption systems can achieve 95-99% VOC control efficiency. Carbon adsorption system control efficiency increases with reduced VOC gas stream temperatures. Therefore, high temperature VOC gas streams are typically cooled prior to entry into the activated carbon bed. Particulate matter and high moisture concentrations present in the gas stream compete with the VOC for pore space within the activated carbon and thereby reduce the VOC adsorptive capacity and control efficiency of the carbon adsorption systems. In addition, particulate matter and moisture can become entrained within the carbon bed, causing operating problems such as increased pressure drop across the bed.

(b) Gas Absorption (wet scrubber):

A wet scrubber is an absorption system in which a waste gas stream is interacted with a scrubbing fluid inside a contact chamber in order to strip particulate or gaseous pollutants from the waste gas stream through the processes of diffusion and dissolution. In many cases, an additive such as an acid, a base, or a VOC oxidizing agent is dissolved in the scrubbing fluid so that the dissolved gaseous pollutant chemically reacts with the scrubbing fluid to form a non-volatile or soluble product, thereby allowing additional gaseous pollutant to be absorbed by the scrubbing fluid. The four types of wet scrubber systems include packed towers, plate (or tray) columns, venturi scrubbers, and spray chambers. Gas and liquid flow through an absorber may be countercurrent, crosscurrent, or cocurrent. When used as an emission control technique, wet scrubbers are typically used for controlling particulate, acid gases, halogen gases, and highly soluble gases such as sulfur dioxide and ammonia.

If a wet scrubber is used for VOC control, the scrubbing fluid chosen should have a high solubility for the VOC gas, a low vapor pressure, a low viscosity, and should be relatively inexpensive. Water is the most commonly used scrubbing fluid for absorbing highly water-soluble (hydrophilic) VOC compounds such as methanol, ethanol, isopropanol, butanol, acetone, and formaldehyde. Other scrubbing fluid such as mineral oils, nonvolatile hydrocarbon oils, and aqueous solutions containing surfactants or amphiphilic block copolymers may be used for absorbing water-insoluble (hydrophobic) VOC compounds. Physical absorption is typically enhanced by lower temperatures, greater scrubbing fluid contacting time and surface area, higher scrubbing fluid to VOC ratio, and higher VOC concentrations in the gas stream.

Wet scrubber systems can achieve 70-99% VOC control efficiency, depending on the VOC solubility in the scrubbing fluid, the VOC-scrubbing fluid temperature, the scrubbing fluid contacting time and surface area, the scrubbing fluid to VOC ratio, the VOC concentration in the gas stream, and whether the scrubbing fluid contains a VOC oxidizing agent. Wet scrubber absorption system control efficiency increases with reduced VOC gas stream temperatures. Therefore, high temperature VOC gas streams are typically cooled prior to entry into the wet scrubber. When used to control VOC, the spent scrubbing fluid must be regenerated, treated, or shipped offsite for proper disposal.

(c) Condensation Unit:

Condensation is the separation of VOCs from an emission stream through a phase change, by either increasing the system pressure or, more commonly, lowering the system temperature below the dew point of the VOC vapor. Three types of condensers are used for air pollution Controls: (1) conventional non-refrigeration systems (such as cold-water direct contact condensers similar to wet scrubbers and cold-water indirect heat exchangers); (2) refrigeration systems (including mechanical compression refrigeration using chlorofluorocarbons (CFCs) and hydrofluorocarbons (HFCs) and Reverse Brayton Cycle refrigeration); and (3) cryogenic systems that utilize liquid nitrogen (including direct contact condensers and indirect heat exchangers).

Condensation units control VOC more efficiently when they are used for gas streams containing high concentrations of VOC and with low exhaust volumes. Condensation units are typically utilized at sources where there is a significant cost benefit to recovering the organic liquid for reuse, where the recovered organic liquids do not contain multiple organic compounds or water that require separation, and where the heat content of gas stream will not overload the refrigeration system. In addition, condensation units are typically used only on gas streams that have little or no particulate contamination, which can cause fouling within the condensation equipment and reduced heat transfer efficiency. Some industrial applications where refrigerated condensers are used include the dry cleaning industry, degreasers using VOC or halogenated solvents, transfer of volatile organic liquid or petroleum products, and vapors from storage vessels.

Cold-water (non-refrigeration) condensation systems can achieve 90-99% VOC control efficiency, depending on the vapor pressures of the specific compounds. Condensation units using mechanical compression refrigeration (using CFC or HFC) can achieve 90+% VOC control efficiency, condensation units using Reverse Brayton Cycle refrigeration can achieve 98% VOC control efficiency, and condensation units using cryogenic (liquid nitrogen) cooling can achieve 99+% VOC control efficiency.

Other Control Methods

(a) Bio-filtration is a process in which a waste gas stream is passed through a bed of peat, compost, bark, soil, gravel, or other inorganic media in order to strip organic contaminant gases from the waste gas stream through the process of dissolution in the bed moisture and adsorption to the bed media. Under aerobic conditions, microorganisms naturally present in the bed oxidize the organic contaminant gases within the bed to carbon dioxide, water, and additional biomass through metabolic processes. If the temperature of the waste gas stream is too high, the gas stream must be cooled to an optimum temperature before it can be treated in the biofilter in order to maintain the viability of the microorganisms. In addition, the bed must be monitored and maintained at an optimum moisture content and pH in order to prevent cracking of the bed media and to maintain the viability of the microorganisms.

Bio-filtration systems are designed to follow three basic steps. First, a pollutant in the gas phase is passed through a biologically active packed bed. The pollutant then diffuses into the biofilm immobilized on the packing medium. Finally, microorganisms growing in the biofilm oxidize the pollutant as a primary substrate or co-metabolite and in the process convert contaminants into the benign end products of carbon dioxide, water and additional biomass.

Three primary bioreactor configurations are available to treat stationary sources of air pollution: bio-filters, bio-trickling filters, and bio-scrubbers.

(1) Bio-Filters

Bio-filters are the simplest and oldest of the three vapor-phase bioreactors and involve passing a contaminated air stream through a reactor containing biologically-active packing material. The contaminants are transferred from the air stream into a bio-film immobilized on the support media and are converted by the microorganisms into CO2, water, and additional biomass. Moister is typically supplied to the bio-film in a humid inlet waste gas stream. Packing media used in bio-filter beds can be broadly categorized as either "natural" or "synthetic". Natural media include wood chips, peat, and compost, with compost by far the most widely used. Synthetic media include activated carbon, ceramic pellets, polystyrene beads, ground tires, plastic media, and polyurethane foam. Natural organic packing media generally contain a supply of nutrients as a naturally occurring component of the packing itself. When a synthetic support medium is used, nutrients must be added for microbial growth.

(2) Bio-Trickling Filters

Bio-trickling filters are similar to bio-filters with the exception that there is a liquid nutrient medium continuously recalculating through the column. To facilitate the recirculation of the liquid phase, rigid synthetic media is used as the packing medium. Microorganisms grow primarily as a fixed film on inert packing media but may also be present in the liquid phase because they can both grow suspended in the liquid phase and because the flowing liquid imparts sufficient force to detach biomass from the solid support media. Contaminants are transferred from the air stream into the liquid phase and bio-film for subsequent degradation.

Potential disadvantages of bio-trickling filter operations include: clogging of the pore space if the filter is treating high VOC loads or if the filter is provided excess nutrients, and the need to manage the liquid stream. An additional disadvantage is that bio-trickling filters may have more difficulty treating poorly soluble compounds since the specific surface are in bio-tricking filters is generally lower.

(3) Bio-Scrubbers

Bio-scrubbers combine physical and chemical treatment with a biological treatment in two separate reactors. In the first reactor, the contaminated air stream is contacted with water in a reactor packed with inert media, resulting in contaminant transfer from the air phase to the liquid phase. The liquid is then directed into an activated sludge reactor where the contaminants are biologically degraded. The separated activated sludge tank allows the reactor to treat higher concentrations of compounds than bio-filters can handle. In addition since compound transfer and degradation occur in separate reactors, optimization of each reactor can take place separately. As with bio-trickling filters, bio-scrubbers offer greater operator control over nutrient supply, acidity, and the build-up of toxic by-products.

A potential disadvantage of bio-scrubbers is that slower growing microorganisms may be washed out of the system and disposal of excess sludge is required.

Combination Control Methods
In some cases, a combination of control technologies offers the most efficient and cost effective VOC control.

Innovative Technologies
Review of the literature indicates that other technologies may destroy VOC pollutants.

Step 2: Eliminate Technically Infeasible Options

Below is a discussion of the technical feasibility of the various VOC control options.

Table 2. VOC BACT Control Technology Analysis

Technology	BACT Evaluation
Regenerative / Recuperative Thermal Oxidizers (RTO) Technically Feasible – **No** Catalytic Incinerators Technically Feasible – **No** Flare Technically Feasible - **No**	Thermal and catalytic oxidation are not used to control emissions in the extraction plants in the oilseed industry. The vent gases that would be ducted to the control device cover a wide range of flow volumes and solvent concentrations. Variations in flows and solvent concentrations greatly hamper safe and efficient operation of an oxidizer. The possibility of a flash back in the duct system to the oxidizer presents a fire and explosion hazard. The National Fire Protection Association (NFPA) standards for extraction plants require that any flame operation be located at least 100 feet away from the processing area due to the fire risk. Therefore, due to technical and safety considerations, thermal and catalytic oxidation will not be considered as BACT for the soybean extraction system (P13), the DTDC meal dryers (P10, P11 and P12) and cooling operation (P12A).
Carbon Adsorbers Technically Feasible – **No**	Carbon adsorbers can overheat for several reasons when used to control VOC emissions from meal processing. Among these reasons are poor conditioning of the carbon (which can create dead spots where cooling by the carrier media cannot occur rapidly enough) and over drying of the carbon bed during surges caused by process upsets. The adsorption of VOCs (such as hexane) on activated carbon generates heat equivalent to the latent heat of vaporization for the compound being adsorbed. Under the conditions listed above, the heat generated by adsorption can accumulate in the bed, causing the temperature to rise to the point where ignition will occur. Good design and control can eliminate overheating in the carbon bed, but during an upset or when the equipment or controls fail, as they invariably will, overheating will occur. This makes the carbon adsorbers a potential source of ignition and an explosion hazard. While fires caused by overheating are usually contained by the adsorber vessel, the vessel is directly connected to the process by duct work, which allows a flame path back to the process, creating an unacceptable risk of explosion. The most likely time for fire to occur in the adsorber is during process upsets when solvent vapor will fill the duct connecting the process to the adsorber. Therefore, carbon adsorption is not a technically feasible control option and will not be considered as BACT for the soybean extraction system (P13), the DTDC meal dryers (P10, P11 and P12) and cooling operation (P12A).
Gas Absorbers (wet scrubber)	Absorption is feasible for emissions streams that have high pollutant concentrations. Mineral oil absorbers are commonly used in soybean extraction facilities for control of hexane emissions from the main Desolventizer Toaster (DT) vent. These systems are very efficient and have a long history of safe operations. Currently, no existing facility has a mineral oil absorber on the DT dryer and cooler vent. A mineral oil absorber is designed for low flow rates (<1,000 acfm) and high inlet hexane concentrations from the main DT vent. The dryer and cooler exhaust streams have a high air flow rate and relatively low VOC concentration. A mineral oil absorber is technically feasible for the soybean extraction system (P13). A mineral oil absorber is not technically feasible for the DTDC meal dryers (P10, P11 and P12) and cooling operation (P12A) and will not be considered as BACT for these units.

Table 2. VOC BACT Control Technology Analysis	
Technology	**BACT Evaluation**
Condensation Unit	Condensers are commonly used in soybean extraction facilities for hexane recovery. These systems are very efficient and have a long history of safe operation. Currently, no existing facility has a condenser on the DT dryer or cooler vent. Refrigeration condensers are designed for low flow rates (<1,000 acfm) and high inlet hexane concentrations from the main DT vent. The dryer and cooler exhaust streams have a high air flow rate and relatively low VOC concentration and high moisture content of the gas. A condenser is technically feasible for the soybean extraction system (P13). A condenser is not technically feasible for the DTDC meal dryers (P10, P11 and P12) and cooling operation (P12A) and will not be considered as BACT.
Biofiltration Technically Feasible – **No**	The application of the bio-filtration technology has been limited for hexane removal. There is no methodology or theory established to design for or predict the destruction efficiency that could be achieved for a soybean processing plant. A biofilter system is dynamic since the system continually changes with changes in the microbial growths it contains. Knowledge of the behavior of these dynamic systems over extended operating periods is not available. Thus there is no basis from which the long-term reliability of the system could be established. At this stage in its development, the application of bio-filtration for control of the hexane in the mineral oil absorber and meal dryer/cooler exhaust streams would be technically infeasible, primarily due to the large gas flow rate to be treated. Destruction efficiencies in biofilter systems are largely governed by gas residence time in the biofilter bed and the degradability of the contaminant to be treated. Hexane does have a relatively high degree of biodegradability. However, the bed volume required to provide even a five second residence time, the minimum residence time that may be suitable, would be prohibitively large. Since bio-filtration is not a technically proven control for hexane emissions from solvent extraction plants, this technology will not be considered as BACT for the soybean extraction system (P13), the DTDC meal dryers (P10, P11 and P12) and cooling operation (P12A).

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

(a) Soybean Oil Extraction

The control options that have been determined to be technically feasible include a mineral oil absorber and condensation unit. The controls rank as follows:

Control Technology	Expected Control Efficiency
Mineral oil absorber	99.5%
Condenser	98%

(b) Meal Dryers and Cooler

There are no technically feasible add-on control systems for the existing meal dryers and cooler.

Step 4: Evaluate the Most Effective Controls and Document the Results

Existing BACT Determinations - Soybean Extraction (VOC)
The following table summarizes other BACT determinations at similar sources or for similar processes that were identified in the EPA's RACT/BACT/LAER Clearinghouse (RBLC) under Process Code 70.350 (Soybean Oil Extraction) as well as IDEM, OAQ permits issued to date.

Facility - County, State	RBLC ID / Permit # (Issuance Date)	Process	Control	VOC BACT	Throughput (ton/yr)	VOC emissions (ton/yr)	Basis
Consolidated Grain and Barge Co. - Existing BACT	129-27572-00017 (8/11/09)	Meal Dryers	None	0.16 lb/ton	940,240	75.2	State BACT
		Meal Cooler	None	0.16 lb/ton		75.2	
		Oil Extraction (P13)	Mineral oil absorber	0.084 lb/ton		39.5	
		Facility wide solvent loss (SLR*)	None	0.225 gal/ton		582	
Proposed BACT		Meal Dryers (P10, P11, P12)	None	0.152 lb/ton	1,095,000	83.2	State BACT
		Meal Cooler (P12A)	None	0.152 lb/ton		83.2	
		Oil Extraction (P13)	Mineral oil absorber	0.048 lb/ton		26.3	
		Facility wide solvent loss (SLR)	None	0.19 gal/ton		572	
Louis Dreyfus Agricultural Industries LLC - Kosciusko, IN	IN-0150 / 085-31960-00102 (9/21/12)	DTDC Meal Dryers and Cooler (same stack)	None	0.03 gal/ton, 32.8 lb /hr	2,251,836	143.7	State BACT
		Extraction	Combined condenser and mineral oil scrubber system	0.048 lb/ton and 9.3 lb/hr		40.7	
		Facility wide solvent loss (SLR)	None	0.141 gal/ton, LDAR**		873.1	
Archer Daniels Midland Company Frankfort, IN	023-25870-00011 (5/7/08)	Meal Dyers	None	None	1,314,000	--	State BACT
		Meal Cooler	None	None		--	
		Oil Extraction	Condenser and Mineral Oil Absorber/Scrubber	None		--	
		Facility wide solvent loss (SLR)	None	0.175 gal/ton		632.4	
Bunge North America (East) "B Plant" - Shelby, IN	SSM 145-9618-00035 (5/14/04)	Meal Dryers	None	0.152 lb/ton processed grain	1,073,159	81.6	State BACT
		Meal Coolers	None	0.152 lb/ton processed grain		81.6	
		Oil Extractor	Mineral oil absorber	0.069 lb/ton processed grain		37.0	
		Facility wide solvent loss (SLR)	NA	0.16 gal/ton, LDAR		472.2	consent decree
Bunge North America (East) "A Plant" - Shelby, IN	CP-145-4300-00035 (7/17/95)	Meal Dryers	None	0.16 lb/ton	803,000	64.2	State BACT
		Meal Coolers	None	0.16 lb/ton			
Cargill, Inc - Soybean Processing Division - Tippecanoe, IN	157-11361-00038 (12/3/2001)	Meal Dyers	None	0.0042 gal/ton soybean (0.024 lb/ton soybean calculated)	821,250	9.5	State BACT
		FDS Cooler Collector	None	0.391 gal/ton soybean (2.19 lb/ton soybean		883.0	

Facility - County, State	RBLC ID / Permit # (Issuance Date)	Process	Control	VOC BACT	Throughput (ton/yr)	VOC emissions (ton/yr)	Basis
				calculated)			
		Extractor	Mineral oil absorber	0.012 gal/ton		27.1	
		Facility wide solvent loss (SLR)	NA	0.503 gal/ton, LDAR		1136	
Ag Processing	IA-0103 (7/24/2012)	Facility wide solvent loss (SLR)	mineral oil scrubber	0.145 gal/ton 448.5 ton/yr	Unknown	448.5	PSD BACT
Archer Daniels Midland	MO-0082 (10/05/10)	Facility wide solvent loss (SLR)	NA	0.15 gal/ton (w/o SSM) 0.171 gal/ton (w/ SSM), LDAR	568,345 (1,578,737 bushels per month)	234.4	BACT
American Energy Producers, Inc.	MO-0081 (10/05/2010)	Oil Extraction	Mineral oil scrubber	Extractor 0.056 lb/ton	1,095,000	30.7	BACT
		Facility wide solvent loss (SLR)	NA	0.145 gal/ton, LDAR		436.6	
Archer Daniels Midland	MN-0065 (7/30/09)	Facility wide (SLR)	Mineral oil scrubber	0.15 gal/ton & Hexane usage <246,375 gal/yr, LDAR	1,642,500	677.5	BACT
Archer Daniels Midland	NE-0048 (10/29/08)	Facility wide solvent loss (SLR)	Mineral oil scrubber, Leak Detection and Repair	0.165 gal/ton, LDAR	Unknown	--	BACT
Archer Daniels Midland	IA-0094 (4/07/08)	Facility wide solvent loss (SLR)	Mineral oil absorber	0.1712 gal/ton	Unknown	--	BACT
Ag Processing	MO-0073 (5/16/07)	Facility wide solvent loss (SLR)	mineral oil absorption	0.145 gal/ton 523.96 ton/yr, LDAR	1,314,000	524.0	BACT
Bunge North America	IA-0085 (1/29/07)	Facility wide solvent loss (SLR)	Mineral oil scrubber, Leak Detection and Repair	0.178 gal/ton 1205 ton/yr, LDAR	2.46x10^6	1205	BACT
Zeeland Farm Services - MI	MI-ROP-M4204-2007a (2007)	DTDC Dryers	None	62.2 ton/yr	383,250	62.2	BACT
		Facility wide solvent loss (SLR)	Mineral Oil Absorber	0.150 gal/yr, LDAR		158.1	
Perdue Farms, Incorporated - VA	TRO60227 (9/7/04)	DeSmet Dryer/Cooler	None	48.6 ton/yr (0.17 lb/ton soybean processed calculated)	Unknown (571,765 calculated)	48.6	BACT
Cargill	OH-0282 (11/28/03)	Facility wide (SLR)	Condenser and Mineral Oil Absorber/ Scrubber	0.146*** gal/ton 792 ton/yr, LDAR	1,642,500	792	BACT

*SLR (Solvent Loss Ratio) is the gallons of hexane lost per ton of soybeans processed.
** LDAR (Leak Detection and Repair program).
***The RBLC lists an overall solvent loss 0.146 gal VOC/ton of soybean. However, the RBLC is not current. EPA provided the current SLR of 0.143 gal VOC/ton of soybean pursuant to the Consent Decree with Cargill, Inc.

National Emission Standards for Hazardous Air Pollutant (NESHAP) rules contain limitations on hazardous air pollutant (HAP) emissions from soybean oil extraction operations (40 CFR Part 63, Subpart GGGG, National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production). The requirements limit hexane emissions from such operations to no more than 0.2 gallons of hexane per ton of soybeans processed for conventional soybean processing plants. Therefore, BACT for the soybean oil extraction process must, at a minimum, be no less stringent than the level of control required by NESHAP Subpart GGGG.

The most stringent BACT requirement for a facility wide solvent loss ratio (SLR) is 0.141 gallon per ton based on a review of the RBLC and IDEM, OAQ permits issued to date. Consolidated Grain and Barge Co. has stated that based on their current design configuration they would be unable to consistently meet this limit. There are several factors that impact the ability for a source to meet a facility wide SLR BACT limit of 0.141 gal/ton including equipment design, upsets, and bean quality. Retention time is the biggest factor for the desolventizer toaster (DT) to effectively remove hexane. For Consolidated Grain and Barge Co. to meet the 0.141 gallon per ton SLR on a consistent basis, the source would need to purchase and install a larger DT. Additionally, there have been some minor design and operational improvements made to the available DT technologies over the past sixteen (16) years since the plant was built. The primary improvement to the DT technology and process would be the process design change related to the addition of a Vapor Recovery System after the sparge deck. Consolidated Grain and Barge Co.'s facility was not designed to contain, nor was it constructed with a Vapor Recovery System after the sparge deck. Additionally, a Greenfield plant would be more capable of achieving a lower solvent loss ratio due to reduced emissions from component leaks simply by virtue of having newer fittings than from a 16-year old plant.

In regard to losses from upsets, a newer plant is simply less likely to have malfunctions than an older plant. This again is simply a function of the equipment's age in the plant. For bean quality, this is a factor beyond the control of the plant that can impact hexane retention in beans from season to season.

Based on a review of the U.S. EPA's RBLC and State of Indiana issued permits, the most stringent BACT requirements for this type of industry have been determined to be as follows:

Source Name	Unit	Control	Emission Limit
Bunge North America - East	Meal Dryers	None	0.152 lb/ton
Bunge North America - East	Meal Cooler	None	0.152 lb/ton
Louis Dreyfus Agricultural Industries LLC	Oil Extraction	None	0.048 lb/ton
Louis Dreyfus Agricultural Industries LLC	Facility wide solvent loss (SLR)	Mineral oil absorber	0.141 gal/ton

Note: The processes at Cargill Inc. - Soybean Processing Division and Consolidated Grain and Barge Co. appear to be different since much more hexane is removed prior to the drying operation at the Cargill Inc. facility. The emission limits for the dryer and extraction process are much lower than other similar facilities and the emission limits of the cooler and overall solvent ratio are much higher than typical facilities. Therefore, these emission limits were not considered in this determination.

Other sources use the LDAR program, however Consolidated Grain and Barge Co. will continue to use an electronic data management system (EMDS) to monitor the inlet vacuum pressure of the vapor stream to the absorber and the temperature of the mineral oil entering the absorber and mineral oil stripping column.

The source has proposed a solvent loss ratio of 0.19 gallon per ton combined with a maximum annual throughput limit of 1,095,000 of soybeans processed. This SLR and annual throughput limit would limit VOC emissions to 572 tons per year, which is consistent with the limited PTE of other facilities with similar soybean throughputs. In addition, they have proposed VOC emission limits on their soybean oil extraction system of 0.048 pounds per ton of soybean processed, a VOC emission limit on their DTDC dryers of 0.152 pounds per ton of soybean processed, and a VOC emission limit on their DTDC cooler of 0.152 pounds per ton of soybean processed. The emission limits for the soybean oil extraction system, DTDC dryers, and DTDC cooler are set equal to the most stringent BACT requirements as identified in the tables and discussed in the note above.

Step 5: Select BACT

Pursuant to SSM No. 129-34318-00035 and 326 IAC 8-1-6, the Best Available Control Technology (BACT) for VOC for the extraction system, DTDC dryers and cooler shall be as follows:

(a) The overall solvent loss ratio shall not exceed 0.19 gallons per ton of soybean processed from the whole plant per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The Permittee shall comply with the following for the soybean oil extraction system (P13):

(1) The extraction and distillation process shall be controlled by a mineral oil absorber system.

(2) The VOC emissions from the soybean oil extraction system (P13) shall not exceed 0.048 pounds per ton of soybean processed.

(c) The total VOC emissions from the DTDC dryers (P10, P11 and P12) shall not exceed 0.152 pounds per ton of soybean processed total.

(d) The VOC emissions from the DTDC cooler (P12A) shall not exceed 0.152 pounds per ton of soybean processed.

(e) The maximum annual throughput of soybeans processed shall not exceed 1,095,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Doug VanMeter
Consolidated Grain and Barge Co.
PO Box 289
Mount Vernon, IN 47620-0289

DATE: December 2, 2014

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V - Significant Permit Modification
129 - 34338 - 00035

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
David Jordan Environmental Resources Management (ERM)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

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Governor

Thomas W. Easterly
Commissioner

December 2, 2014

TO: Alexandrian Public Library 115 West 5th Mt. Vernon IN

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Consolidated Grain and Barge Co.
Permit Number: 129 - 34338 - 00035

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 6/13/2013

Mail Code 61-53

IDEM Staff	LPOGOST 12/2/2014 Consolidated Grain and Barge Co. 129 - 34338 - 00035 /final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

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1		Doug VanMeter Consolidated Grain and Barge Co. PO Box 289 Mount Vernon IN 47620-0289 (Source CAATS) Via confirmed delivery									
2		Posey County Commissioners County Courthouse, 126 E. 3rd Street Mount Vernon IN 47620 *(Local Official)*									
3		Posey County Health Department 126 E. 3rd St, Coliseum Bldg Mount Vernon IN 47620-1811 *(Health Department)*									
4		Mount Vernon City Council and Mayors Office 520 Main Street Mount Vernon IN 47620 *(Local Official)*									
5		Dr. Jeff Seyler Univ. of So Ind., 8600 Univ. Blvd. Evansville IN 47712 *(Affected Party)*									
6		Mr. Don Mottley Save Our Rivers 6222 Yankeetown Hwy Boonville IN 47601 *(Affected Party)*									
7		Alexandrian Public Library 115 West 5th Mt. Vernon IN 47620 *(Library)*									
8		David Jordan Environmental Resources Management (ERM) 11350 North Meridian, Suite 320 Carmel IN 46032 *(Consultant)*									
9		Mr. Mark Wilson Evansville Courier & Press P.O. Box 268 Evansville IN 47702-0268 *(Affected Party)*									
10		Mrs. Connie Parkinson 510 Western Hills Dr. Mt. Vernon IN 47620 *(Affected Party)*									
11		Jean Webb 710 S Kenmore Dr Evansville IN 47714 *(Affected Party)*									
12		Ms. Sandy Banks 5811 Greensboro Dr. Newburgh IN 47630 *(Affected Party)*									
13		Mr. Matt Falkenstein 624 S. Benninghof Ave. Evansville IN 47714 (Affected Party)									
14		Mr. Ivan Finney P.O. Box 363 Mt. Vernon IN 47620 *(Affected Party)*									
15		Mr. Kevin Neal 1445 Pearce Rd. Equality IL 62934 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

FACSIMILIE OF PS Form 3877

Mail Code 61-53

IDEM Staff	LPOGOST 12/2/2014 Consolidated Grain and Barge Co. 34338 (draft/final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Rena 600 Acorn Lane E New Harmony IN 47631 (Affected Party)									
2		Bob & Susan Murray 4101 Bluff Rd. Mt. Vernon IN 47620 *(Affected Party)*									
3		Mr. Loren Evans 4424 Bluff Rd. Mt. Vernon IN 47620 *(Affected Party)*									
4		Mr. Alan Blackburn 4481 Bluff Rd. Mt. Vernon IN 47620 *(Affected Party)*									
5		L.B. Howard 5608 West Haven Dr. Evansville IN 47720 *(Affected Party)*									
6		Mr. Bruce McDivitt 1513 Green Meadow Rd. Evansville IN 47715 *(Affected Party)*									
7		Mr. Michael Verwers 49 Faughn Lane Metropolis IL 62960 *(Affected Party)*									
8		Mr. Wilson Mattingly 2225 Farmersville Rd. Mt. Vernon IN 47620 *(Affected Party)*									
9		Mr. Dan Banks 3753 Buchanon road Mt. Vernon IN 47620 *(Affected Party)*									
10		Mr. Steve Noible 5201 Oak Ln Wadesville IN 47638 *(Affected Party)*									
11		Mr. Keith Boyer 137 W. SR 168 Ft. Branch IN 47648 *(Affected Party)*									
12		Mr. Michael Gough 1429 Holland Bros Rd. Woodburn KY 42170 *(Affected Party)*									
13		Mr. Michael ORisky 4871 Scenic Lake Dr. Mt. Vernon IN 47620 (Affected Party)									
14		Kim Wilson 6275 Overpass Rd. Mt. Vernon IN 47620 *(Affected Party)*									
15		Mr. Nathan Ferguson 1509 S. Worth Indianapolis IN 46241 *(Affected Party)*									

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1		Sally P.O. Box 533 Mt. Vernon IN 47620 (Affected Party)									
2		Ms. Sheri Banks 70 Hwy 62 W Mt. Vernon IN 47620 *(Affected Party)*									
3		Mr. Neal Snelling 176 Pembrook Dr Gilbertsville KY 42044 *(Affected Party)*									
4		Ms. Christina Harp 304 Coronado Drive Mt. Vernon IN 47620 *(Affected Party)*									
5		Mr. Todd Dixon 15200 Kingsmont Dr. Evansville IN 47725 *(Affected Party)*									
6		Mr. Jason Blondin 731 Blue Ridge Road Evansville IN 47714 *(Affected Party)*									
7		Robert Hess c/o Mellon Corporation 830 Post Road East, Suite 105 Westport CT 06880 *(Affected Party)*									
8		Juanita Burton 7911 W. Franklin Road Evansville IN 47712 *(Affected Party)*									
9		David Boggs 216 Western Hills Dr Mt Vernon IN 47620 *(Affected Party)*									
10		John Blair 800 Adams Ave Evansville IN 47713 *(Affected Party)*									
11											
12											
13											
14											
15											

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